Predictors of Academic Achievement in Online Peer Learning among Undergraduate Students in a Malaysian Public University

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Abstract

An online peer learning through social media tools such as Facebook, Twitter, YouTube and Instagram has been networking interrelated undergraduates as social groups in higher learning institutions. In that respect, it has become an emerging phenomenon in the academia. Yet, not much is known about the effect of social media on the undergraduates" academic achievement. Therefore, the main purpose of this study is to identify the relationship of students' peer engagement, academic self-efficacy, social influence, peer feedback and collaboration with students' academic achievement while practising online peer learning via social media and at the same time to predict the factors that influencing students' academic achievement among undergraduate students in Universiti Putra Malaysia (UPM). The study was based on the quantitative method in nature with a correlational design using a set of the questionnaire as instrument adapted from previous studies and validated by a panel of experts. The sampling technique is stratified. A total of 376 responses were collected. The finding of regression analysis indicated that five of the variables have a significant effect while the only peer feedback has an insignificant effect. The most important factor is social influence, followed by collaboration, performance expectancy, peer engagement and academic self-efficacy. The model explained 38.9% of the variation in the academic achievement of undergraduate students at UPM. As a result, this study confirms that collaboration between peer in an online environment is valid and able to predict the academic achievement.

Keywords: Academic Achievements, Online Peer Learning, Undergraduate Students, Malaysian Public University

Introduction

To date, there has been little agreement on the social media usage, and it is impacting on academic achievement. Some researchers found the use of social media have a negative influence on academic achievement (Almadhoun et al., 2012; Zaremohzzabieh et al., 2014).

Other studies have found no correlations between the use of social media and academic achievement (Kolek & Saunders, 2008; Pasek et al., 2009). The reported conflicting results are in the midst of narrow scope of one or two variables, e.g. (Li, 2012; Komarraju & Nadler, 2013) and limited focuses on technical than social or behavioral aspects of online peer learning (Ho et al., 2010; Ab Jalil & de Laat, 2014). In the Malaysian context, however, a full understanding of the social media and how it is being utilized in education is still lacking (Teclehaimanot & Hickman, 2011). For instance, it has not been established as to what could be the levels of peer engagement, academic self-efficacy, performance expectancy, social influence, peer feedback and collaboration among undergraduate students in an institution of higher education when practicing online peer learning via social media. Based on the aforesaid observation, this study is needed to fill the knowledge gap.

Most of the earlier studies on online peer learning have been conducted in Western and developed countries (Shafique et al. 2010; Rouis et al., 2011). Studies conducted in Malaysia have tended to emphasis on the social media usage in general (Salman et al., 2014), rather than their related positive and negative outcomes (Balakrishnan & Shamim, 2013). It is normally presented in these studies that Malaysian undergraduate"s social media usage such as Facebook for such related motives as interaction and socialization with their peers as shown in other studies done worldwide.

Research by Omar et al. (2012) just reported low levels of Malaysian undergraduates" technology competency. Yet, academic activities in Malaysian universities are progressively carried out through the social networks, such as Facebook, Twitter and LinkedIn (Al-Rahmi et al., 2014). Here, the question was raised on students' performance expectancy in the setting of online peer learning. It was also difficult to highlight about peer engagement, while such activities as dialogues, peer assessments, and group projects, according to Chen et al. (2008) give students the feeling of being part of a community and become engaged with the course. In relation to academic self-efficacy, a study by Raoofi et al. (2012) seem to focus on mere language learning particularly English among Malaysian students.

It was quite unknown, however, on how Malaysian undergraduates" beliefs about their abilities amidst growing use of social media tools in online peer learning context influence their academic achievement. Specially, the problem was related to unknown students' persistence and level of efforts they invested in using social media tools while practising online peer learning. Elsewhere, a study by Talib et al. (2009) found that the majority of the Malaysian students accepts peers to be helpful and being a source of information. Yet, it was relatively not known about students' social influence, collaboration and peer feedback when using social media tools for practicing online peer learning. That happened amidst the rising concerns related to how Malaysian undergraduate students deal, with their studies and accomplish assigned different tasks (Loo & Choy, 2013) during the pressure of socializing than learning, related academic matters (Abd Jalil, et al., 2013). Therefore, the study was needed to focus on the said aspects among undergraduate students in one of the Research University in Malaysia as one of the non-Western countries.

In addition to that, several previous research findings seem to identify the different factors influencing online peer learning in general. Such factors include students' academic self-efficacy (Bandura, 1982; Mew & Money, 2010), students' peer engagement (Tervakari et al.,

2012), and students' performance expectancy (Cho et al., 2009). Other researchers also consider factors such as social influence (Wang et al., 2009), peer feedback (Topping, 1998; Smith et al., 2006) and collaboration (Kahiigi et al., 2012). Nevertheless, little is known about exact factors influencing students' use of social media to promote their academic achievement. The said knowledge gap needs to be addressed with the focus to predict factors influencing undergraduate students' academic achievement while practicing online peer learning via social media in the Malaysian context. This is important in the Malaysian efforts to match with it is ideal towards digitalization (Ministry of Higher Education, 2014).

Review of Literature
Online Peer Learning and Academic Achievement
There is a considerable amount of literature on online peer learning and academic achievement. According to Harasim (2000), attachment or adjunct mode used for a connected or online mode for connecting members of a given program in total make online or wired education very unique and distinctive in nature. This means that online learning mode facilitates peer interaction faster as it captures their attention across time and generations, amidst constant positive or negative outcome (Volery & Lord, 2000; McGorry, 2002). This is possible through the continuing unique growing of networked world and technologies in which students as peers can share learning and related activities, with educators and respective administrative staffs (Janicki & Liegle, 2001; Parker & Gemino, 2001).

For this reason, online peer-learning, electronic learning, distance learning, and asynchronous learning seem to provide convenient discussion forums for teachers to interact with learners" more than conventional teaching. That is when both teachers and learners stay connected and have something to share about learning and consequent results. Building from the above it is logic that online learning can attract peers to learn in order to attain suggested results. That is because online discussions appear as naturally social and interactive in the form of self-disclosure and agreement between participants and central to interpersonal question (Rafaeli & Sudweeks, 1997). A study was conducted by Yang and Tang (2003) on the effects of social networks on students' performance in online education. Their focus was on uses networking as an adjunct mode for enhancing traditional face-to-face education or distance education. Using data from a 40-student course on Advanced Management Information Systems (AMIS), these researchers tested how social networks (friendly, advising, and adversarial) related to students' performance. The findings showed that friendship centrality and advice centrality were positively related to student performance both in the classroom and on the Web-based forum.

Moreover, it was found that adversarial network centrality was negatively related to students' academic performance indicators, although some were insignificant. Consistent with this study, the said findings seem to suggest that interaction, flexibility; innovative ideas and facilitative learning favour online learning, and can strengthen potential achievements for prospective online networked learners (Parker & Gemino, 2001). Elsewhere, Yang and Tang (2003) maintain that the question of student performance in a networked learning is inconclusive. One reason is that different people can have different understanding and emphasis in relation to student performance. Perhaps, this is the reason that accounts for including course content, students' quality, successful course completion or course withdrawals, grades, added knowledge, and skill building on judging online academic performance. Specifically, Yang and Tang (2003) show that friendship; advice and adversarial

centrality also form academic performance indicators. Certainly, the said criteria can be related and connected only to determine learners and teachers in a given networked series of a given education level. That said connection is important for them to enjoy more benefits of online learning than traditional settings. This view is because computer-mediated communication and online discussions are more enjoyable (Dietz-Uhler & Biship-Clark, 2001) and have educational values to be documented (Hammond, 2000). Despite the said benefits, however, the said experiences sound more Western oriented.

Razak and See (2010) did a study on improving academic achievement and motivation through online peer learning. The purpose was to examine the effectiveness of online peer learning in enhancing students' academic achievement and promoting their motivation through a quasi-nonequivalent (pre-test and post test) control group design to investigate the effectiveness of online peer learning. The findings of t-tests indicated that the experimental group reported a significant difference in motivation meaning a significant difference in academic achievement. In line with this research, the said findings seem to suggest that online peer learning can enhance students" academic achievement and facilitate their motivation. These said observations suggest that researching the use of social media tools; students' learning consistent with academic performance is another potential area needing research attention. Therefore, this study is humble attempts in the bid to fill the knowledge gap with the focus to university students in Malaysia. The study also attempts to find the impact of online peer learning on the students' academic achievement of the university.

Factors Influencing Academic Achievement in Online Peer Learning among Undergraduate Students
Academic Self-Efficacy
Academic self-efficacy is described as individuals" belief of what they are capable of doing (Bandura, 1982). In social cognitive theory, academic self-efficacy is considered as the key variable to influence individuals" beliefs in a way to determine the degree of motivations, emotional reactions, thought patterns, and supports in making important decisions (Bandura, 1997, 1982). To date, it is established that technological use and acceptance highly relies on individual academic self-efficacy (Straub, 2009) which can act as substitution of one"s thought control in computerized usages (Venkatesh & Davis, 1996). There are researchers such as (e.g. Chang &Tung, 2008; Hsu et al., 2009; Mew & Money, 2010) who maintain that use of online tools, learning websites, and technological application depends on students' academic self-efficacy. In this respect, the more individuals perceived academic self-efficacy, the higher the goals individual set and become dedicated to fulfill them (Wood & Bandura, 1989). Other researchers thought the significant relationship between performance as the dependent variable and perceived self-efficiency as independent variables in the study of the web based environment (Wang & Newlin, 2002). The review of those studies suggests the centrality of academic self-efficacy is evident. For that reason, as one factor, it was included in this study as the attempts to understand individual undergraduate students' use of social media tools to realize academic goals.

Peer Engagement
Peer engagement here is referred to the extent of students' physical and mental strength dedicated to learning and academic performance (Astin, 1984). It is in the records that social media use can, facilitate and assist students' peer engagement and learning (Tervakari et al.,

2012) and improve students' subsequent academic results (Novo & Calixto, 2009). In this respect, no wonder such researchers at Ab Jalil (2010) put it rightly, that students can learn from each other by being engaged in online discussion. More specifically, O"Brien (2010) found that students express interest in using Facebook as part of the classroom experience. Strangely, the same research found no identified difference in student peer engagement for Facebook compared with those who did not use it as part of the course. A possible explanation for this might be that those studied students engaged in Facebook did not consider academic achievement in the process. In another place, researchers, including (Flowers & Flowers, 2008; Stewart, 2008; Wang & Holcombe, 2010) found that academic achievement is highly influenced by students" peer engagement. That can be seen through time devotion, efforts, and energy to improve their academic achievement (Greene et al., 2004; Stewart, 2008). Therefore, it can be concluded that Facebook peer engagement can lead to better academic achievement when commitment to that end is well established among students as users.

Performance Expectancy
Performance expectancy is defined as the degree to which students believe that information system and technology assists them in obtaining a better academic achievement. Reviewed literature (Cho et al., 2009; Liu et al., 2010) has discovered that performance expectancy of information system can assist students' learning. That is because learning performance and outcome have significant positive influence on students' intention of using them continuously (Cho et al. 2009; Liu et al., 2010). In the same line of observation, other researchers (see Yeung & Jordan, 2006; Chen et al., 2007; Roca &Gagné, 2008; Hashim, 2008) identified significant positive impacts of performance expectancy in particular to e-learning over employees" satisfaction, attitudes, and intentions towards learning in the workplace. In addition to that, a study conducted by Al-Rahmi et al. (2014) investigated the influence of perceived usefulness on the students' satisfaction and academic achievement. The findings indicated that perceived usefulness, influence students' satisfaction and academic performance positively. Another study by Mali and Hassan (2013) found that usefulness significantly influence on the student's intention of using Facebook for academic purposes. The recent study by Leng et al. (2011) found perceived usefulness is one of the strongest factors that link to the use of social media for academic purposes among students in Malaysia. There is also a study by Suki et al. (2012) of factors influencing behavioral intention to use Facebook. Data were collected from 200 students in the Universiti Science Malaysia. The findings showed that perceived enjoyment, perceived ease of use, and perceived usefulness all impact attitudes toward the continuance intention use of Facebook for academic purposes. There is no doubt that evidence from these studies suggests the relationship of performance expectancy and students" use of social media in the context of learning.

Social Influence
Social influence is one of the four constructs of UTAUT, and it was defined by Venkatesh et al. (2003) as "the extent to which a person perceives that important other believe he or she should use a new information system". According to Qin et al. (2011) social influence occurs when those, who surrounded an individual, influence his or her decision. This is in agreement with social learning theory by Bandura (1977) that individuals learn from each other through communications with friends. This is to say that when an individual decides whether to adopt or reject an innovation, the effects of decisions upon individual's relationship with others in the group are considered (Mugny et al., 1995). In another version, Davis (2000) asserted that

social order is a critical method of shifting individual's intention to make use of modern technology. For instance, Mustaffa et al. (2011) conducted an exploratory study at UKM University in Malaysia from 200 undergraduate students. The result indicated that the use of Facebook as a tool for academic purposes was strongly influenced by the peer pressure. This finding has important implications for investigating online peer learning. There are also sociological studies that have empirically found that parents influence is very important for students (Stewart, 2008; Speight, 2009; Fallon, 2010). For example, the parental influence was found one of the most important factors that drive students' academic achievement (Multon et al., 1991).

Peer Feedback
Peer feedback also known as peer learning, peer cooperative learning, peer assessment, peer review, and peer revision, is an indication of interpersonal process among status equals (peers) in which feedback is given to and received from others aimed at enhancing performance and knowledge through peer-centered interaction (McGroarty & Zhu, 1997; McLuckie & Topping, 2004; Topping, 2005; Van Gennip et al., 2009). Peer feedback is individualized and timely in peer assessment process (Topping, 1998). It has greater immediacy; frequency and size compensate the absence of a high quality response from qualified staff members. Some studies focus on the quality of peer feedback in relation to pursuing better learning and more academic success. For instance, it is reported that a brief feedback on marketing can maximize openness student's confidence, peer reviewing process and consequently learning outcomes (Smith et al., 2002). Moreover, forms of feedback can impact on students learning differently (Topping, 1998). In this respect, electronic feedback can increase lecturers" ability to provide rapid feedback in the large course and enhance overall social interaction to learning (De Raadt et al., 2005). Elsewhere, Chen et al. (2009) investigated the influence of many variables related to peer assessment, observation and peer feedback. The findings indicated that peer feedback has no significant influence on the reflection level or academic achievement. In addition to that, Ab Jalil et al., (2008) pointed out that assisted performance in the online exchanges could offer insights into the learning that can take place in the online discussion and offer one way of recognizing meaningful online interaction.

Collaboration
Collaborative e-learning within an educational setting can be explained from a constructivist view of learning associated to Vygotsky"s (1986) zone of proximal development. This relates to learner's level of understanding and cognitive development through social interaction and collaboration from expert guidance and capable peers. Collaboration can be defined as an active construction of knowledge where learners share ideas and information through a pair or group communication. According to Haythornthwaite (2006), collaboration is related to working together towards a common goal. For that reason, it aims at regulating a coordinated effort of all group members to regulate their activity and learning (Arnold et al., 2009). Kahiigi et al. (2012) explain that peer review process within collaborative e-learning environment involves students having access to their peers" work and providing each other with feedback in a context that can be accessed with flexibility. This strategy is an advantage for learners since, as Cantoni et al. (2004) explain they can customize learning material to their own needs, have more control over the learning process, and have the possibility to understand the material, leading to a faster learning curve. The observations from these cited studies indicate

that collaboration has the potential to support undergraduates" online peer learning in the bids to improve academic achievements.

Methodology
Research Design and Location
This is a quantitative study (correlational research) and Universiti Putra Malaysia was the main location for the study.

Population and Sampling
The population of this study is undergraduate students in UPM as one of the public universities in Malaysia. According to the administration office of the university, academic and the International office, the number of undergraduate students in 2014- 2015 are 17,582. Using the proportional stratified sampling in this study would ensure that sub-groups of undergraduates from different faculties in UPM would present results in the same proportion as they were in the population. The population of this research covers all undergraduate faculties at UPM. Thus, each faculty in this study is considered as a stratum. In each stratum, a randomly selected sampling technique is employed. This is because each of the respondents has an equal opportunity to be chosen as a representative of the stratum. As stated by Cochran (1977), the sample size of the population (17,582) of this research at the margin error of 5% and degree of confidence of 95% is 376 respondents. The sample size for each faculty was calculated based on the percentage of the faculty in the population. For example, the population size of the faculty of educational studies is 1,379, which account for 7.8% of the total population. Since the sample size of this research is 376, the percentage of the faculty (7.8%) multiplied by the total sample size (376) will lead to 29 respondents from the faculty of educational studies (376*7.8%= 29).

Instrument
Section A: Background Information
This section looks for finding information related to the context of the respondents. Questions such as gender, age, education, social media application (choose only one to identify the widely use application at UPM), computer, and time spend on social media will be addressed to the respondents.

Academic Achievement (GPA)
Academic achievement was measured on the basis of the students' grade point average (GPA) scores for the semester in which the study was carried out (2014 - 2015), In UPM, learning program is based on the grade point average system as results for study.

Section B: Factor Influence academic achievement in Online Peer Learning
Sub-section 1 - Academic Self-Efficacy - This measurement is adapted from Li (2012) and it consists of six items. A five-point Likert scale was used to assess the statement of the measurement ranging from strongly disagree (1) to strongly agree (5).
Sub-section 2 - Peer Engagement - it measures the peer engagement of the respondents in the online peer learning via social media. The measurement is adapted from Welch and White (2012) with seven items to measure the variable. The measurement is assessed using a five-point Likert scale ranging from strongly disagree (1) to strongly agree (5).

Sub-section 3 – Peer Feedback - It aims to assess the importance of peer feedback for students to use the online peer learning via social media. The measurement adapted from the National Survey of Student Engagement's (NSSE) survey instrument, the College Student Report with getting permission from Indiana University and it consists of nine items. The items are assessed using a five point Likert scale ranging from strongly disagree (1) to strongly agree (5).

Sub-section 4 – Collaboration - it aims to collect data related to the collaboration among students on the use of online peer learning via social media. The items are adapted from So and Brush (2008). It consists of nine items and it is measured using five-point Likert scale ranging from strongly disagree (1) to strongly agree (5).

Subsection 5 – Social influence - It measures the effect of the social influence on the peer, family, and lectures among other to use the online peer learning via social media. The measurement consists of six items, and all of the items were stated positively and adapted from Ajjan and Hartshorne (2008). Items are evaluated using five-point Likert scale ranging from strongly disagree (1) to strongly agree (5).

Sub-section 6 - Performance Expectancy - it is adapted from Ajjan and Hartshorne (2008) to measure the perception of respondents toward the performance expectancy by using online peer learning via social media. The measurement consists of seven items. It is assessed using five-point Likret scales

Validity and Pilot Study

In the research, the content validity of the instrument was examined. Six experts in the field of sociology, technology acceptance, and education examined the instrument. Based on the feedbacks and comments of the experts, correction and adjustment were made. As a result, some items were deleted, and others were added. In this research, the researcher has conducted a pilot study in the main library of UPM. A total of 30 questionnaires were handed out randomly to respondents, and they were asked to provide their feedback and comments related to the wording and the clarity of the questions. The resulted Cronbach's Alpha value for the six factors studied ranges from 0.77 to 0.90.

Data Collection

The sample of this study consists of 376 respondents; therefore, the researcher had done the randomization distribution of the questionnaire (376 questionnaires) at the faculties in the university under study. A total of 376 returned back. Seven questionnaires were excluded because they were incomplete. A total of 369 questionnaire forms were usable and complete.

Data Analysis

In this study descriptive statistic such as frequencies distribution, and percentage were used to explain meaningfully the respondents' background of information (Age, gender, faculty of the respondents social media application used , time spend on social media and the purpose of using social media and academic achievement), describe the independent variables (Academic self-efficacy, peer engagement, peer feedback, social influence, performance expectancy and collaboration) as well as dependent variable (academic achievement). Inferential statistics were utilized to evaluate the relationships among main variables according to the specific objectives of this study.

Results

Demographic

The results reveals that male constitutes only 37.2% (122), while female had about 62.8% (206). About 76.80% (252) of the respondents falls within the age range of 18-23 years old, 22.60% (74) were between the age range of 24-29 years old and only 0.60% (2) attained 30-35 years of age. The Mean age of respondents was 22.21 years (≈ 22 years). The results indicate that respondents who spent about 13 hours on of their time on social media constitute 31.70% (104), this is followed by the second group of 4-6 hours of usage, 33.20% (109), while the third group include those that spent 7-9 hours with about 12.40% (41), the fourth group of 10-12 hours of usage were 19.40% (64) and finally, the fifth group of 13-15 hours of usage constitutes only 3.30% (10). With regards to the social media application, the results indicate that about 62.50% of the respondents were Facebook users. Those who used YouTube were 14.90% (49), Twitter users were 1.80% (6), WhatsApp users were 15.50% (51), MySpace user was only 0.30% (1), and users of other social media applications were 4.90% (16).

The results show that majority of the students use social media to share information with peer 79.30% (260), followed by asking for information from my peer 73.20% (240), discuss related matter with peer 65.90% (216), connect with peer 56.10% (184), ask for help from peers 51.80% (170), participate in academic discussion with people on social media 40.90% (134), connect with lecturers 35.80% (116), and ask for feedback from peers 32.60% (107). Furthermore, the results show that 83.30% (275) of the respondents use social media to connect with friends, this is followed by socializing purposes 67.70% (222), connecting with my family recorded about 64.30% (221), while 58.20% (191) used social media for watching news and 32% (105) participates in general discussion regarding general topic respectively.

The Relationship between Independent Variables and Academic Achievement

The results obtained from Pearson correlation analysis ($r = 0.255$, $p < 0.01$) shows that there is a significant positive and medium relationship between academic self-efficacy and academic achievement while similar analysis performed resulted in ($r = 0.288$, $p < 0.01$) between peer engagement and academic achievement indicates that there is a significant positive and medium relationship between the two variables. The results ($r = 0.351$, $p < 0.01$) in regards to performance expectancy and academic achievement reveals that it is significantly positive, and high correlation between the two variables and hence, performance expectancy among the respondent could be determined by their academic achievement (Table 1)

It can be confirmed that there is a significant positive and high correlation between social influence and academic achievement ($r = 0.285$, $p < 0.01$). This indicates the social influence of the respondents is highly associated with their academic achievement. The results on peer feedback and academic achievement ($r = 0.280$, $p < 0.01$) also indicates that there is a significant positive and high correlation between the two variables. This confirms that peer feedback of the respondents is highly associated with their academic achievement. Furthermore, the results of correlation analysis of collaboration and academic achievement ($r = .365$, $p < .01$) was found to be significant and positive. This means that the two variables are highly correlated (Table 1)

Table 1:
Pearson Correlation Matrix of Independent Variables and the Dependent Variable

Variables	X_1	X_2	X_3	X_4	X_5	X_6	Y
X_1 (Academic Self-Efficacy)	1						
X_2 (Peer Engagement)	.561	1					
X_3 (Peer Feedback)	.505**	.456**	1				
X_4 (Collaboration)	.484**	.425**	.600**	1			
X_5 (Social Influence)	.352**	.226**	.472**	.561**	1		
X_6 (Performance Expectancy)	.456**	.443**	.477**	.613**	.525**	1	
Y (CGPA)	.255**	.288**	.280**	.365**	.285**	.351**	1

The result of multiple linear regression presented in Table 2 showed that the predictors of academic achievement are academic self-efficacy (t= 2.133, p=0.034), peer engagement (t= 2.300, p=0.022), collaboration (t= 2.723, p=0.007), social influence (t= 4.691, p=0.000), performance expectancy (t= 2.523, p=0.012). These predictors have made significant and unique contribution for the predication of academic achievement. Overall, the model of prediction of academic achievement using the five identified predictors was obtained as follows:

Y= 0.117 + 0.120 X1 + 0.121 X2 + 0.169 X3 + 0.210 X4+ 0.140 X5 + £

Where:
Y= Academic achievement   X1= academic self-efficacy   X2= Peer engagement   X3= Collaboration X4= Social Influence X5= Performance expectancy

Referring to the Table 2, the statistical analysis showed that the social influence is the strongest contributor to academic achievement (β=0.210), followed by collaboration (β=0.169), performance expectancy (β=0.140), peer engagement (β=0.121), and lastly academic self-efficacy (β=0.120). For example, the value of the beta indicates that an increase of one standard deviation for social influence will lead to an increase of 0.210 of the standard deviation of academic achievement.

Table 2:
Multiple Linear Regressions on Academic Achievement

	Coefficients[a]				
	Unstandardized Coefficient		Standardized Coefficient		
Model	B	Std Error	Beta	T	Sig.
1 Constant	0.117	0.250		0.469	0.639NS
Academic self-Efficacy-M	0.120	0.056	0.091	2.133	0.034*
Peer engagement-M	0.121	0.052	0.116	2.300	0.022*
Peer Feedback-M	0.015	0.056	0.016	0.268	0.789NS
Collaboration	0.169	0.062	0.177	2.723	0.007*
Social Influence M	0.210	0.045	0.277	4.691	0.000*
Performance Expectancy-M	0.140	0.055	0.152	2.523	0.012**

Dependent Variable: Academic Achievement
N.B.: * and **, significant at 1% and 5% levels of probability

Table 3 shows the ANOVA analysis result for the multiple linear regression models. ANOVA (6, 321) obtained was 18.199 (p=0.000) with a p-value less than 0.05 was obtained indicating that the combination of predictors is significantly predicted the dependent variable.

Table 3: ANOVA

Model	Sum of square	Df	Mean Square	F	Sig.
Regression	23.467	6	3.911	11.381	.000[b]
Residual	68.985	321	.215		
Total	92.451	327			

a. Dependent Variable: CGP
b. Predictors: (Constant), PE_M, ENG_M, SI_M, PF_M, SE_M, COL

The model summary in Table 4 showed that the multiple correlation coefficient (R) was 0.624. Including all the predictors in the enter method in multiple linear regression simultaneously indicated that the adjusted R square (R^2) is 0.379 which indicates that the independent variables (Academic self-efficacy, Peer engagement, collaboration, peer feedback, social influence, and performance expectancy) are able to explain about 39% of the variation in the dependent variable (academic achievement).

Table 4:
Model summar

R	R Square	Adjusted R Square	Std. Error of the Estimate	F	P. Value
0.624[a]	0.389	0.379	0.428	11.381	.000[b]

a. Predictors: (Constant), PE_M, SE_M, ENG_M, SI_M, PF_M, COL

As a conclusion, social influence, collaboration, performance expectancy, peer engagement, and academic self-efficacy made a significant unique contribution to the prediction of academic achievement, [F (6, 321)= 11.381, p=0.000, R^2= 0.379]. The strongest predictor is the social influence.

Discussion
Students' Academic Self-Efficacy and Academic Achievement
The results of the students; academic self-efficacy and academic achievement while practising online peer learning via social media showed that there is a significant relationship between those two variables among undergraduate students in UPM. The Pearson correlation analysis is shown as (r=0.255, p<0.01). From the results, it was clearly shown that undergraduates in UPM have significant social confidence and readiness to participate abundantly in online peer learning. Such positive correlation might be due to the regular exposure and use of different of different emerging social media tools, both for learning or leisure quests (Sedek, 2014). In discussing social media use as technology practice, this finding matches with the observation by Wang and Wang (2010) that as students' chances to use the technology in many times contributes more experiences and learning skills on the way. That observation sounds more

vital in the line of understanding of students' online peer learning dynamics in achieving academic goals.

Students' Peer Engagement and Academic Achievement

The students' peer engagement and academic achievement while practising online peer learning via social media was another relationship sought in this study. The results were shown through Pearson correlation analysis results (r=0.288, p<0.01). One meaning was that UPM undergraduates were very much engaged in using social media tools expecting to achieve high academic achievement. In this sense, it can be said that most of those UPM undergraduates were skilful enough in the process of what Sedek (2014) describes as downloading e-books and creating presentations via technology, a thing that has a positive relationship with academic achievement (Gunuc, 2014). Basically, the findings of the present study suggested that in order to promote the relationship of students' peer engagement and academic achievement while practising online peer learning through the use of social media two scenarios must be interlinked. The first situation needs the students to have essential prior knowledge linked with relevant curriculum and engaging learning tasks in place. It is important that all these issues match with students' interests and expectations consistent with the aspired educational achievement.

The second condition is that students' peer engagement in practising online peer learning need to relate students' goals and willingness to persist. At this respect, students' peer engagement needs to be seen as an opportunity, to what is said by Sullivan and McDonough (2007) as students' meaningful participation in learning for reasonable accomplishment. These findings suggested that UPM undergraduates showed particular interests on maintaining their peer engagement with peers while learning. One possible explanation for such findings is that the use of social media tools as a platform for online peer learning is highly engaged such that most of those UPM undergraduates feel that, their academic achievements are not affected (Kolek & Saunders, 2008).

Students' performance expectancy and Academic Achievement

The students' performance expectancy and academic achievement were another interested thing in this study. The results showed that (r=0.351, p<01) meaning that there is significant positive relationship and high correlation between the said variables. A possible explanation for these findings might be that UPM undergraduates have developed prior expectations that their interactions with peers is vital for learning. That experience has created a sense of self-fulfilling perceptions and perpetual convictions that the use of social media tools along peer learning can assist them to realise their academic expectations. This sort of relationship suggested that the higher the students' expectations were for networked peers, the higher their achievement. These results seemed to be consistent with the research by Cho et al. (2009), and Liu et al. (2010) performance expectancy can assist students' learning. In essence, the message here emerges that having higher expectation is an asset to the realisation of higher academic achievements.

Students' Social Influence and Academic Achievement

It is shown in the findings that Pearson correlation between social influence and academic achievement is given as (r=0.285, p<0.01). One meaning of these findings is that UPM undergraduates were socialized by peers and other people with whom they were associating

on a daily basis to the extent of developing acceptable commitments to online peer learning. In this respect, it can be reasoned that the peers that UPM undergraduates interact with and spend the time to share knowledge, skills and experiences through social media tools set parameter for their academic achievement. For that reason, social influence is an important component in discussing students' achievements. Similar findings were reported by Korir and Kipkemboi (2014) on a study examined the impact of the school environment and peer influence on the students' academic performance. Their findings showed that school environment and peer influence made a significant contribution to the students' academic performance.

Students' peer feedback and Academic Achievement

The students' peer feedback and academic achievement were another important combination studied in this research. The results on peer feedback and academic achievement (r=0.280, p<0.01) was recorded to confirm the significant relationship between those two variables. Peer feedback seemed to appear as an essential aspect of the UPM undergraduates" learning process. This means the said peer feedback could be thoroughly related to student's academic development. The current study findings could be due to the reality of the time that university learning offers what seems to be a station stage in students' life. It serves as a linkage stage between elementary stage and higher education of the learner. It is a vital sub-system of the educational system as it provides the workforce for the national economy (Ahmad et al., 2013). These findings seemed to be consistent with another study by Hattie and Timperley (2013) that peer feedback is one of the most powerful influences on learning and achievement both positive and negative. This finding could be due to the reasons that peer as teacher feedback could be run as responses for students' performances. In this respect, it can be used to know how peers respond to other peers as students upon demonstration of knowledge, reasoning, skill or performance (Hattie & Timperley, 2013). For that reason, peers are obligated to encourage meaningful construction of knowledge and understanding of the concepts useful to the academic achievement.

Students' Collaboration and Academic Achievement

The students' collaboration and academic achievement were another significant mixture studied in this research. The results of Pearson correlation analysis of the two variables showed (r=.35. p<0.1).One meaning might be that studied UPM undergraduates were keen to participate in online learning via the use of social media tools with strong feelings of connection. This finding suggests that most students had positive feeling consistent a sense of belonging and trust between peers as a way to recognize their collaboration as a valuable learning experience for academic achievement. Interestingly, although students in this study were able to meet face-to face with other peers at UPM learning setting, still they seemed to display a strong feeling and need to engage in online social interaction. This was perhaps due to the social, cultural settings in Malaysia as non-Western context encourages community living and interactions amongst people. Similarly, the results of the present study are consistent with those of Wong (2001) who studied the effects of collaborative learning on students' attitude and academic achievement in learning computer programming. The findings of that study revealed that students performed better on achievement and were more positive toward learning programming activities when they were working in collaborative groups than when they were working on the same activities individually.

Factors Influencing Academic Achievement in Online Peer Learning
Academic Self-Efficacy
In the result of this study, academic self-efficacy has an influence on academic achievement via online peer learning. This result is in agreement with the published studies (Ho et al., 2010; Diseth, 2011; Din et al., 2012; Joo et al., 2013). It is important for the student to have a high level of academic self-efficacy because it increases their confidence and their desire to participate in an academic discussion or cooperation that leads to better academic achievement. A student with a high level of academic self-efficacy is motivated to provide their opinion and help other to solve problems because they believe that they have the knowledge required to participate in peer learning activities such as online discussion or answering a question related to the course at the university.

Peer Engagement
Peer engagement is an effective factor influencing academic achievement. In reviewing literature, findings of other researchers indicated that peer engagement has a significant effect on academic achievement. In this respect, Krause and Coates (2008), suggested different types of peer engagement including academic engagement, peer engagement, students-staff engagement, intellectual engagement, online engagement scale, and beyond class engagement scale that can be used in practice and can affect the academic achievement of the student. In addition, the finding of Wise et al. (2011) showed that social engagement increases academic engagement, which leads to better academic achievement. It is shown that peer engagement is the strongest predictor of academic achievement followed by online engagement scale. Another study by Al-Rahmi and Othman (2013) found peer engagement influence on students" collaboration which effects on academic achievement.

Performance Expectancy
In this study, performance expectancy was accepted as an effective factor in academic achievement among the undergraduate students at UPM. It seems possible that these results affirm the point that students' academic achievement depends on strongly upon students' perception of the usefulness (which is similar to performance expectancy (Venkatesh et al., 2003) of online peer learning. In this respect, for considerable student academic achievement to take place, it sounds necessary that social media tools are used in an appropriate manner. The findings of this study are consistent with other researchers such as Al-Rahmi et al. (2014) who found that perceived usefulness influence students' satisfaction and the academic performance positively. Similarly, the findings concur with the idea of Leng et al. (2011) that perceived usefulness is one of the strongest factors that link the use of social media for academic purposes in Malaysia. Elsewhere, Mali and Hassan (2013) found that usefulness is significantly influencing intention to use Facebook for academic purposes. Taken together, these findings suggest a role for performance in promoting academic performance among undergraduate students in the context of reasonable use of social media tools.

Social Influence
Results showed that social influence was a notable factor that influenced online peer learning and academic achievement among undergraduate students at UPM. This result seemed to suggest that convincing power of one group of students taking part in online peer learning could influence other students to join the process and make a difference in the academic achievement. Besides, the studies undergraduate students also revealed a considerable

degree of believes that by joining in groups for online peer learning they can get, a new informative source (Venkatesh, et al. 2003). These findings are in agreement with an exploratory study conducted by Mustafa, et al. (2011) in Universiti Kebangsaan Malaysia (UKM). In specific to Facebook as a social media tool, they found its use was strongly influenced by peer pressure. Moreover, studies that have been conducted in fields similar to social media and online peer learning found there is a positive and significant influence of social influence on the adoption of new technology. Wang et al. (2009) found a significant influence of social influence on the adoption of M-learning and similarly does Yu (2012). In sum, therefore, it seems that when social influence is properly used it has a potential contribution to students' academic achievement.

Peer Feedback
In contrast to considerable earlier reviewed findings, however, this study did not find a significant influence of peer feedback on students' academic achievement. In contrary, studies conducted by De Raadt et al. (2005) and Ab Jalil et al. (2008) noted that the influence of peer feedback on academic achievement is positive and significant. Specifically, Ab Jalil et al. (2008) suggests that assisted performance in the online exchanges can offer insights into the learning that can take place in the online discussion and offer one way recognizing of the meaningful online interaction. In the same vein, De Raadt et al. (2005) seem to stress the point that electronic peer feedback empowers lecturers to produce feedback, promote social interaction and encourage higher order learning for students. In the context of this study, this combination of findings seems to provide some support for the conceptual premise that age matters for effective peer feedback on online learning and students" academic achievement.

Collaboration
Findings showed that collaboration is an effective factor influencing academic achievement. This finding supports previous research into this area which links collaboration and students' academic achievement. Barnard et al. (2008) conducted a study on the influence of collaboration in an online course and students' academic achievement. The findings showed that collaboration between students in an online course has a significant influence on the academic achievement. Similarly, Al-Rahmi and Othman (2013) studied the influence of students' collaboration and students' academic performance. Their findings showed that collaboration between students in social media influences positively students' academic achievement. Moreover, collaborative learning was investigated by Al-Rahmi et al. (2014) at the UTM in Malaysia. The findings showed that collaborative learning influences the students' satisfaction and their performance. This consistency of findings between the present research and reviewed previous studies may be due to the intelligent observation that the 21st century is reflected by the rapidity of active means of communications, through Internet connection among students of higher educational institutions (Al-Rahmi et al. 2014). In addition, Tervakari et al. (2012) pointed out that collaboration is a major issue for effective utilization of online peer learning. This indicates the importance of collaboration between peers.

Recommendations for Future Study
Studies, which are related to online peer learning, are few. It is recommended that future work expands the study and investigate the online peer learning from different perspectives with a different unit of analysis. The future work is recommended to conduct a qualitative study where an interview with experts can be held to discover the dimensions and issues of

online peer learning. This is because previous studies conducted quantitative studies and due to the fact that online peer learning is a new topic and still evolving. A qualitative approach could help in understanding the student usage of online peer learning via social media. Other methods could be to mediate a focus group where experts in peer learning can be asked to discuss the issue of undergraduate online peer learning usage and its effect on academic achievement.

Another area of future work is the sample. In this study, the sample was extracted from UPM. Future work is recommended to expand the sample and conduct study that cover five public or private universities so that the findings could be more generalizable. It is also recommended to conduct a study with different sample where respondents can be categorized based on their field of studies such as to choose stratified sampling technique to study the online peer learning among student from social science and applied science. This study incorporated six independent variables (academic self-efficacy, peer engagement, social influence, performance expectancy, peer feedback and collaboration) in its framework and studied the influence of these variables on academic achievement. It is recommended for future work that individual construct to be studied with academic achievement. For example, future research can identify the component of peer engagement and test their effect on academic achievement. A similar approach can be followed for another construct such as collaboration.

Conclusion

Peer engagement, academic self-efficacy, performance expectancy, social influence, peer feedback and collaboration were accepted as factors influencing academic achievement in online peer learning amongst participated UPM undergraduates. From the forgoing observation, the conclusion can be made that having knowledge related to peer learning through social media tools is a vital experience for both the lecturers and university students themselves. That knowledge can be reasonably employed to improve focus, creativeness and expand wider meaning and implications of using social media tools for online peer learning amongst students who are within normal university settings. Similarly, this knowledge is needed consistent with the present efforts to educate transform higher education policy and practice in Malaysia to develop students as a primary source of human capital for the country (Ninth Malaysia Plan, 2006-2010). Building from this understanding, it can be reasoned that strong and supportive online networked university setting is needed now and then to improve the discourse on social media tools, online peer learning, and related factors to students' academic achievements in a way to face emerging professional and wired work related challenges.

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