Assessing the uses and impacts of Facebook for teaching and learning in classroom education contexts in Malaysian universities

Cheng Ean Lee

This dissertation is submitted for the degree of Doctor of Philosophy

December 2018

Department of Educational Research

Assessing the uses and impacts of Facebook for teaching and learning in classroom education contexts in Malaysian universities

Cheng Ean Lee

This thesis results entirely from my own work and has not been offered previously for any other degree or diploma.

The word count for this thesis excluding the references is 78,150 words.

Catherine Lee

Signature .....

Declaration

This thesis has not been submitted in support of an application for another degree at this or any other university. It is the result of my own work and includes nothing that is the outcome of work done in collaboration except where specifically indicated. Many of the ideas in this thesis were the product of discussion with my supervisor Prof Don Passey.

Cheng Ean Lee and BA (Hons) and MA

Lancaster University, UK

Abstract

This study examined the uses of Facebook by lecturers and students in classrooms and their outcomes and impacts for teaching and learning practices in Malaysian higher education. The research objectives were to identify how and why lecturers and students use Facebook as a teaching and learning platform in a formal classroom environment, and to evaluate how lecturers and students perceive the outcomes and impacts of Facebook for teaching and learning practices. A multiple-methodology design using a number of qualitative methods was adopted. Empirical data were collected through: (1) semi-structured interviews with eight lecturers and 12 students from seven Malaysian universities; (2) participant virtual observation of two Facebook closed-group pages; and (3) content analysis of 38 students' reflection journals. Findings revealed that the use of Facebook by Malaysian lecturers and students of this study arises due to its affordances for teaching and learning in classroom education, including ease of use and usefulness for reaching out to students, supporting online discussions, and interactivity. However, participants felt that disadvantages and challenges of using Facebook in formal learning environments do exist. This study provides in-depth insights about the adoption of Facebook by students and lecturers in formal classroom education for enhancing learning experiences as well as supporting and improving teaching practices. The study contributes to current understanding about how and why lecturers and students leverage social media technologies as teaching and learning tools as well as how Facebook enhances engagement and communication among students and with their lecturers. Original contributions

from this study are: the identification of similarities of and differences between lecturers' and students' uses and perspectives on Facebook in formal learning environments; the presentation of theoretical frameworks related to factors that affect uses and impacts of Facebook for teaching and learning in classroom education in Malaysian universities; as well as an analysis and identification of elements of Facebook features which support learning per se and the management of learning. Ultimately, it contributes to a growing body of empirical research about uses and impacts of social media technologies for classroom education in Malaysian higher education.

Contents

Abstract i

Contents iii

Acknowledgements vi

List of abbreviations vii

List of Tables and Figures viii

Chapter 1 Introduction 1

1.1 Background of the study 8

1.2 Problem statement 13

1.3 Research objectives 17

1.4 Research questions 18

1.5 Significance of the study 18

1.6 Chapter outlines 19

1.7 Chapter summary 22

Chapter 2 Literature Review and Theoretical Framework 23

2.1 Introduction 23

2.2 Social media use in higher education 25

2.2.1 Social media use in Malaysian higher education 40

2.3 Facebook use in higher education 47

2.3.1 Facebook use in Malaysian higher education 52

2.4 Malaysian higher education system 56

2.4.1 Public and private universities 59

2.5 Research gap 62

2.6 Theoretical frameworks 64

2.6.1 Uses and gratifications theory 64

2.6.2 Social constructivist theory 66

2.6.3 Technology acceptance model 68

2.6.4 Conversational framework 70

2.6.5 Integration of theoretical frameworks in the study 73

2.7 Chapter summary 74

Chapter 3 Methodology 75

3.1 Introduction 75

3.2 Qualitative research 79

3.3 Data analysis 87

3.4 Limitations of methods 91

3.5 Instrument design 92

3.6 Ethical consideration **94**
3.7 Chapter summary **95**
Chapter 4 Uses of Facebook for Classroom Education **97**
4.1 Introduction **97**
4.2 Lecturers' use of Facebook for teaching in classroom education **98**
4.3 Students' use of Facebook for learning in classroom education **107**
4.4 Qualitative analysis of Facebook group pages and reflection journals **112**
4.5 Chapter summary **121**
Chapter 5 Lecturers' and Students' Perceived Outcomes and Impacts of Facebook Use for Teaching and Learning in Classroom Education **123**
5.1 Introduction **123**
5.2 Lecturers' perceived outcomes and impacts of Facebook use for teaching in classroom education **124**
5.2.1 Advantages of using Facebook in classroom education 125
5.2.2 Disadvantages of using Facebook in classroom education 134
5.2.3 Challenges of using Facebook in classroom education 138
5.2.4 Comparison between Facebook and other methods and technologies 142
5.2.5 Elements or supports to implement Facebook in the classroom 148
5.2.6 Perceived outcomes and impacts of using Facebook for teaching 150
5.3 Students' perceived outcomes and impacts of Facebook use for learning in classroom education **157**
5.3.1 Advantages of using Facebook in classroom education 158
5.3.2 Disadvantages of using Facebook in classroom education 163
5.3.3 Challenges of using Facebook in classroom education 167
5.3.4 Comparison between Facebook and other methods and technologies 168
5.3.5 Perceived outcomes and impacts of using Facebook for learning 173
5.3.5.1 Facebook improves learning experiences 174
5.3.5.2 Facebook enhancing communication practices 176
5.3.5.3 Facebook enables student engagement 178
5.4 Qualitative analysis of students' reflection journals **179**
5.4.1 Advantages of using a Facebook group in classroom education 180
5.4.2 Disadvantages of using a Facebook group in classroom education 186
5.4.3 Challenges of using a Facebook group in classroom education 189
5.4.4 Perceived outcomes and impacts of using a Facebook group for learning 190
5.5 Chapter summary **195**
Chapter 6 Conclusion **202**
6.1 Introduction **202**

6.2 Summary of findings and discussion 206
6.2.1 Lecturers' and students' uses of Facebook in classroom education 206
6.2.2 Lecturers' and students' perceived outcomes and impacts of Facebook use in classroom education 208
6.2.3 Case study: Uses and impacts of a Facebook group in classroom education 215
6.3 Contribution to knowledge 218
6.3.1 Similarities and differences between lecturers' and students' perspectives and experiences 219
6.3.1.1 Uses of Facebook in classroom education 219
6.3.1.2 Pros and cons of using Facebook in classroom education 223
6.3.1.3 Perceived outcomes and impacts of Facebook use in classroom education 226
6.3.2 The integration of theoretical frameworks related to the uses and impacts of Facebook for teaching and learning in classroom education 229
6.3.3 Elements supporting learning and the management of leaning 233
6.4 Conclusion and implications of the study 237
6.5 Limitations of the study 239
6.6 Recommendation for future study 241
6.7 Chapter summary 242
References 244
Appendix One 288
Appendix Two 299
Appendix Three 300
Appendix Four 303
Appendix Five 305
Appendix Six 306
Appendix Seven 310
Appendix Eight 312
Appendix Nine 313
Appendix Ten 315
Appendix Eleven 333

Acknowledgements

I would like to express my deepest gratitude and appreciation to my supervisor Prof Don Passey from the Department of Educational Research of Lancaster University for his continuous guidance and support as well as invaluable advice and comments on my drafts of thesis chapters. I am extremely lucky to have Prof Passey as my supervisor who always responded to my queries very promptly.

I would like to extend my appreciation to the lecturer and student participants of seven Malaysian universities. Without their participation and support, this thesis could not be completed. My thanks also go to all the staff from the Department of Educational Research whom I dealt with during my doctoral study at Lancaster University. They always did their best to support me. I am also grateful to Sunway University and Lancaster University for their financial sponsorship which allowed me to complete my doctoral study. Without this scholarship, this PhD journey might not have happened.

Last, but not least, I would like to thank my ever understanding and supportive husband, Chuan Teck Leong, and my three lovely children Chuan Yap Wern, Chuan Yap Wing, and Chuan Yap Wuey, for their unconditional support, encouragement and love, and without which I would not have come this far.

List of abbreviations

CMS	Course management system
ESL	English as second language
ICT	Information and communication technology
ICTs	Information and communication technologies
IS	Information system
IT	Information technology
LMS	Learning management system
MHEB	Malaysian higher education blueprint
MOHE	Ministry of Higher Education
MQA	Malaysian Qualifications Agency
PEOU	Perceived ease of use
PTPTN	'Perbadanan Tabung Pendidikan Tinggi Nasional' – National Higher Education Fund Corporation
PU	Perceived usefulness
QR	Quick response
RQ	Research question
RQs	Research questions
SNS	Social networking site
SNSs	Social networking sites
SPSS	Statistical Package for Social Sciences
TAM	Technology acceptance model
U&G	Uses and gratifications

List of Tables and Figures

Table 3.1 Interview details ……..……..85-86

Table 3.2 Data collection and analysis ……..90-91

Table 4.1 Students' postings in the two Facebook closed-groups ……....117

Table 5.1 Summary of advantages and disadvantages of Facebook usage in classroom education …..……..……..……196-197

Table 5.2 Summary of lecturers' and students' perspectives and perceived challenges of the effective use of Facebook for teaching and learning in classroom education ……....……..199-200

Figure 6.1 Lecturers' and students' perceived outcomes and impacts of using Facebook for teaching and learning in classroom education …..…...214

Figure 6.2 Comparing the uses of Facebook by lecturers and students for classroom teaching and learning …….……...221

Figure 6.3 Comparing lecturers' and students' perspectives about the pros and cons of using Facebook for classroom teaching and learning ……225

Figure 6.4 Comparing lecturers' and students' perceived outcomes and impacts of using Facebook for classroom education …….……..227

Figure 6.5 The visual presentation of the theoretical frameworks related to the uses and impacts of Facebook for teaching and learning in classroom education in Malaysian universities ……..232

Figure 6.6 Elements for supporting learning ……..…...233

Figure 6.7 Elements for supporting the management of learning…..…...236

Chapter 1 Introduction

The advancement of technology, such as new information and communication technologies (ICTs), has played a role in our everyday life and communication. For example, Facebook 'provides a venue where we interact with our "friends" of various calibers' (Schroeder, & Ling, 2014, p. 801). Given the increasing importance of social media due to its increasing ubiquitousness (according to Liu, 2010; Tess, 2013; Lahiri, & Moseley, 2015) and popular use in everyday communication (according to Freeman, 2014) and in education (according to Ali et al., 2017), and the familiarity among users (according to Hurt et al., 2012), it has invaded everyday lives and can change the way we communicate with each other (for example, individuals use Facebook, Twitter or Instagram to communicate regularly with family members, friends and colleagues across countries). Social media, also known as Web 2.0, is a web-based technology medium in which media contents are publicly available and created by end-users (Kaplan, & Haenlein, 2010). It is an online platform that provides the opportunity to present ourselves and connect with existing and new social networks (Papacharissi, & Mendelson, 2011).

The growing significance of social media, such as Facebook, blogs, Twitter, YouTube and wikis, arises because it facilitates both social consequences and rewards for its users. Specifically, social networking sites (SNSs), one of the applications of social media, 'enable users to connect by creating personal information profiles, inviting friends and colleagues to have access to those profiles, and sending e-mails and instant messages between each other' (Kaplan, & Haenlein, 2010, p. 63). This application allows users to: engage in

discussion with family, colleagues and friends in a timely manner; access and sharing of information; status updates; building and maintaining relationship; socialisation and community building; managing mediated and user-generated content; and improving learning performances (Kaplan, & Haenlein, 2010; Schroeder, & Ling, 2014; Demartini, & Dossena, 2016). The evidence of benefits associated with SNSs usage has led to positive outcomes of using social media in everyday lives and communication practices. For example, Kaya and Bicen's (2016) study concluded that Facebook is a fast and effective communication method for students, which positively supports a learning environment; it is frequently used by students 'for entertainment, sharing songs and also following specific friends who have the same interests' (p. 378).

Recent studies have shown that technology plays a significant role in facilitating teaching and learning in higher education, especially within the environment of accessible platforms such as social media (Shaltry et al., 2013; Bryant, Coombs, & Pazio, 2014; Herrera Batista, Tamez, & de Velasco y Arellano, 2015; Manca, & Ranieri, 2016c; Cooke, 2017). The rapid advancement of communications technology such as the Internet and social media, offers new opportunities to students for more access to information and interaction, increasing their chances of achieving better academic performance, and affecting education (Laskin, & Avena, 2015).

There has been much interest recently in the use of social media technologies in educational settings. Al-Rahmi and Othman (2013b) stated that 'social media is used for various reasons and purposes in higher education and it is exploited

for enhancing teaching and learning through providing both teachers and students with academic support services, including e-mentoring, e-feedback and other e-facilities' (p. 1542). Thus, the swift growth of ICTs 'makes it necessary to boost the assimilation of social media into current academic applications' and for future educational plans (Sarwar et al., 2018, p. 2).

Researchers have identified a range of uses of social media in higher education. These studies provide insights into the usage of social media and its effects in higher education and this has informed my knowledge and understanding on the role of social media in higher education. For example, social media have had an increasingly strengthening role as a tool in supporting learning in higher education (Demartini, & Dossena, 2016) especially in: improving students' academic performance (Al-Rahmi, Othman, & Musa, 2014); the conduciveness of social media for communication and collaboration (Allen et al., 2012); the opportunities for young people to harness the power of networks (Greenhow, & Lewin, 2015); the potentials of applying social media for teaching (Seaman, & Tinti-kane, 2013); enhancing students' satisfaction of using Facebook as a blended learning approach in improving their work performances (Shih, 2011); and the inclusion of social media as a supplementary tool in higher education and improved student learning experience (Cooke, 2017).

In addition, the features of social media have facilitated social support, which have affected 'the intellectual and social lives of students transitioning from high school to college' (DeAndrea et al., 2012, p. 15). In the Malaysian context,

higher education institutions have embraced some forms of social media as a promotional tool to increase students' enrolment. Almadhoun, Dominic and Lai (2011) in their study claimed that higher education institutions in Malaysia faced challenges in attracting more students, thus the emergence of 'social media can be used as a promotional tool in higher education in Malaysia' (p. 6). Besides its use as a promotional tool, social media is used for educational purposes in Malaysian universities, and similarly in other countries such as Australia (Waycott et al., 2017), Hong Kong (Chu et al., 2017), India (Kazi, Saxena, & Vinay, 2016), Italy (Demartini, & Dossena, 2016), Spain (Ricoy, & Feliz, 2016), Taiwan (Lin, 2018), the United Kingdom (Cooke, 2017; Lackovic et al., 2017), and the United States of America (Peruta, & Shields, 2017). A recent study by Ali et al. (2017) revealed that 47 students of a Malaysian private university had used 'different social media applications for information sharing, entertainment and socialising activities' (p. 556). The study illustrated that social media had become an important means of communication in educational settings in 'providing unlimited opportunities to communicate, interact, socialise and share with each other… social media has changed the entire scenario of information sharing' (Ali et al., 2017, p. 559).

Although the use of social media has brought many benefits, limitations and concerns have also been raised. According to Al-Rahmi, Othman and Musa (2014, p. 211), 'despite the fact that using social networking in academia has introduced enormous benefits, it is not without some cons and concerns'. On the one hand, social media offers powerful development and distribution capacities that allow individuals and groups to craft, control, and circulate its

messages to potentially large and widely dispersed audiences at relatively low cost. On the other hand, the drawbacks and concerns such as privacy and data security, copyright and intellectual property, time consumption, distractions, information overload, access and assessments, restriction of university administration policies, as well as erosion of professional boundaries, were cited barriers of using social media for teaching and learning in higher education institutions (Schroeder, Minocha, & Schneidert, 2010; Gruzd, Staves, & Wilk, 2012; Bryant, Coombs, & Pazio, 2014; Shaw, 2017). Thus, social media is considered a double-edged sword for university teaching and learning (Wang et al., 2012; Andersson et al., 2013; Smith, 2016; Rap, & Blonder, 2017).

Schroeder, Minocha and Schneidert (2010) investigated the uses and implications of social software in 20 United Kingdom-based higher and further education institutions. Data collected from 83 semi-structured interviews and five focus groups with educators and students were analysed using thematic analysis, which revealed three themes of weaknesses: high workload for students and educators; perceived limitations in the quality of interaction in social software initiatives; and level of uncertainty about ownership of contribution and assessment of students' work in collaborative environments (Schroeder, Minocha, & Schneidert, 2010). In Gruzd, Staves and Wilk's (2012) study, 51 scholars in the discipline of information technology (IT) identifed three main issues of using social media tools in their professional lives: privacy; the loss of personal and professional boundary; and losing control of content. Bryant, Coombs and Pazio (2014) echoed the study by Gruzd, Staves and Wilk (2012) stating the issue of privacy and data security 'impacted significantly on

not just the use of social media, but on the way academics and students understand and communicate how others could use social media' (p. 8). Shaw (2017) further identified six challenges and limitations of using Facebook as an educational source in the classroom, such as erosion of professional boundaries, concerns about privacy and security, Facebook as a distraction to students and harming their academic performance, level of student access and skills in using technology, difficulty in assessing students' use of Facebook for course work, and the restrictive university administration policy on the use of Facebook in the classroom.

Notwithstanding, Facebook, one of the most popular social media sites, has gained a unique position as a learning technology for educational purposes (according to Ahern, Feller, & Nagle, 2016). Keles (2018) examined the use of a Facebook group as an online learning community for a course at one state university in North-eastern Turkey. Results from the observation of Facebook group interaction and two questionnaire surveys with 92 prospective teacher participants showed 'students and instructors share responsibility in the teaching process when interacting over' a Facebook group, and the 'communication and socialisation characteristics of Facebook directly contributed to the social presence of the learning groups', thus 'offer[ing] certain insights into making efficient use of social networks for instructors who intend to utilise Facebook and other social networks for educational purposes' (Keles, 2018, p. 219-222). Manca and Ranieri (2016c) in their analysis revealed that Facebook is still mostly considered as an alternative to a traditional learning management system (LMS), but they concluded that Facebook pedagogical

affordances are still partially implemented. The critical review of literature on Facebook as a technology-enhanced learning environment documented Facebook as not being considered a new phenomenon in higher education, but 'the attitude to see Facebook as a closed space to deliver teaching and support learning still resists' (Manca, & Ranieri, 2016c, p. 18). There is clearly a gap in understanding how Facebook is used for teaching and learning in formal classroom education. In the light of the limited understandings on lecturers' and students' use of Facebook in a formal learning environment, and its impact on classroom teaching and learning in Malaysian higher education, this study will illustrate the diffusion and adoption of Facebook by lecturers and students for teaching and learning in Malaysian higher educational settings.

Manca and Ranieri (2016c) claimed that Facebook has been adopted as a technology-enhanced environment in different educational contexts and in different types of learning settings – formal use in formal learning settings, informal use in formal learning settings and use in informal learning settings. Baran (2010) stated that the use of Facebook led a younger generation of learners to more readily embrace e-learning in formal education, although tensions could arise 'between the formal and the informal uses of social networking tools in education' (p. E148). As shown in these studies, the use of Facebook by lecturers in formal classroom environments can influence informal use by students out-of-class. However, my study has deliberately not focused on this (informal) aspect of its use. My study confines and focuses its scope on the lecturer-initiated uses of Facebook for classroom interactions in Malaysian

higher education institutions, even though those interactions might encourage out-of-class use.

1.1 Background of the study

The Malaysian higher education system comprises of public universities, private higher education institutions, polytechnics and community colleges. These higher education institutions are regarded as the main components in the national education and training ecosystem to generate first-rate thinkers, scholars, skilled and semi-skilled manpower in accordance with their respective roles (MOHE, 2018). The public universities are subsidised by the Malaysian government, but have the capacity to accommodate only 50% of all students in the population who wish to study in higher education (Wan, 2007). On the other hand, private higher education institutions are private-funded, providing an alternative option for students to pursue higher education with less competition but at a higher tuition fee (Wan, 2007). Apart from public universities, the polytechnics offer an alternative route for high school leavers to further their education at diploma and advanced diploma levels, while the community colleges provide vocational-based training leading to a certificate qualification for those students who do not opt for an academic pathway (StudyMalaysia.com, 14 March 2015). The higher education institutions in Malaysia also include foreign university branch campuses and private colleges.

To date, Malaysia has a total of 20 public universities, 47 private universities, 37 polytechnics, 105 community colleges, 10 foreign university branch campuses and 392 private colleges (MOHE, 2018; The Star Online, 6 May

2018). These higher education institutions offer a wide range of tertiary qualifications: certificate and diploma level programmes; university foundation programmes; and undergraduate studies which consist of bachelor degree, twinning and 3+0 degrees (a 3+0 degree is a foreign bachelor's degree programme, an extension of a twinning programme conducted by private universities in Malaysia in which students will complete the course entirely in Malaysia), split-degrees and professional studies, as well as postgraduate studies for master and PhD degrees (StudyMalaysia.com, 14 March 2015; University Guide Online, n. d.).

The Malaysian government has undertaken several policies to prepare university graduates with sufficient skills to meet the need for 21st century human capital. The National Mission 2006-2020, the 10th Malaysian Plan 2011-2015, the National Higher Education Strategic Plan 2007-2020, and the Malaysia Education Blueprint 2013-2025 are examples of policies from the Malaysian government that drive universities in Malaysia to consistently improve themselves in meeting the government's initiatives in its higher education strategic plan (Lee, Kaur Sidhu, & Chan, 2014). For example, formal and informal education programmes are offered by Malaysian higher learning institutions using e-learning modes (Raja Hussain, 2004) and tertiary teachers are using e-learning and blended learning technology to support teaching and learning activities (Barton, 2011; Embi, 2011). E-learning in Malaysia was established in 1998 with only 65% of educational institutions in Malaysia providing online or e-learning solutions (Hussin, Bunyarit, & Hussein, 2009). Furthermore, although 88.5% of surveyed lecturers considered that e-learning

had a positive impact on students' academic performance, 52.4% of lecturers and 56.8% of students of Malaysian higher learning institutions believed that the integration of e-learning in their institutions was at the moderate level (Embi, 2011). Nevertheless, in Malaysia, the increasing use of blended learning to enhance learning is evident due to the advancement of technology, which has helped to popularise blended learning (Dzakiria, Don, & Abdul Rahman, 2012).

Wahab, Embi and Nordin (2011) claimed that the use of e-learning technology in Malaysian higher education institutions is a necessity to effectively position these institutions at a more competitive level and to enable Malaysia to compete at a global level. The academic staff of Malaysian higher education institutions have high levels of awareness of e-learning policy because they believe the integration of e-learning in their teaching benefits the students and has positive impact on students' performance, yet the existence of e-learning policies among higher education institutions in Malaysia is reported at a moderately low level (Atan, Embi, & Hussin, 2011). This could be due to two main challenges faced by lecturers in integrating e-learning in teaching and learning: balancing teaching and research; and time constraints (Nordin, Embi, & Wahab, 2011). This latter research study concluded that the application of e-learning in Malaysian higher education is accepted by both lecturers and students as an effective means of communication; therefore, the authors state that 'the higher education institutions need to enhance and stimulate e-learning activities in their respective institutions as the integration of e-learning is a phenomenal trend in tackling the digital natives' (Nordin, Embi, & Wahab, 2011, p. 98). The future plans of developing e-learning in Malaysia higher education 'should

involve relevant stakeholders such as lecturers and students, in order to gain their buy-in' (according to Ismail, Embi, & Nordin, 2011, p. 105) for utilising technology such as Facebook for teaching and learning.

There is a considerable body of research on the use of SNSs in higher education (such as Mazer, Murphy, & Simonds, 2007; Munoz, & Towner, 2009; Gray, Annabell, & Kennedy, 2010; Lim, 2010; Tiryakioglu, & Erzurum, 2011; Buzzetto-More, 2012; Hamat, Embi, & Hassan, 2012; Kent, 2013; Noh et al., 2013; Helou, & Ab. Rahim, 2014; Prescott, 2014; Raman, Mohd Sani, & Kaur, 2014; Clements, 2015; Phua, & Wong, 2015; Annamalai, 2016; Demartini, & Dossena, 2016; Faryadi, 2017; Lau, 2017; Al-Rahmi et al., 2018; Lin, 2018), yet, 'there has been little integration of these sites into formal learning context' (Manca, & Ranieri, 2016c, p. 8). To the best of my knowledge, only ten research studies have reported on the use of Facebook in a formal learning environment within classroom teaching and learning, particularly in the context of Malaysian higher education (Lim, 2010; Harris, 2012; Omar, Embi, & Md Yunus, 2012; Abdul Rahman, & Mohd Amin, 2014; Hassan, 2014; Sim, Naidu, & Apparasamy, 2014; Ponnudurai, & Jacob, 2014; Ghani, 2015; Ng, & Maniam, 2015; Siddike, Islam, & Banna, 2015).

Most existing studies in Malaysia demonstrate the benefits of using Facebook for educational purposes. The emergence of Facebook 'created a more democratic sphere among the Malaysian citizens… allow[ing] citizens to access information, send messages, offer views and opinions, and deliberate over critical issues' (Mustaffa et al., 2011, p. 6). Scholars and researchers realised

the need to incorporate Facebook into educational settings to support educational communication between students and faculties because Facebook enables access to information and knowledge directly and indirectly, and has an effect on student academic performance. Therefore, by harnessing the opportunities that are bound through Facebook, it is expected that it will help students in a positive manner and also be channelled into helping others (Helou, & Ab. Rahim, 2014).

Hamat, Embi and Hassan (2012) illustrated that SNSs such as Facebook can make their way into educational environments, claiming that these social applications have even more potential to further improve learning and sharing of information among learners and teachers. SNSs are becoming more prevalent in the educational context because many educators have already explored ways in which these tools can be used for teaching and learning. Students have mainly thought of Facebook use for social reasons, sometimes using it for informal learning purposes such as the micro-management of their life as a student in university; but it was not designed specifically for formal teaching purposes (Hamat, Embi, & Hassan, 2012). Prior studies have shown that students engage in the use of SNSs mainly for socialising activities rather than for academic purpose; however, they feel that SNSs have a positive impact on their academic performance (reported by Helou, & Ab. Rahim, 2014) because most SNSs are designed to enhance interaction, communication and sharing between users; the communication tools and environments of SNSs are much more conducive than what could be normally found in the LMS used in Malaysian universities (according to Hamat, Embi, & Hassan, 2012).

Therefore, universities and other higher education institutions in Malaysia could take advantage of the popularity and positive impacts of SNSs' use to formally incorporate them into teaching and learning processes.

1.2 Problem statement

Technology plays an important role in the university experience of future learners, who may already be pervasive users of digital media, yet there has been a lack of research regarding the impact of formal use of Facebook as a tool in the higher education classroom (Woerner, 2015). According to Wakefield et al. (2013), only a few studies have investigated and reported on actual Facebook implementations in formal classroom settings. Facebook is the most popular social networking site (SNS) in comparison to other social networks due to its usability, interoperability and ease of use (according to Mali, & Syed Hassan, 2013). The Facebook experience is different than simply accessing a teacher's university-housed website, because both students and teachers can easily connect with one another based on their school affiliation through this virtual social network (Mazer, Murphy, & Simonds, 2007). Thus, the use of Facebook by university lecturers and students is an interesting area of research for educationalists and social scientists (Al-Rahmi, & Othman, 2013a).

Research on Facebook use in Malaysian educational contexts has been growing at a rapid rate. Most researchers agree that the implementation of Facebook in Malaysian higher education produces positive impacts, especially: effects in language and writing classes (Kabilan, Ahmad, & Zainol Abidin, 2010; Ng, & Maniam, 2015; Annamalai, 2016); improving student academic

performance (Al-Rahmi et al., 2014; Helou, & Ab. Rahim, 2014; Al-Rahmi, Othman, & Yusuf, 2015); and benefiting students' learning experience as an informal learning platform and supplementary tool (Lim, 2010; Al-Rahmi, & Othman, 2013a, 2013b; DeWitt, Naimie, & Siraj, 2013; Mali, & Syed Hassan, 2013; Noh et al., 2013; Abdul Rahman, & Mohd Amin, 2014; Lim, Agostinho, Harper, & Chicharo, 2014; Rasiah, 2014; Sim, Naidu, & Apparasamy, 2014; Hamid, Waycott, Kurnia, & Chang, 2015; Haque, Sarwar, & Ahmad, 2015; Siddike, Islam, & Banna, 2015; Balakrishnan, 2016). However, a focus on implementing Facebook in a formal learning environment such as classroom education in Malaysian universities has not been given much attention. Specifically, Al-Rahmi et al. (2018) discovered that most universities possessed the infrastructure and support for utilising social media for teaching and learning, but educators were not using it for instructional teaching. The authors concluded that effective use of social media positively affects collaborative learning, engagement and learning performance of students, as well as contributing to the quality of online group discussions, though the limitation of the study was the lack of 'data triangulation' based on evidence of both students' and teachers' perceptions (Al-Rahmi et al., 2018, p. 69).

According to Mali and Syed Hassan (2013), evidence indicates a scenario that students and lecturers were more focussed on teaching in the classroom without emphasising the importance of SNSs to support asynchronous communication in learning. So, despite Malaysia being an information and communication technology (ICT) hub and having advanced ICT infrastructure nationally, the use of social media for education purposes in Malaysia is still

relatively new and little is known about users' experiences, intentions, perceptions and acceptance of these technologies, especially Facebook by students (Lim et al., 2014). Furthermore, although Facebook is widely accepted and used by school-aged users for communication, and it has the ability to encourage communication and collaboration skills of students, its potential in classroom teaching and learning is still very much debated in Malaysia because teachers are hesitant in promoting the use of Facebook in the classroom (Raman, Mohd Sani, & Kaur, 2014).

In a nutshell, the limitations noted from all these sources are that: (i) most studies on Facebook use in Malaysian higher education are not implemented in a formal classroom curriculum; (ii) these studies have applied quantitative methodology such as questionnaire surveys in the disciplines of IT, information systems (IS), language and writing with limited studies deploying qualitative or mixed-methods; and (iii) evaluation of lecturers' and students' perspectives and experiences of using Facebook in classroom education remains unexplored. This aspect of whether lecturers' and students' use of Facebook in a formal classroom education affects lecturers' pedagogy and students' learning experiences deserves careful investigation and analysis.

Prior studies have called for more research to explore how Facebook is perceived and accepted by lecturers and students for teaching and learning in higher education because many issues are still unexamined (Sarwar et al., 2018). Besides, the research into the use of SNSs in education is still 'at an early stage of development'; thus, there is a need to widen the lines of research

on the use of SNSs in education (Rodríguez-hoyos, Salmón, & Fernández-díaz, 2015, p. 100). Therefore, in this thesis, I seek to examine *how* and *why* lecturers and students of Malaysian universities use Facebook for teaching and learning in formal classroom education. Furthermore, I attempt to establish an *evaluation* of both lecturers' and students' experiences and perspectives on the outcomes and impacts of Facebook for teaching and learning in classroom education. I employ a multiple-method study to interview lecturers and students who are using Facebook in a formal learning environment, to observe the interaction and engagement between lecturers and students and among students in Facebook closed-group pages, as well as undertaking content-analysis of students' reflection journals on their participation in a Facebook closed-group for classroom education. My intention is to understand the experiences and evaluation of the uses of Facebook and its perceived outcomes and impacts on teaching and learning practices in a formal learning environment.

The problem I see is that lecturers in Malaysian universities are being encouraged to use Facebook and/or social media technologies for teaching in classrooms due to its affordances and benefits illustrated in prior literature; yet, there is limited research evidence of actual implementation of Facebook for teaching and learning practices as well as lack of clear guidance on its use in formal higher education in Malaysian universities. As shown in the literature review in sub-section 2.3.1 (in Chapter Two), ten out of 35 studies conducted in the Malaysian context showed that Facebook had been implemented in a formal classroom setting. From those studies, only two studies (Sim, Naidu, &

Apparasamy, 2014; Ghani, 2015) investigated the perceptions of lecturers and students using multiple methods of data collection, which have some similarities with my study. However, Sim, Naidu and Apparasamy's (2014) study focused on a department, which was the department of "American Degree Program" of a private university in Malaysia, measuring students' engagement on Facebook; and Ghani's (2015) study focused on a group of engineering students and a lecturer of a private college in Malaysia, measuring students' and lecturer's perceptions on the use of Facebook as an alternative tool in teaching and learning English. By understanding how Facebook is used in a formal educational environment in a wider range of settings, this will support faculty members in designing curriculum assisted by social media technologies, and utilising new forms of communication between students and the faculty. The importance of this study is to offer Malaysian higher education a new perspective on the role of social networking tools, such as Facebook, within formal classroom teaching and learning. Therefore, I am exploring this problem, on the limited evidence of Facebook use in formal learning environments, and situating it within the local educational context (with the research objectives that follow).

1.3 Research objectives

The objectives of this study are: (1) identifying how lecturers and students experience the use of Facebook as a teaching and learning platform in a formal educational environment; and (2) evaluating how lecturers and students perceive the outcomes and impacts of Facebook on teaching and learning practices in classroom education.

1.4 Research questions

- How do lecturers and students of Malaysian universities use Facebook for formal classroom education?
- What are their perceived outcomes and impacts (positive, neutral or negative) of using Facebook for teaching and learning, and communication in formal classroom education in Malaysian higher education?
- How do lecturers of Malaysian universities perceive the use of Facebook for classroom education in engaging students and constructing knowledge through collaboration and social learning?
- What is the students' evaluation of the effectiveness of using Facebook as a useful learning tool that supports, enhances and strengthens their classroom learning experiences in Malaysian universities?

1.5 Significance of the study

This study can be of value to academics who are interested in adopting Facebook for teaching and learning, as well as for researchers who are interested in social media research. It could be of interest to Malaysian university administrators and government officials from the Ministry of Higher Education (MOHE) Malaysia, since the integration of ICT into processes of teaching and learning is one of the most important strategies employed by the Malaysian MOHE for maintaining the quality of higher education in Malaysia. However, in comparing with higher education institutions in developed countries such as the United States of America or the United Kingdom, most

higher education institutions in Malaysia are still at an infancy stage in implementing e-learning (Raja Hussain, 2004). Nevertheless, the 'Malaysian government has realised the potential of the new social media and ICT and is doing everything possible to maximise its use and to reap the benefits' (Mustaffa et al., 2011, p. 3). Thus, lecturers' and students' experiences and perceptions of adopting Facebook in higher education could be of value to university administrators in Malaysia (Baleghi-Zadeh, Mohd Ayub, Mahmud, & Mohd Daud, 2014) for providing new pedagogies to create learning experiences. The understanding of how university lecturers and students use Facebook as an educational tool can offer a new framework within higher education to be designed to support optimum use of social media tools to improve pedagogical practices as well as motivate learners and facilitate learning communities. The results of this study could aid Malaysian university administrators and government officials of the MOHE Malaysia for formulating educational policy for Malaysian higher education classrooms, as well as offering ways for lecturers and students of Malaysian universities to develop practice using Facebook for supporting teaching and learning in classroom education.

1.6 Chapter outlines

This thesis consists of six chapters, namely Introduction, Literature Review and Theoretical Framework, Methodology, Uses of Facebook for Classroom Education, Lecturers' and Students' Perceived Outcomes and Impacts of Facebook Use for Teaching and Learning in Classroom Education, and finally Conclusion. Additional sections are References and Appendices.

Chapter One, ‘Introduction’, provides an overview of the study, focusing on the current context of the topic, which is the uses and impacts of Facebook by lecturers and students in Malaysian higher education settings. This chapter also outlines the problem statement, research questions (RQs), purposes and significance of the study, chapter outlines and chapter summary.

Chapter Two, ‘Literature Review and Theoretical Framework’, reviews the scholarly literature relevant to social media in higher education, specifically literature on uses and impacts of Facebook for classroom education in Malaysian higher education. This detail helps provide the context of the study and provides meaningful information about the current use of SNSs in Malaysian higher education. This chapter also states the application of the Uses and Gratifications Theory by Katz, Blumler and Gurevitch (1974), the Social Constructivist Theory by Vygotsky (1978), Technology Acceptance Model by Davis (1989), and the Conversational Framework by Laurillard (1999), which are used in the study. These theoretical frameworks provide a lens to study the uses and impacts of Facebook for teaching and learning in classroom education in Malaysian universities.

Chapter Three, ‘Methodology’, presents the research methodology and design, and the strategies used for data collection and analysis. The research design is developed in accordance with the research objectives and research questions, to describe how the study is being undertaken. Sampling,

population, methods of data analysis and ethical considerations are also included in this chapter.

Chapter Four, ‘Uses of Facebook for Classroom Education’, addresses research question one, which is to identify how and why lecturers and students of Malaysian universities use Facebook as a platform in classroom education. This chapter reports on the results obtained from semi-structured interviews with lecturers and students of Malaysian universities and participant virtual observation on Facebook closed-group pages between lecturers and students and among students, as well as qualitative textual analysis of students’ reflection journals.

In Chapter Five, ‘Lecturers’ and Students’ Perceived Outcomes and Impacts of Facebook Use for Teaching and Learning in Classroom Education’, I explore the perceived outcomes and impacts of lecturers and students using Facebook for teaching and learning practices in classroom education as well as examining the lecturers’ and students’ experiences and evaluations of using Facebook for Malaysian higher education. Data were collected through semi-structured interviews with lecturers and students of Malaysian universities, and a qualitative textual analysis of students’ reflection journals to address research questions two, three and four.

Chapter Six, ‘Conclusion’, is the final chapter. This chapter presents a summary and the conclusions pertaining to the findings of this study. Attention will be given to addressing the implications of the study for relevant audiences, as well

as providing the limitations and suggestions for future research on the topic of interest in this study.

1.7 Chapter summary

This chapter has offered the background of the study, a problem statement, research objectives and research questions, significance of the study, and chapter outlines. A significant body of literature has identified the use of social media technologies and its effectiveness in educational settings. However, there is a gap in the research literature with respect to the lecturers' and students' experiences of using Facebook for classroom education. More research is needed to understand the uses and impact of Facebook for teaching and learning in Malaysian higher education classrooms. This study seeks to add in this way to the body of literature in the field of technology-enhanced learning. Its findings could be beneficial to lecturers, students, university administrators or others who seek to use social media technology for learning. The following chapter discusses the literature in the area of social media use in higher education, including those sources relevant to theoretical frameworks and terminologies that relate to uses and impacts of Facebook for teaching and learning in higher education.

Chapter 2 Literature Review and Theoretical Framework

2.1 Introduction

This chapter presents a synthesis of literature related to the following themes that are central to this study: social media use in higher education; social media use in Malaysian higher education; Facebook use in higher education; Facebook use in Malaysian higher education, and a background relating to the Malaysian higher education system. A total of 645 articles was found and the following number of articles were reviewed and referenced in this chapter: 72 articles were identified and are discussed in section 2.2: social media use in higher education; 16 articles in sub-section 2.2.1: social media use in Malaysian higher education; 33 articles in section 2.3: Facebook use in higher education; 35 articles in sub-section 2.3.1: Facebook use in Malaysian higher education; three articles in section 2.4: Malaysian higher education system; and 12 articles in sub-section 2.4.1. Additionally, 34 articles were identified and discussed in section 2.6: theoretical frameworks. The relevant literature relating to each theme in sections 2.2 and 2.3, as well as in sub-sections 2.2.1 and 2.3.1 provides an overview of existing studies on social media and Facebook use in higher education and its impact for teaching and learning practices. These seek to address the two objectives: (1) identifying how lecturers and students experience the use of Facebook as a teaching and learning platform in a formal educational environment; and (2) evaluating how lecturers and students perceive the outcomes and impacts of Facebook on teaching and learning practices in classroom education. Lastly, the overview of the Malaysian higher education system in section 2.4 and the discussion of public and private universities in sub-section 2.4.1 help construct a picture of what constitutes the

higher education system in Malaysia, which contextualises the lecturers' and students' perspectives on the uses and impacts of Facebook for teaching and learning in the classroom education context of Malaysian universities.

The criteria taken into consideration for the inclusion and exclusion of the articles in this literature review were: the scope of study, the academic profile of the journals and the peer review procedure used; and the language and the year of publication (Evans, & Benefield, 2001). Firstly, the selection of literature was not limited to the search of a particular social network. This was to allow a broader view of the field of knowledge on the uses and impacts of social media in higher education. The initial search of databases was in the area of journals focusing on, as examples, educational technology, Internet and higher education, computers and education, learning, media and technology as well as teaching and learning in higher education. The key words used for finding relevant studies were "social media and higher education", "SNS and higher education", "Facebook and higher education", "Facebook and Malaysian higher education" and "Uses and impacts of Facebook in higher education".

Secondly, it was vital to include those studies whose quality was assured through a process of peer review as well as articles that were related to educational technologies and technology-enhanced learning. My selection of literature was based on empirical research published in scientific journals and subject to peer review. The literature was searched through EBSCOhost, Google Scholar and the Google search engine. In addition, postgraduate theses, dissertations and other contributions such as conference proceedings

and research reports were also included. Thirdly, the language used to carry out the research and publications was English and a time limit was established to include those articles published between 2006 and 2018. Those studies or texts which were not covered or included in this literature review were contributions based on personal opinion in scientific meetings, blogs, websites or Wikipedia. The reviewed studies of 205 articles for the themes in this chapter indicate an understanding of the status quo of research related to the uses and impacts of social media, specifically Facebook, for teaching and learning in the Malaysian higher education context.

2.2 Social media use in higher education

Learning environments in higher education are moving towards the integration of ICT such as Web 2.0 and social media (Danciu, & Grosseck, 2011; Šliogerienė, & Valūnaitė Oleškevičienė, 2014). Recent years have witnessed an increased interest in using social media in higher education (Ali et al., 2017; Mnkandla, & Minnaar, 2017; Moghavvemi et al., 2018). There has been a growing phenomenon concerned with public and academic use of social media technologies such as Facebook, blogs, and collaborative sites, as well as YouTube to create, engage, and share existing or newly-produced information (Taylor, King, & Nelson, 2012). Freeman (2014) contended that everyday use of social media technologies such as Facebook, Twitter and blogs could lead 'to classroom use and that held pedagogical values are a precursor to technology adoption' (p. 362).

Social media, also known as Web 2.0, was coined as a term in 2004 when O'Reilly Media and MediaLive hosted the first Web 2.0 conference and Bart Decrem, founder of the popular social-network platform Flock™, called social media the "participatory web", which comprises the interlinking of people engaging actively and interactively with the content (Bonzo, & Parchoma, 2010, p. 913). Grosseck (2009) on the other hand, defined Web 2.0 as the social use of the Web which allows people to collaborate, to get actively involved in creating content, to generate knowledge and to share information online. Web 2.0 'is a platform on which innovative technologies have been built and a space where users are treated as first-class objects' and the content they upload and share with others (Cormode, & Krishnamurthy, 2008, p. 1). According to Moyer (2011), social media refers to new electronic and web-based communication channels such as blogs, podcasts, wikis, chat rooms, discussion forums, web sites, social networks such as MySpace and Second Life and other dialogue-creating media. Lastly, Tess (2013) defined social media as 'a term that is broadly used to describe any number of technological systems related to collaboration and community… the task of defining social media is made more challenging by the fact that it is constantly in a state of change' (p. A60-A61).

Despite the various definitions of Web 2.0 or social media by scholars, the emergence of social media opens the doors for more effective learning due to its sociability aspects which have the potential for enhancing education (according to McLoughlin, & Lee, 2007, for example). Through the connective affordances of SNSs, social media users are able to engage with others socially to learn about and interact with others they connect to (Papacharissi, &

Mendelson, 2011). Danah Boyd (2007) believed that social media technologies or social software are able to support three ingredients or activities that characterise learner-centred instruction in education, namely: (i) support for conversational interaction; (ii) support for social feedback; and (iii) support for social networks and relationships between people. Alexander (2006) asserted the wave of innovations of Web 2.0 as fluid and emergent, yet with 'powerful implications for education, from storytelling to classroom teaching to individual learning' (p. 42). Boulos, Maramba and Wheeler (2006) further claimed that social media applications were here to stay and could be of great use in higher education.

Since 2006, scholars have investigated the use of various social media tools in education such as Web 2.0 (Grosseck, 2009), wikis and blogs (Boulos, Maramba, & Wheeler, 2006; Robertson, 2008), Facebook (Lewis, Kaufman, Gonzalez, Wimmer, & Christakis, 2008; Pasek, More, & Hargittai, 2009), Twitter (Grosseck, & Holotescu, 2008), and social media in general (Rheingold, 2008; Väljataga, & Fiedler, 2009). Social media applications, particularly wikis, blogs and podcasts have been increasingly adopted by educational services due to their powerful information sharing and ease of collaboration (Boulos, Maramba, & Wheeler, 2006). Boulos, Maramba and Wheeler's (2006) research showed the potential impact of wikis, blogs and podcasts in higher education in the United Kingdom, where the combined use of the three applications yielded the most powerful learning experiences. In addition, the authors revealed the advantages and disadvantages of using social media as well as remedies for disadvantages of using social media applications in higher education. Boulos,

Maramba and Wheeler (2006) claimed that further research was needed to find the best ways to leverage these emerging tools to boost teaching and learning productivity, to foster better 'communities of practice', and to support continuing education because this would provide vital insights into the effectiveness of using social media tools in higher education (p. 46).

Grosseck (2009), on the other hand, corroborates Boulos, Maramba and Wheeler's (2006) study; she claimed that social media applications have an emerging role to transform teaching and learning by constituting a new ICT pedagogy in the 21st century known as Pedagogy 2.0. Grosseck (2009) promoted a scholarly inquiry about the need of a new type of pedagogy based on Web 2.0 together with the development and adoption of best practices for teaching and learning in higher education. Her article revealed evidence about the various types of Web 2.0 applications in higher education; the advantages and disadvantages of using Web 2.0; and critical perspectives of using Web 2.0 in higher education. Grosseck (2009) asserted that there is a general consensus on the positive aspects of Web 2.0 in teaching, but due to some disadvantages, there is still ignorance lack of understanding by educators of how to adopt Web 2.0 in higher education. Nevertheless, she concluded that Web 2.0 is the future of higher education, though careful thinking and empirical research are needed in order to find the best ways to leverage these emerging tools for teaching and learning purposes (Grosseck, 2009).

Other prior literature such as that of Robertson (2008) reported a study of a blended learning approach that incorporates wiki technology and face-to-face

contact to support problem-based and group-based learning and assessment in a teacher education programme of an Australian university. A quantitative survey with a small number of respondents (n=14) revealed the use of a wiki in the subject 'Facilitating learning in the workplace', providing the respondents with the opportunity to develop an awareness of the potential of wikis. The author concluded that wikis embed a set of characteristics that are consistent with the adoption by teachers, which was a relative advantage over existing practices when applied to problem-based and group-based activities. In another research study, Grosseck and Holotescu (2008) explored the pragmatic issues such as benefits, drawbacks, and logistics about Twitter as an educational tool based on experimentation. They concluded that 'Twitter proved to be an effective tool for professional development and for collaboration with students' (Grosseck, & Holotescu, 2008, p. 7).

Generally, wider outcomes from the use of social media in educational settings can be seen through the studies of Rheingold (2008), and Väljataga and Fiedler (2009). According to Rheingold (2008), 'a successfully implemented social media virtual classroom… prepare students to participate in society as engaged and empowered citizens' (p. 26). The author further claimed that participatory media such as social media have the power to connect to each other and to form a community with active participation of many people (Rheingold, 2008). Väljataga and Fiedler (2009) conducted an experimental study on the use of social media to support students' self-directed learning projects. The objectives of the study were to determine the possibility of applying social media for fostering and promoting self-directing intentional learning projects into a

master's level course design, and to investigate students' responses to that learning situation. Data were analysed qualitatively from 24 students' essays about their experiences, and through open-ended questionnaires. Results showed that students 'gained considerable knowledge and skills regarding the use of social media for supporting a range of activities', and they also 'acquired some expertise regarding the selection and meaningful combination of a diverse set of social media for their own purposes' (Väljataga, & Fiedler, 2009, p. 68-69).

With social media tools becoming more ubiquitous during the 21st century, there is an abundance of empirical studies on the use of social media in higher education from 2010 to 2014. Through a discussion of the literature, it suggests that the popularity of social media technologies has led to a proliferation of studies in the context of teaching and learning in higher education; thus, there is a need to investigate how social media, such as Facebook, is used in Malaysian higher education. For example, there are studies which reported on various social media used in education, particularly the use of Web 2.0 (Lau, 2010; McLoughlin, & Lee, 2010; Terrell, Richardson, & Hamilton, 2011; Bennett, Bishop, Dalgarno, Waycott, & Kennedy, 2012; Usher, 2013), SNSs such as Facebook and Google+ (Lim, 2010; McCarthy, 2010; Roblyer, McDaniel, Webb, Herman, & Witty, 2010; Hamid, Waycott, Chang, & Kurnia, 2011; Shih, 2011; Hamat, Embi, & Hassan, 2012; Oberer, & Erkollar, 2012; Rambe, 2012; Veletsianos, & Navarrete, 2012; Erkollar, & Oberer, 2013; Wakefield, Warren, Alsobrook, & Knight, 2013; Rasiah, 2014; Prescott, 2014),

blogs (Potter, & Banaji, 2012), as well as microblogging with Twitter (Lewis, & Rush, 2013; Lin, Hoffman, & Borengasser, 2013).

Among the many studies reporting on the use of social media in higher education in the 21st century, I review the following four studies which investigated the use of social media and its implications in higher education using quantitative and qualitative methods with population samples of students and lecturers. Each research study was published between 2010 and 2012, and their findings and discussion are particularly relevant in establishing the scope of the topic for my study, as they examine the trend of students' use, perceptions and attitudes towards different social media tools (Liu, 2010), students' expectations and motivations of social media use in a higher education context (Silius, Kailanto, & Tervakari, 2011), as well as exploring lecturers' experiences and perceptions (Chen, & Bryer, 2012), and further understanding the significance, challenges and future of social media for higher education (Selwyn, 2012).

I will give an overview of these four studies before looking at them in greater detail. Liu's (2010) quantitative research revealed that social media found its way very quickly into the commercial world; therefore, she argues that educators need to seek possibilities of leveraging these media tools for educational purposes. Next, Silius, Kailanto and Tervakari (2011) reported the most important characteristics and functions in social media which enhanced the learning system in higher education through three questionnaire surveys. Chen and Bryer (2012), on the other hand, used a qualitative study to explore

the use of social media among faculty members and about their experiences and perceptions of using social media for teaching and learning. Similarly, Selwyn (2012) echoed prior studies by recording the significant role of social media in higher education, but he also commented on the contradictions in the actual nature of social media use that raise limitations to the exaggerated claims and counter-claims discussed by previous researchers.

Liu (2010) claimed that social media are ubiquitous, especially in the commercial world, and educators are now leveraging it in the educational arena. According to Liu (2010), technology integration has become a must to meet student learning needs especially for students who are commuters, distance learners and part-timers. Students who are labelled as digital natives by Marc Prensky (2001) can easily embrace new technologies such as social media tools for learning, even though social media is mostly use for recreational purposes (Liu, 2010). A total of 221 students of one university in the United States of America participated in the online survey and the findings showed the three top-used social media tools were Facebook, Wikipedia and YouTube; 94% of students were familiar with the social media concept; the top four reasons for using social media tools were social engagement, direct communication, speed of feedback, and relationship building; but 50% of the students had trust issues when using social media tools because they were willing only to provide information with their trusted audiences (Liu, 2010). The author concluded that the fast advancement of technology appearing in the market was a huge challenge for both students and educators, to keep up with the new technology trend use in education, and she further suggested that

future technology integration in education should focus on what the students use, instead of what the school wants them to use.

Silius, Kailanto and Tervakari (2011) disclosed in their study the main characteristics and functions of a social enhanced learning system that motivated students to use social media in an educational context. Through different phases of research from 2008 to 2010, eight themes emerged from the study, which were: (1) social media enhanced learning systems offered versatile features to support a learning community to study and teach; (2) social media services were usable and accessible with robust technological solutions; (3) ease of use was an important criterion for students using social media; (4) social media services provided clear added value such as support for networking and social interaction; (5) quality of SNSs depended on the quality of community within it; (6) the importance of communication and collaboration for creating connections and content; (7) the increased importance of privacy and security issues; and (8) the importance of informational quality with mechanisms or policies for filtering, marking and removing content of poor quality (Silius, Kailanto, & Tervakari, 2011). The authors concluded that students' attitudes towards social media in educational contexts had changed from using social media as a communication channel during their free time to using it for studying purposes.

The third study reported that social media is not only extensively used by college students, it is also used by educators to connect formal and informal learning and allowing students to connect in new and meaningful ways (Chen

& Bryer, 2012). Their research involved telephone interviews with eight instructors from the public administration departments in universities across the United States of America. The results obtained were manifold: Facebook and LinkedIn were the most popular services used by the instructors besides the use of a course management system (CMS) for teaching; discussion and collaboration were the instructional activities used to integrate social media in formal learning; and the eight concerns of using social media in formal learning were cyber-security, privacy issues, professional identity, ethical issues, student and faculty support, time constraints, technological barriers, workload and productivity. The researchers concluded that social media in higher education teaching is an emerging area for study; however, there is a need to call for institutional change to facilitate and encourage experimentation by faculty members who wish to determine the efficacy of social media tools for teaching (Chen & Bryer, 2012).

In the fourth study, Selwyn (2012) agreed with prior researchers that many higher education institutions and educators are now finding themselves expected to catch up with the world of social media applications and social media users. Yet, he argued the actual use of social media by students within the educational context and in their wider everyday lives is different, as well as raising some issues in terms of the disparities between the educational rhetoric and educational realities of social media usage. The issues raised were digital inequalities among people across the world, the unequitable and undemocratic activity of social media usage, the limitation of studies on social media use and its relation to education, learning and knowledge, as well as the mistake of

presuming that students are enthused and motivated by the use of social media in education. Selwyn (2012) suggested the higher education community engage in considered and realistic debates over how best to utilise social media in appropriate ways for higher education settings, and not merely on how social media is used in education.

Those scholars and educators who have researched on the educational significance of social media in higher education were confident about utilising social media in future educational practices. In particular, three research studies (Liu, 2010; Silius, Kailanto, & Tervakari, 2011; Chen, & Bryer, 2012) demonstrated the continued growth of evidence of using social media tools in higher education as students (in the studies of Liu, 2010; Silius, Kailanto, & Tervakari, 2011) and educators (in Chen, & Bryer, 2012) were using this technology for educational purposes. Much of the literature takes a positive view of leveraging social media technologies in higher education; however, there were issues and concerns which require careful thinking when applying social media tools in formal learning (Boulos, Maramba, & Wheeler, 2006; Grosseck, 2009; Selwyn, 2010, 2012).

More recently, since 2013, several studies have investigated the uses and effects of social media in higher education (Usher, 2013; Gülbahar, 2014; Herrera Batista, Tamez, & de Velasco y Arellano, 2015; Ricoy, & Feliz, 2016; Chawinga, 2017). From a positive view on social media use in higher education, Herrera Batista, Tamez and de Velasco y Arellano (2015) examined the experience of students on the educational use of social media in a public

university in Mexico City through fifteen semi-structured interviews. The results showed that social media were highly regarded in terms of their potential for learning activities, as communication and interaction between students and their professors were performed in an efficient manner which were deemed important in educational processes. The authors concluded that 'social media generates a good innovative way to improve learning and expanding the availability and access to educational materials' (Herrera Batista, Tamez, & de Velasco y Arellano, 2015, p. 159). Two other studies have investigated the use of Twitter (Ricoy, & Feliz, 2016), and Twitter and blogs in higher education (Chawinga, 2017) and both highlighted positive outcomes. Ricoy and Feliz (2016) used a case study through virtual ethnography to analyse the interaction process among 39 participants in the Twitter-based learning community. The data were analysed in both a qualitative and quantitative manner with results showing that Twitter could feasibly be used as a pedagogic tool with university students because it helped them 'improve their reflective, critical judgment and information selection skills' (p. 246). In addition, Chawinga (2017) analysed blog and Twitter posts by students, using a questionnaire survey with 64 students to find out the benefits and factors of using blog and Twitter in a classroom environment. Results showed the benefits of using social media for classroom education were timeliness, instant communication and content sharing, and the cultivation of a culture of critiquing content amongst students in higher education. The results also showed that students would use social media platforms such as Twitter and blogs for academic work if reward was attached for participation. Chawinga (2017) concluded that using social media

technologies achieved more quality teaching because students were more enthusiastic to learn and rarely missed class.

Despite the positive effects shown in the three studies, Usher's (2013) and Gülbahar's (2014) studies highlighted a negative view of using social media in higher education. Usher (2013) investigated the use of Web 2.0 technologies for teaching and learning in an Australian university. A total of 251 responses were analysed using the Statistical Package for Social Sciences (SPSS) through frequencies analysis and Chi-Square tests. The Australian students had used Web 2.0 technologies such as Facebook (73.3%), Twitter (13.8%), and blogs and Messenger (12%) for personal use (84.9%); however, 62.4% of the respondents did not want to use Web 2.0 technologies for retrieving course content. The students claimed that only 32.5% of their lecturers used YouTube to complement the teaching of a particular course. Thus, the author concluded that 'students in this survey overwhelmingly rejected the educational use of the Web 2.0 technology they frequent' and evidence was lacking to show that 'future reform, underpinned by Web 2.0 technology, could provide a potential framework that legitimises university students' participation in retrieving and receiving course content material and social capital building' (Usher, 2013, p. 10). Lastly, Gülbahar (2014) conducted a qualitative study through interviews with 12 instructors and focus group interviews with 42 students of two universities to examine the current state of social media usage in higher education in Turkey. Results showed that social media were perceived as an informal environment for communication, knowledge sharing, and as an information source, and the author concluded that both the instructor and

student participants were ‘unaware of the potential tools and resources that they can benefit from it in their educational and research activities… their existing knowledge is too limited… social media for higher education was used and implemented only by individual attempts through a limited know-how in terms of potentials that social media can bring to an educational context’ (p. 65-66).

Drawing from the literature review, I found a mixture of methodology used to collect the data from students and educators of higher education institutions, though most of the studies utilised a quantitative methodology with questionnaire surveys (Robertson, 2008; Hung, & Yuen, 2010; Liu, 2010; Poellhuber, & Anderson, 2011; Al-Rahmi, & Othman, 2013a, 2013b; Cao, Ajjan, & Hong, 2013; DeWitt, Naimie, & Siraj, 2013; Usher, 2013; Al-Rahmi, Othman, & Musa, 2014). In addition, I also found inconclusive findings from the literature with regards to the uses and impacts of social media in higher education due to the mixture of studies which demonstrated the great potential of social media for teaching and learning (Boulos, Maramba, & Wheeler, 2006; Grosseck, 2009; Lewis, & Rush, 2013), studies which argued on the reality of social media use in proving the effects on learning (Selwyn, 2010, 2012; Gülbahar, 2014), as well as studies which acknowledged the potential of social media in higher education, yet advised lecturers to rethink and reposition the pedagogy in the 21st century of teaching and learning using social media technologies (McLoughlin, & Lee, 2010; Wakefield et al., 2013; Prescott, 2014).

Several empirical studies have demonstrated the benefits and challenges of social media uses in higher education. The results drawn from the studies showed: the use of social media platforms such as Facebook and wikis positively 'boost confidence, motivate and foster learning and hook students' (Brahmi, 2016, p. 70); an apparent correlation between Facebook usage and engagement and academic performance (Clements, 2015); university students are cautious about the use of social media tools in education because they see the potential of using Twitter, Facebook, YouTube and blogs as learning tools (Neier, & Zayer, 2015); and academics are using social media tools because of its benefits and implications of usage for education, yet, there are also potential pitfalls and risks which require academics who are using social media 'to weigh up and balance a number of competing desires, demands and objectives' (Lupton, 2014, p. 31). Other studies found: the debate about social media and education was 'driven by belief, speculation, anecdote and personal experience rather than recourse to actual evidence' (Selwyn, 2010, p. 3); an exaggerated expectation and 'clear disparities between the educational rhetoric and educational realities of social media use' in higher education (Selwyn, 2012, p. 6); and students need 'to improve their capacity to initiate self-directed, collaborative practices as a means to more effectively take ownership of their learning', although there are pedagogical affordances of Twitter in producing more effective learning strategies and outcomes (Junco, Elavsky, & Heiberger 2012, p. 13). The effect of using social media in higher education is inconclusive, possibly because the contexts and ways that participants are involved are different. Therefore, my study seeks to assess the uses and perceived outcomes and impacts of Facebook, one of the social media

platforms used by both lecturers and students for teaching and learning in formal classroom education in Malaysian universities.

2.2.1 Social media use in Malaysian higher education

In the Malaysian context, 'social media are being used to meet both formal and informal learning needs, and they also provide a source of user-developed learning content, offering a user experiences that encourage students to create and share new content while enabling communication about content and lessons' (Balakrishnan, 2016, p. 35). The major advantages of using social media in higher education include: enhancing relationship and communication between lecturers and students and among students, improving learning motivation, offering personalised course material, and developing collaborative abilities (Al-Rahmi, & Othman, 2013a); as well as building up student interest on subject matters, and sharing of information and learning materials to develop better learning experiences for the students (Hashim et al., 2015). Social media are being exploited for enhancing teaching and learning practices by providing both teachers and students with academic support services such as e-mentoring, e-feedback and other e-facilities, as well as enhancing communication and information sharing (Al-Rahmi, & Othman, 2013b). Al-Rahmi and Othman (2013a, 2013b) and Hashim et al. (2015) concluded in their studies that social media facilitate the academic experience whereby collaborative learning is positively and significantly correlated with interactivity and engagement with peers and teachers, and this impacts students' academic performance.

More empirical research is needed in order to find the most effective ways to leverage these emerging tools for teaching and learning activities (as highlighted by Freeman, 2014; Prescott, 2014). Among the literature reviewed, in this respect, one study investigated the use of Web 2.0 in a private college (Lau, 2010), one studied social media impact on students' academic performance (Al-Rahmi et al., 2014), another studied the impact of social media on students' satisfaction (Al-Rahmi, & Othman, 2013b), and four other studies examined the use of SNSs for education (Lim, 2010; Hamid et al., 2011; Hamat, Embi, & Hassan, 2012; Rasiah, 2014).

Lau (2010) conducted a qualitative survey with 30 faculty staff and 23 students from a private college in Malaysia on the use of Web 2.0, specifically a blog as a learning and assessment tool. The study 'asked questions about the benefits and/or challenges which Web 2.0 had brought to teaching and learning, the extent to which the five characteristics impacted the students, lecturers and management' (Lau, 2010, p. 197). The results showed that: students were more familiar with Web 2.0 applications than the staff; mass communication and business departments were more frequent users of Web 2.0; all departments were positive about the implication of Web 2.0 in tertiary education; and junior staff were most often involved in leading the use of Web 2.0 in higher education. Lau (2010) concluded that both staff and students demonstrated a positive attitude towards Web 2.0 as an instrument for the processing and performance of teaching and learning.

Four other research studies (Lim, 2010; Hamid et al., 2011; Hamat, Embi, & Hassan, 2012; Rasiah, 2014) also concurred with Lau (2010) on the positive use of social media, specifically on the uses of SNSs in higher education. Lim (2010) conducted a study using a quantitative content analysis on the data of user interaction in Facebook as an online discussion among distance learners. She concluded that Facebook has the potential to be used as a platform for online academic discussions for distance learners as the 11 weeks of posting on Facebook involved the learners in achieving the desired quality and quantity of online discussions (Lim, 2010). On the other hand, Rasiah (2014) used both qualitative and quantitative methods in assessing the effectiveness of using Facebook to enhance teaching and learning in a team-based learning environment involving large classes. The content analysis of 122 students' reflective journals portrayed five themes identified from students' perceptions of the effectiveness of using Facebook on their learning experience. The five themes of the most identifiable or most frequently reported feedback were: medium of discussion or communication; knowledge sharing and acquisition; sense of belonging; learning experience; and graduate capabilities (Rasiah, 2014). In addition, the results of the 'quantitative survey clearly complement the findings of the content analysis in that Facebook was a medium of exchange that created a less threatening and flexible learning space which enhanced collaborative learning, while building a stronger rapport among the students and their lecturer in a highly engaging manner' (Rasiah, 2014, p. 376).

Hamat, Embi and Hassan (2012) used a quantitative survey with 6,358 students for measuring the use of Facebook for informal learning, while Hamid et al.

(2011) used a qualitative interview with two lecturers from two Malaysian public universities to explore lecturers' perspectives on their appropriation and use of online social networking in higher education. Drawing from Hamat, Embi and Hassan's (2012) research, students made use of Facebook for activities that were common for informal learning and they had a more positive view of SNSs and its effects on their lives as students. Hamid et al.'s (2011) study revealed that lecturers are now being encouraged to use social media technologies in their teaching in order to encourage social learning and to prepare students as graduates who will contribute to a society that now relies heavily on social media technologies. The authors concluded that online social networking activities were able to complement the current teaching and learning practices, demonstrated the confidence of lecturers in their teaching and showed the relevance of social media technologies to support teaching and learning practices (Hamid et al., 2011).

Two other Malaysian studies measured, in the first case, the impact of social media on students' academic performance and the possibility of using them as an effective pedagogical tool for improvement of academic performance (Al-Rahmi et al., 2014), and in the second case, the impact of social media usage on students' satisfaction for collaborative learning improvement between students (Al-Rahmi, & Othman, 2013b). In Al-Rahmi et al.'s (2014) study, 120 sets of questionnaires were randomly distributed to undergraduate and postgraduate students from one public university in Malaysia. The result revealed 80% of variance in social media satisfaction related to improving a student's academic performance. The authors concluded that 'social media

facilitates the academic experience and collaborative learning with majority of the participants' (Al-Rahmi et al., 2014, p. 217). On the other hand, Al-Rahmi and Othman (2013b) randomly distributed 134 sets of questionnaires to postgraduate students of the Faculty of Computing of one public university in Malaysia. The results revealed that the high level of interactivity and engagement of using social media were due to students' perceived ease of use; however, the perceived usefulness of utilising social media generated a minimal percentage of students' satisfaction for collaborative learning (Al-Rahmi, & Othman, 2013b).

Recently, five research studies have examined the role of social media in Malaysian higher education (Al-Rahmi, Othman, & Yusuf, 2015; Annamalai, 2016; Balakrishnan, 2016, 2017; Gan, & Balakrishnan, 2016). These research studies have demonstrated the usage of social media for learning (Al-Rahmi et al., 2015; Balakrishnan, 2016, 2017), the impact of mobile wireless technology on interactive lectures in higher education (Gan, & Balakrishnan, 2016), and the writing approaches in a Facebook environment (Annamalai, 2016). Firstly, Al-Rahmi et al. (2015) explored the factors that contribute to the enhancement of collaborative learning and engagement through social media by 723 postgraduate students of five public universities in Malaysia. The research study's framework was based on constructivist theory in improving collaborative learning and engagement through the interaction of research group members, interaction with lecturers or supervisors, and the intention to use social media. The results showed that social media facilitated collaborative learning and engagement which improved students' and researchers' academic

performance, and the authors suggested that additional elements to measure factors influencing students' and researchers' academic performance in Malaysian higher education should be included in future studies (Al-Rahmi et al., 2015).

Secondly, Balakrishnan (2016) examined the effects of three factors – self, function and effort – on students' intention to use a social media-enabled tool for independent and collaborative learning. The results showed that collaborative students (those involved in collaborative activities) emphasise more on 'function' and 'effort' factors, whereas 'self' and 'effort' factors had stronger impacts on independent students (those working individually). The author concluded that educators need to plan and offer various teaching and learning approaches within a digital and social media context to cater to students' various learning approaches. The author in her later study (Balakrishnan, 2017) compared the factors that encourage and/or inhibit the use of social media in the academic learning process between Australian and Malaysian students of higher learning institutions. Drawing from the survey with 524 respondents (Malaysia = 310; Australia = 214), students of both countries agreed that social media is an important online learning tool for sharing information and nurturing of knowledge. In comparing the perspectives of students of both countries on the use of social media, it was found that Malaysian students 'place greater emphasis on the academic benefits of using social media in higher education' and 'tend to engage the social media community to share and learn the academic content of their studies while Australian students regard social media primarily as a networking site for

socialising without constricting its use to the pursuit of academic knowledge' (Balakrishnan, 2017, p. 92). Despite the different perspectives of students from both countries on social media usage, they are positive towards using social media to enhance learning because it allows 'active interaction, improve communication with academics and peers, collaborate with experts, have easy access to study materials and maintain their social network at the same time' (Balakrishnan, 2017, p. 94). The study concluded that social media use is valuable and serves as an innovative and effective tool for teaching and learning.

On the other hand, in the third case, Annamalai (2016) conducted a qualitative case study investigating the writing approaches of six English as Second Language (ESL) students in completing their narrative writing task in the Facebook environment. Through the analysis of online interactions in Facebook and scores of 36 narrative writing pieces, the author concluded that students' interaction with their peers and teacher on Facebook assisted the students in improving the structures of the essays in terms of vocabulary, language, sentence structures and mechanics; and the domination of the product approach was apparent as the writing approach used in Malaysian ESL classrooms. Lastly, in the fourth case, Gan and Balakrishnan (2016) examined the factors supporting the use of mobile wireless technology during lectures for promoting interactivity between students and lecturers in Malaysian higher education institutions. Through an online survey with 302 students of Malaysian higher learning institutions in urban areas, five factors (system usefulness, user system perception, user uncertainty avoidance, system and information quality,

and mobile wireless technology adoption for interactive lectures) were identified to support the adoption of mobile wireless technology as an interaction tool during lectures to overcome the shortcomings of large lecture classes and online classes.

Looking at the range of studies investigating the use of various social media platforms in higher education, my study will take an empirical approach to scrutinise the use of a social media technology – Facebook – by lecturers and students of Malaysian universities and assess its outcomes and impacts on teaching and learning in formal classroom education environments.

2.3 Facebook use in higher education

According to Manca and Ranieri (2013), Facebook is currently the most popular online SNS, which has received considerable attention from a large number of research areas particularly in social sciences. Initially Facebook was designed for college students to post comments, to upload videos and pictures easily, and to communicate effortlessly with Facebook 'friends' (according to Kazi, Saxena, & Vinay, 2016). Nevertheless, Facebook has also been characterised as the 'social glue' in helping students to settle into university life (Baran, 2010, p. E146), a transition from a pure form of recreational use of Facebook to a new form of professional use (Ranieri, Manca, & Fini, 2012), a substitute or supplement to a commercial LMS (Lin, Kang, Liu, & Lin, 2016), and the progression from a simple site to providing inspiration with its complex dimensions (Jala, Sistla, & Mathews, 2016).

Facebook was created by Mark Zuckerberg at Harvard University in February 2004 for Ivy League college students using their school e-mail addresses, but it was later extended since 11 September 2006 to anyone worldwide with a valid email address (Bosch, 2009; Arabacioglu, & Akar-Vural, 2014). Due to its wide usage, Facebook, a readily accessible platform which enables collaboration and connectivity at massive levels was adapted for educational purposes in the classroom (Shaw, 2017; Chugh, & Ruhi, 2018). Facebook has been integrated 'into the course extended learning activities beyond the physical walls of brick-and-mortar classroom where students… had ample time in hand to reflect on learning tasks, review newly learned material, and access a great deal of information on vocabulary learning tips and strategies' (Naghdipour, & Eldridge, 2016, p. 595).

Manca and Ranieri (2016c) in their critical review of literature on Facebook as a technology-enhanced learning environment showed 'three main approaches to the educational use of Facebook: the first considers Facebook as a formal learning environment in formal learning settings; in the second Facebook is evaluated as an informal learning environment in formal learning settings; and the third considers Facebook as a learning environment in informal learning settings' (p. 3). No matter whether in a formal or informal learning environment, students and instructors have widely use Facebook for educational purposes because it is 'considered an affordable teaching environment as it is actually free of charge and offers highly usable tools… to facilitate communication among students and between the teacher and students'; 'for instructional purposes because it is easy to use, has interactive services, and is a user-

based environment'; 'as alternatives to LMS'; and 'has great potential to facilitate learning experiences, and that potential should be utilised even though the site was not built for that purpose' (Keles, 2018, p. 204).

The proliferation of Facebook use in higher education in many studies revealed the potential effects of using this medium in the university classroom (Mazer, Murphy, & Simonds, 2007; de Villiers, 2010; Tiryakioglu & Erzurum, 2011; Buzzetto-More, 2012; Kent, 2013; Arteaga Sánchez, Cortijo, & Javed, 2014; Khan, & Bakhsh, 2015; Rap, & Blonder, 2017), although some studies still questioned what the roles of social and new media technologies such as Facebook can play in the process of teaching and learning in classroom education (Munoz & Towner, 2011; Hurt et al., 2012; Prescott, 2014; Lin et al., 2016).

From the lecturers' perspective, Facebook is an important tool to foster student-teacher relationship because the 'Facebook experience is different than simply accessing the university-housed website as students and teachers can easily connect with one another' (Mazer, Murphy, & Simonds, 2007, p. 3), and to supplement traditional classroom environments for enriching existing curriculum through creative, authentic and/or flexible non-linear learning experiences (Buzzetto-More, 2012). Students on the other hand commented on learner-empowerment as part of their Facebook experience (de Villiers, 2010) due to effective use of Facebook features which empower the educational process of 'active learning, creativity, problem-solving, cooperation, and multifaceted interactions as well as improving academic

performance' (Tiryakioglu & Erzurum, 2011, p. 148) with a greater level of independent student engagement (Kent, 2013).

Although Facebook was not originally designed for educational purposes, it has great potential to enhance the learning experience and create a more comfortable classroom climate (according to Arteaga Sánchez, Cortijo, & Javed, 2014). Students and lecturers have recorded a positive response to uses of Facebook for online discussions and interaction among students and faculty (Khan, & Bakhsh, 2015), especially the use of Facebook groups in engaging students to facilitate an experience with online learning (Rap, & Blonder, 2017). Thus, the success of Facebook for online learning activities relies on lecturers' and students' perceptions and attitudes towards an open learning environment (Lin et al., 2016). For example, some educators and students were reluctant to acknowledge the educational uses of Facebook and resistant to using it in education simply because it is a new idea in uncharted territory (Munoz, & Towner, 2011; Prescott, 2014). Some studies reminded that Facebook may not be an ideal discussion tool in all instructional contexts (Hurt et al., 2012) because it is only considered as a tool, and should never replace a good teaching strategy (Arteaga Sánchez, Cortijo, & Javed, 2014). In some instances, face-to-face learning 'might still be the preferred method for effective teaching and learning' (Lin, et al., 2016, p. 107).

As a result of the documented positive and negative aspects of using Facebook for teaching and learning in formal learning environments, Facebook is viewed as a double-edged sword that both helps and hinders learning (Wang, Woo, &

Quek, 2012; Odom, Jarvis, Sandlin, & Peek, 2013; Said, Tahir, & Ali, 2014; Smith, 2016). This is because Facebook can be seen as ‘a positive tool for learning, but can also be a negative one if it is not properly used’ (Wang, Woo, & Quek, 2012, p. 24). Therefore, lecturers and students need to weigh both positive points and negatives associated with using Facebook in the classroom, with lecturers developing ‘a comprehensive teaching design and supportive intervention that help students use online social networks for learning and to enhance their academic outcomes’ (Nkhoma, Richardson, & El-den, 2015, p. 96).

Nevertheless, due to the exponential growth of online social networking in higher education, the growing pool of evidence shows that Facebook can successfully support university learning as a useful mode of communication between students and lecturers, as well as engagement with course materials (Staines, & Lauchs, 2013). Facebook has brought new opportunities for knowledge sharing and learning among students of tertiary education as the effort in promoting ‘online discussion and file sharing is important in a bid to enhance a sense of knowledge sharing between students, which leads to improved student learning’ (Eid, & Al-Jabri, 2016, p. 25) and impact student retention (Barczyk, & Duncan, 2013). Ngonidzashe (2013) claimed that research on the perceptions of the use of SNSs in higher education ‘has been carried out in developed countries; however, little or no research has been carried out in developing countries’ (p. 242). With this in mind, the next section reviews the literature of the use of Facebook in Malaysian higher education.

2.3.1 Facebook use in Malaysian higher education

A number of researchers have investigated the use of Facebook in Malaysian higher education. Almadhoun, Dominic and Lai (2012) found that the use and influence of SNSs in students' daily lives were pervasive as they used it not only for social purposes but also for educational reasons. Hamid et al. (2015) on the other hand examined the interactional benefits of online SNSs used in Malaysian and Australian higher education such as Facebook, wikis, blogs, Bebo and Twitter and the findings revealed that students, who can be regarded as the main stakeholders in higher education, experience more interactions when using social media technologies in higher education. Their study 'contributes to enhancing the empirical research results that are beneficial for informing teaching practice in higher education' (Hamid et al., 2015, p. 8).

Part of the literature review was carried out to identify the research trend on the educational use of Facebook in Malaysian higher education. The following studies investigated the adoption of Facebook by students and lecturers of Malaysian higher education institutions for teaching and learning as well as its effects. Recognising details in these texts helped me to develop an understanding of the current practices of using Facebook by lecturers and students of Malaysia higher education. According to various researchers, Facebook has the potential to be used as a platform for online academic discussions (Lim, 2010), it is useful as a learning environment (Kabilan, Ahmad, & Zainol Abidin, 2010) and for informal learning (Hamat, Embi, & Hassan, 2012), it is able to enhance teaching and learning practices involving large classes (Rasiah, 2014) and for English learning activities and online writing

environments (Ponnudurai, & Jacob, 2014; Ghani, 2015; Annamalai, 2016; Faryadi, 2017). Studies have shown the positive impact of students' use of Facebook on their academic performances (Din, Yahya, & Haron, 2012; Helou, Ab. Rahim, & Oye, 2012; Helou, & Ab. Rahim, 2014) and lecturers also have begun to use Facebook to complement their current teaching and learning practices in Malaysian universities (Hamid et al., 2011; Lee, Sangaran Kutty, & Wong, 2015). Although positive results of Facebook use in higher education were shown in prior literature, Lim et al. (2014) claimed that successful adoption of Facebook in Malaysian higher education institutions depends on many factors because students, academics and the institutions themselves have views and practices that do not necessarily align.

In addition, researchers have also conducted studies to examine the factors that influence university students in Malaysia to use Facebook for education purposes. Results of two studies (Haque, Sarwar, & Ahmad, 2015; Mohd Zaki, & Khan, 2016) showed that factors such as perceived usefulness, perceived ease of use, facilitating conditions, social influence, intricacy, adaptability and observability motivated students to adopt Facebook as a learning tool. Haque, Sarwar and Ahmad (2015) employed a questionnaire survey with students of different higher learning institutions in Malaysia and the results drawn from 398 respondents confirmed that 'the characteristics of social networking sites such as ease of use, intricacy, adaptability and observability… would likely affect students' awareness towards using Facebook as an alternative learning tool' (p. 1631). Similarly, Mohd Zaki and Khan (2016) administered a questionnaire survey with 325 students of a private college in Malaysia to identify their

intention to use Facebook for learning support. The researchers concluded that 'four constructs, namely, perceived usefulness, perceived ease of use, facilitating conditions and social influence… were significant predictors of intention to use Facebook for learning support' (Mohd Zaki, & Khan p. 11).

From students' perspectives, Facebook has been used as a tool for online interaction (Said, & Tahir, 2013), for discussion, sharing video and document links (Hassan, 2014), for accessing and sharing of ideas and information (Phua, & Wong, 2015), and as a broadcast medium for transmitting information and announcements on course-related matters (Lee, & Teh, 2016). The following five Malaysian studies showed positive impacts on students using Facebook for classroom learning and assignments, and for project discussions. Rubrico and Hashim (2014) claimed that Facebook is a convenient interface for student engagement which facilitates interactive exchanges about conceptual understanding and intellectual discourse, while Sim, Naidu and Apparasamy's (2014) study with 103 students of a private university revealed that students are positive in using Facebook as an engagement tool. The results of studies from Ng and Maniam (2015), Siddike, Islam and Banna (2015) and Saifudin, Yacob and Saad (2016) concluded that students showed positive attitudes for using Facebook as an academic tool for education and learning outside the classroom (Siddike, Islam, & Banna, 2015), and through Facebook group discussions (Ng, & Maniam, 2015) because Facebook could harness and enhance students' learning and 'thinking capabilities in preparing the class assignments and projects… commit them to be intelligent and build their critical thinking' (Saifudin, Yacob, & Saad, 2016, p. 1263).

In the Malaysian context, Facebook is also viewed as a double-edged sword for teaching and learning in higher education (Alhazmi, & Abdul Rahman, 2013; Mali, & Syed Hassan, 2013; Said, Tahir, & Ali, 2014; Lee, & Chong, 2017). Firstly, Facebook has 'its potentials and limitations for teaching and learning... Facebook can be positive tool for teaching and learning but can also be a negative tool if it is not appropriately utilised' (Said, Tahir, & Ali, 2014, p. 124). Secondly, Mali and Syed Hassan's (2013) and Lee and Chong's (2017) studies on students of two private universities in Malaysia indicated that the ease of use and its usefulness of Facebook as a learning tool in higher education has significantly influenced students' intentions to use it for learning but 'the challenges and obstacles of getting feedback and too much of disruption along the discussion hinder their intention to use' (Mali, & Syed Hassan, 2013, p. 2024). Lastly, Alhazmi and Abdul Rahman's (2013) results confirmed that the daily use of Facebook among 108 students of a public university in Malaysia is increasing significantly; however, the 'academic use of Facebook is still limited in terms of both the number of students who use Facebook for academic reasons and the time students spend on academic motivations… 38.5% of the students who are currently using Facebook for academic purposes have a negative perception of the use of Facebook for education' (p. 39).

Despite the excitements surrounding the potential of Facebook in higher education, there is still a lack of empirical data on how lecturers and students from Malaysian higher education institutions actually use Facebook for formal classroom education and its effects on teaching and learning practices, as well

as how both lecturers and students perceive the role of Facebook in enhancing learning and improving teaching practices. Furthermore, Hamsan, Kumar and Shahrimin (2013) stated that an academically viable sense of direction on the future research on exploring Facebook is much needed, and Woerner (2015) claimed that 'there has been a lack of research regarding the impact of the use of Facebook as a tool in the higher education classroom' (p. 14). Therefore, my research aims to assess the uses and impacts of Facebook by lecturers and students for teaching and learning in formal classroom education in Malaysian universities.

2.4 Malaysian higher education system

Malaysia, a multicultural, multilingual, and multiracial country, is one of the main educational hubs in the Asia-Pacific region, with an academic staff population of 33,000 in public universities and 25,000 in private institutions (according to Wan et al., 2015). Currently, Malaysia has 20 public universities, 47 private higher education institutions, 37 polytechnics, 105 community colleges, and 10 foreign university branch campuses (MOHE, 2018; The Star Online, 6 May 2018).

The Malaysian higher education sector is under the jurisdiction of the MOHE, with the vision to offer high quality tertiary education, to build an excellent individual and prosperous nation, and with the mission to sustain the higher education ecosystem in order to develop and enhance individual potential and fulfil the nation's aspiration (MOHE, 2018). The Ministry has three departments, the department of higher education, the department of polytechnic education,

and the department of community college education, to manage the various institutions of higher education, and is supported by two government agencies – the Malaysian Qualifications Agency (MQA) to supervise and coordinate the quality assurance and accreditation of national higher education, and the National Higher Education Fund Corporation ('Perbadanan Tabung Pendidikan Tinggi Nasional', PTPTN) to coordinate the financing of higher education (MOHE, 2018).

The department of higher education in the MOHE Malaysia is responsible for the development of both public and private higher education in Malaysia; it ensures that the universities and colleges are of international standing, and involved in the marketing of Malaysian higher education internationally and is in charge of international students' welfare (StudyMalaysia.com, 14 March 2015). Apart from public and private universities, the polytechnics in Malaysia are managed under the department of polytechnic education in the MOHE Malaysia. Polytechnic education provides an alternative route for Malaysian higher school leavers to further their education, which aims to produce highly-skilled graduates that is in line with the Malaysian National Higher Education Strategic Plan and the National Key Results Areas (StudyMalaysia.com, 14 March 2015). The third department of the MOHE Malaysia, the department of community college education, is responsible for managing the community colleges, with the stated mission to increase the socio-economic status of all levels of Malaysian citizens through better education through vocational-based training programmes and the use of a life-long learning approach (StudyMalaysia.com, 14 March 2015).

The higher education system in Malaysia has gone through tremendous changes and transformation since the colonisation of the British and Japanese prior to Malaysia's independence, at the time of Malaysia's independence, and to the present day (Grapragasem, Krishnan, & Mansor, 2014; Zain et al., 2017). The Malaysian higher education system prior to independence (pre-1957) was 'significantly shaped by the political and economic interests of the respective colonisers' (according to Zain et al., 2017, p. 79). During the British occupation, the education system adhered to Britain's 'divide and rule' policy which catered for the needs of particular ethnic groups (the Malays, Chinese or Indians) with various vernacular schools; and during the Japanese occupation, the education was 'focused on propagating love and loyalty towards the Japanese emperor' (Grapragasem, Krishnan, & Mansor, 2014, p. 85). After Malaysia gained its independence in 1957, the higher education system 'focused on essential and auxiliary training to create skilled and knowledgeable authorities to increase the agricultural sector… to create and support advances in education' (Zain et al., 2017, p. 80). Later, from the 1970s to 1990s, higher education became the major means for creating and delivering a better-prepared and talented workforce through the democratisation of higher education in expanding the quantity of public higher education institutes to increase student enrolment (Zain et al., 2017).

Since the 1990s, the Malaysian government has restructured the higher education system through the MOHE to use education as a tool for fostering unity and nation-building in accordance with the Vision 2020 (Grapragasem,

Krishnan, & Mansor, 2014) in making Malaysia 'a hub of Excellence in Higher Education by 2020… to produce competent graduates that meet the needs of national and international employers… to achieve a 75% employment rate for students in their respective fields within six months of graduation' (Zain et al., 2017, p. 82). Lastly, the most recent Malaysian Higher Education Blueprint (MHEB) 2015-2025 is a national plan aimed 'to achieve the status of a developed country by 2020, and further represents the outcome of a concerted effort by the government to promote higher education… to rank among the world's leading educational systems and enable Malaysia to compete in the global economy… through three waves of activity to ensure system capacity, capability and readiness' (Zain et al., 2017, p. 84). When Malaysia's higher education system was ranked 25th best in the world recently, Malaysia aims to become the best choice of destination for higher education by transforming its higher education policy to keep pace and in tandem with fast-changing technology (The Star Online, 6 May 2018).

2.4.1 Public and private universities

A higher education institution in Malaysia refers to a university, a university college, a university branch, a college or polytechnic and community colleges which includes both public and private institutions (Zain et al., 2017). In the year 2009, Malaysia had 20 public universities, 33 private universities, 24 polytechnics, 37 public community colleges, five foreign university branch campuses and about 500 private colleges (Grapragasem, Krishnan, & Mansor, 2014). To date, Malaysia has a total of 20 public universities, 47 private universities, 37 polytechnics, 105 community colleges, 10 foreign university

branch campuses and 392 private colleges (MOHE, 2018; The Star Online, 6 May 2018).

The public universities in Malaysia are categorised into research universities, comprehensive universities and focused universities, and they are predominantly 'Western' with a combination of British legacy, American influence, and indigenisation of the local culture (Wan, Sirat, & Abdul Razak, 2015; Lee, Sirat, & Wan, 2017). Public universities are 'almost fully financially supported by the State, which have enabled these institutions to focus on capacity building and social mobility, and to charge minimal student fees' (Wan, Sirat, & Abdul Razak, 2015, p. 271). The introduction of the New Economic Policy by the Malaysian government in 1971 changed the racial composition in public universities, with the 'Bumiputeras' (Malays and Aboriginals) becoming and continuing until today to be the predominant ethnic group in public institutions (Wan, 2007, p. 6).

On the other hand, the enactment of the Private Higher Education Institutions Act in 1996 established the private higher education institutions, which include for-profit and non-profit private universities, as well as international branch campuses of foreign universities from the United Kingdom, Australia and China (Wan, Sirat, & Abdul Razak, 2015). Private universities are expected to fulfil a primarily economic role because they are 'allowed to charge fees that ensure profitability and financial sustainability… allowed to attract more international students… have a more flexible and less stringent admission system. The demographic distribution of students in private institutions tends to be polarised

to a specific ethnic group and related to income' (Wan, Sirat, & Abdul Razak, 2015, p. 271-272). Due to 'restricted educational opportunities for the non-Bumiputeras in public institutions', the Chinese students pursue their tertiary education in the private institutions in the country and some have left Malaysia for overseas universities (Wan, 2007, p. 6-7).

Scholars have claimed that the establishment of local and foreign colleges and universities in Malaysia has contributed to the development of human capital, especially skilled workers, to achieve desired goals of producing competitive graduates in the global market place (Grapragasem, Krishnan, & Mansor, 2014; Zain et al., 2017). According to Wan (2007), the delivery of higher education in Malaysia used to be exclusive to the public sector, but the democratisation of secondary education and the changes of legislature in 1996 created a high demand for public higher education. This in turn meant that 'public institutions faced serious challenges of operating within the constraints of their limited allocations given by the government… then prompted the government to encourage private institutions to play a more active role in the higher education sector through various policy and regulatory amendments' (Wan, 2007, p. 2). Both public and private higher education institutions served as tertiary education providers which co-exist within the Malaysian higher education system and they display the characteristics of being substitute and at the same time complementary to one another (Wan, 2007).

Prior literature has shown that Facebook has been used by students of Malaysian public and private universities (Lau, 2010; Rasiah, 2014; Lee,

Sangaran Kutty, & Wong, 2015; Saifudin, Yacob, & Saad, 2016; Faryadi, 2017), as well as students of polytechnics (Hassan, 2014) for learning. However, only a handful of lecturers of private universities (Lee, & Teh, 2016) and only one lecturer of a public university (Saifudin, Yacob, & Saad, 2016) in Malaysia have been studied and reported to have used Facebook for teaching in classrooms (based on the literature review in sub-section 2.3.1 and informal communication with researchers/lecturers of Malaysian public and private universities). To the best of my knowledge, there were no research studies found on the uses of Facebook by lecturers and students from the community colleges and foreign university branch campuses in Malaysia.

The introduction to the Malaysian higher education system described in section 2.4 and the higher education institutions in Malaysia in sub-section 2.4.1 provide the background context in which this study is situated. The summary review of the literature in the previous paragraph indicates a lack of empirical data on how lecturers of Malaysian higher education institutions actually use Facebook for formal classroom education and its effects on teaching and learning practices in Malaysian universities. This highlights and brings to the discussion the research gap discussed in the next section.

2.5 Research gap

Drawing from the literature review of Facebook use in the Malaysian context: (i) most studies on Facebook use in Malaysian higher education emphasised students' experiences and perspectives, and they are not implemented in a formal classroom curriculum; (ii) studies mainly applied quantitative

methodologies such as questionnaire surveys with the student population; (iii) they emphasised the disciplines of IT, IS, Language and Writing; while (iv) evaluating lecturers' and students' perspectives and experiences of using Facebook in classroom education remained unexplored.

Extensive work is still needed to assess the role of Facebook in Malaysian higher education, specifically to investigate the extent of Facebook use by lecturers and students in formal classroom education and to explore lecturers' and students' experiences of using Facebook for classroom education. The first research gap concerns the lack of research studies on the uses of Facebook for formal classroom education; existing studies emphasised students' experiences and perspectives and were not implemented in a formal classroom curriculum. This gap will be addressed in this study with evidence provided in Chapters Four and Five on the uses of Facebook in classroom education contexts by both lecturers and students of Malaysian universities. The second gap concerns the need to offer a balance with the extensive use of quantitative methodology with the student population; therefore, this study will employ a multiple-method research methodology with empirical data collected through: (1) semi-structured interviews with lecturers and students from Malaysian universities; as well as (2) participant virtual observation of Facebook closed-group pages; and (3) content analysis of students' reflection journals of a private university (see Chapter Three). The third gap concerns the need to widen the emphasis of prior literature that has focused on a few disciplines – IT, IS, Language and Writing; to address this, my study focuses on lecturers and students of 15 disciplines of studies from Accounting and Finance,

Advertising Design, Broadcasting, Business Administration, Communication, Corporate Communication, Development Management, Education, English, Graphic Design, IS, Integrated Marketing Communication, Logistics to Occupational Therapy, and Public Relations (see Appendix Nine). The last research gap concerns the under-exploration of lecturers' and students' perspectives and experiences of using Facebook in classroom education; this will be addressed in Chapters Four and Five, which shows findings of the uses of Facebook by lecturers and students and its outcomes and impacts for classroom teaching and learning (as well as in sub-section 6.3.1 in Chapter Six, which explores the similarities and differences of practice between the lecturers and students within this context).

2.6 Theoretical frameworks

2.6.1 Uses and gratifications theory (Katz, Blumler, & Gurevitch, 1974)

'One of the more successful theoretical frameworks from which to examine questions of "how" and "why" individuals use media to satisfy particular needs has been the uses and gratifications (U&G) theory' (Quan-Haase, & Young, 2010, p. 351). Scholars have agreed that U&G theory is 'an appropriate theoretical framework for examining the uses of new media by individuals' (Dermentzi et al., 2016, p. 322) because 'individuals are aware of their needs and are goal-oriented in their use of media… are capable of assessing value judgments of media content and have the initiative to link needs and gratifications to a specific choice of medium' (Ifinedo, 2016, p. 194). This theory is 'an approach to understanding why and how individuals actively seek out and use specific media to satisfy specific needs' (Dolan et al., 2015, p. 262) and it

is still used in contemporary media research looking at computers and information technology such as social media and SNSs although this theory has been around for about 50 years (Sarapin, & Morris, 2015).

According to Katz, Blumler and Gurevitch (1974), the focus of the theory is on what people do with the media rather than the influence or impact of the media on the individual because the audience is characterised as active, discerning, and motivated in their media use. Individuals are motivated to select certain media and content to fulfil their needs and wants, and the choices they make about the media use would fulfil the need gratification (Sarapin, & Morris, 2015). The three objectives of U&G theory are: '(1) explaining how people use media to gratify their needs; (2) understanding the motivations of individual media behaviour; and (3) identifying the consequences that follow from needs, motivations and behaviour' (Chiu, & Huang, 2014, p. 412).

According to U&G theory, individuals 'receive gratifications through the media, which satisfy their informational, social, and leisure needs' (Phua, Jin, & Kim, 2017, p. 115). Researchers have identified categories of the uses and gratifications of Facebook in their studies (Quan-Haase, & Young, 2010; Froget, Baghestan, & Asfaranjan, 2013; Tanta, Mihovilović, & Sablić, 2014; Ifinedo, 2016; Dhir et al., 2017). The gratifications obtained from Facebook use include: pastime, affection, fashion, share problems, sociability, and social information (Quan-Haase, & Young, 2010); meeting new people, for entertainment, maintaining relationships, social events, media creation (Froget, Baghestan, & Asfaranjan, 2013); integration, social interaction, information and

understanding of social environment (Tanta, Mihovilović, & Sablić, 2014); purposive value, self-discovery, entertainment value, social enhancement, and maintaining interpersonal connectivity (Ifinedo, 2016); as well as escape, ease of use, information seeking, social influence, exposure, usefulness, social relationship, career opportunities and education (Dhir et al., 2017). Dermentzi et al. (2016) in their study demonstrated the needs for academics to adopt SNSs for academic engagement with their peers: self-promotion and image; information seeking; and networking. Thus, this theory helps explain how and why lecturers and students might use Facebook for classroom education.

2.6.2 Social constructivist theory (Vygotsky, 1978)

The social constructivist theory of Vygotsky (1978) has been applied in the literature of new media technologies in terms of pedagogical best practices (Churcher, Downs, & Tewksbury, 2014). A body of literature has linked the social constructivist theory with the use of social media in education settings (de Villiers, 2010; Buzzetto-More, 2012; Pektas, 2012; Churcher, Downs, & Tewksbury, 2014; Lahiri, & Moseley, 2015; Saaty, 2015; Sarwar et al, 2018) and in Malaysian higher education (Ponnudurai & Jacob, 2014; Al-Rahmi, Othman, & Yusuf, 2015).

Lev Vygotsky, the father of social constructivist theory, believed that social interaction – dialogue and interaction with others – helps construct knowledge and is an integral part of learning (Powell, & Kalina, 2009; Churcher, Downs, & Tewksbury, 2014). Vygotsky (1978) stated that cognitive growth occurs first on a social level, and then it can occur within the individual. To make sense of

others and construct knowledge on such a social level allow learners to relate themselves to circumstances. Educators who are facilitators 'first provide support and help for learners, the little by little this support is decreased and students learn independently. Thus in social constructivist classrooms, students are actively involved, the environment is democratic, and interaction becomes crucial in learning' (Amineh, & Asl, 2015, p. 15). A classroom education underpinning of social constructivist learning theory 'refers to an educational process which enables groups to create knowledge and meaning through co-creation' (Pektas, 2012, p. 694), and through social learning which 'emphasise learning as a social process, that involves both personal interpretations of events and meaning making through social negotiation' (Lahiri, & Moseley, 2015, p. 17).

Prior studies have associated SNSs such as Facebook with social constructivist theory. Students of a university in South Africa reflected their experiences of using a Facebook group for academic purposes as 'a new paradigm of teacher-learner interaction' which enriches their learning process through learner-empowerment and 'avoids treating learners as passive receptacles' (de Villiers, 2010, p. 188). In addition, Buzzetto-More (2012) in her study concluded 'the use of social networking services in education has been shown to benefit education a number of ways by supporting social learning, constructivist teaching practices, authentic instruction, student centered learning, and on demand access to learning' (p. 88). Therefore, students and educators can work together for mutual contribution in a collaborative learning environment through social media (Sarwar et al., 2018), in which 'instructors should clearly

understand the nature of meaningful interaction, in regards to the social constructivist theory… to increase the learning effects of a learner's lifelong meaningful literacy and interaction' (Saaty, 2015, p. 125). From the Malaysian context, it has been found that some university students prefer SNSs such as Facebook 'to enhance their learning experiences because of the collaborative or interactive nature and informal status that Facebook has in their life… enhance their teacher-student relationship in a positive manner' (Ponnudurai, & Jacob, 2014, p. 127). Thus, the use of social media which supports collaborative learning and engagement is useful for enhancing academic performance of students and researchers (Al-Rahmi, Othman, & Yusuf, 2015).

2.6.3 Technology acceptance model (Davis, 1989)

Among the literature published on user acceptance of technology, the 'Technology Acceptance Model (TAM) is one of the most frameworks adopted because of its robustness, simplicity, and applicability in explaining and predicting the attributes that affect user's adoption behaviour towards new technologies' (Dumpit, & Fernandez, 2017, p. 3). Researchers have applied 'TAM to measure students' acceptance of Web-based learning tools' (Tarhini et al., 2017, p. 309). According to Kim et al. (2016), 'the TAM advances a belief–attitude–intention–behaviour paradigm for explaining and predicting technology adoption among potential users… perceived usefulness, perceived ease of use, and perceived enjoyment are key determinants of a person's attitude towards using a technology, which in turn determines their intention to use it' (p. 1-2).

TAM derived from two underlying theories – the Theory of Reasoned Action, and the Theory of Planned Behaviour (Magro, Ryan, & Prybutok, 2013; Dumpit, & Fernandez, 2017) and describes factors which affect a user's decision about how and why a new technology is used, which in turn determine the user's attitude towards the technology and its adoption. Within the TAM framework, the two key factors which influence the user's attitudes towards adopting a new technology are perceived usefulness (PU) and perceived ease of use (PEOU). Davis (1989) defined PU as 'the degree to which a person believes that using a particular system would enhance his or her job performance', and PEOU as 'the degree to which a person believes that using a particular system would be free of effort' (p. 320). Moreover, some studies have claimed that 'PU was found to be the most influential variable in predicting the intention to use the Web-based learning system in TAM' (Tarhini et al., 2017, p. 310).

In the Malaysian context, two studies (Al-Rahimi, Othman, & Musa, 2013; Al-Rahmi, & Othman, 2013b) have measured the use of social media by Malaysian students through the lens of TAM. Firstly, Al-Rahimi, Othman and Musa (2013) conducted a questionnaire survey with 134 students of a public university in Malaysia to measure the key factors which determined the nature of the relationship between students' satisfaction and using social media through collaborative learning. The results showed that a high level of interaction and engagement of using social media was 'due to the perceived ease of use, but perceived usefulness need more motivation to use social media in the class among students for collaborative learning' (Al-Rahimi, Othman, & Musa, 2013, p. 1548). In addition, Al-Rahmi and Othman (2013b) investigated the

determinants of adopting a collaborative learning platform between university students through TAM. Drawing from a quantitative questionnaire survey with 80 students, this study suggested that TAM predictors – PEOU and PU – are able to improve collaborative learning through their intention to use social media among students (Al-Rahmi, & Othman, 2013b).

2.6.4 Conversational framework (Laurillard, 1999)

In the context of higher education, student learning is a 'relationship between the learner and the world, mediated by the teacher' (Laurillard, 2002, p. 86). Teaching and learning in higher education is a systems approach to adult learning in an instructional context, requiring the following processes: 1) acquisition in the discursive process; 2) practice in the adaptive process; 3) discussion in the interactive process; and 4) discovery in the reflective process. These elements formed the Conversational Framework – describing the teaching and learning activities by students and lecturers in academic learning situations (Laurillard, 2002). The Conversational Framework describes 'the conversation between teacher and learner… the structure of a learning conversation between two individuals, with the teacher acting as external agent, mediating what is to be learned' (Laurillard, 1999, p. 115).

The Conversational Framework 'drew on the ideas of Gordon Pask and Ference Marton (Pask, 1976; Marton, 1988)… as an analytical tool by which to judge the contribution of each of the learning media and methods available to university teachers today' (Laurillard, 1999, p. 114). According to Laurillard (1999), the Conversational Framework defined the essential structure of the

learning process in university which 'involved at least two participants, operating iteratively and interactively on two levels – practice and discussion – and connecting those two levels by the activities of adaptation and reflection' (p. 114), and this framework 'provides a conceptualisation of the process that the teacher must take care to support… represents the learner's developing conceptual understanding in terms of successive improvements in both their conceptual and their mastery of the practical application of theory, as their discursive practice and collaborative environments motivates iteration around the cognitive activities involved' (Laurillard, 2009, p. 15). In addition, the Framework 'represents the teacher in dialogue with a learner and each learner in dialogue with other learners... When a teacher presents ideas and the learner asks questions, that is a didactic form of teaching and learning. When learners discuss, debate, and negotiate ideas, that is social constructivism. If they try out their ideas to achieve a goal in a practice environment, getting feedback that enables them to reflect and adapt and try again, this is constructionism. And if they work in partnership to share the results of their practice, they are learning through collaboration' (MellOw, Woolis, & Laurillard, 2011, p. 52).

Two studies have applied the Conversational Framework in language learning (Fotouhi-Ghazvini et al., 2011; Grobler, & Smits, 2016). Fotouhi-Ghazvini et al. (2011) developed a vocabulary learning programme using 'Detective Alavi mobile game' to help Iranian students to use a focused, goal oriented and effective learning approach to learn vocabularies by incorporating Laurillard's Conversational Framework because the framework contains 'all the important features of instructionism, social learning, constructionism, and collaborative

learning, where each is emphasising a particular aspect of learning' (p. 201). The mobile game was tested with 13 students of computing engineering of an Iranian university in an English class. Through observation during the game sessions in the classroom, the students at first 'felt reluctant to work collaboratively but gradually they succeeded in integrating the appropriate skills with the aid of game narrative, graphics, QR [Quick Response] puzzles, distance experts and their teacher' (Fotouhi-Ghazvini et al., 2011, p. 205) and the authors concluded that 'a continuous interaction between students, teachers, context and the learning material was shaped. This interaction was in conversation format and in its most productive nature led to a shared point of view over the curriculum objectives that were embedded in the game story' (p. 212). In another study, Grobler and Smits (2016) adopted Laurillard's Conversational Framework in the design of a digital pedagogical pattern for South African undergraduate foreign language students as a pilot study aimed to improve students' oral communication skills in French. The pilot study was carried out in six steps through three groups of participants: a control group and two experimental groups. Although the results of the pilot study are yet to be analysed, the authors claimed that 'technology creates opportunities to foster oral foreign language proficiency without the risk of squandering instructional time and daunting (weaker) students… Laurillard's (2012) Conversational Framework as a theoretical and conceptual starting point for the design of a technology-enhanced, pedagogy-driven learning environment to acquire oral competencies' (Grobler, & Smits, 2016, p. 8).

2.6.5 Integration of theoretical frameworks in the study

Section 2.6 has explored four theoretical frameworks that are pertinent to this study (see sub-sections 2.6.1 to 2.6.4). These frameworks are applied and discussed in relation to the findings chapters of this study. Firstly, the U&G theory by Katz, Blumler and Gurevitch (1974) is applied to demonstrate the uses and gratifications sought by the lecturers and students when using Facebook for teaching and learning in classrooms (see Chapter Four). Second, the social constructivist theory of Vygotsky (1978) is applied to illustrate the discussion on how the interaction between lecturers and students and among students as well as the collaboration of online discussion through Facebook groups supports the concept of classroom teaching and learning (see Chapter Five). The third theory, TAM by Davis (1989) is applied to explain why the lecturers and students in this study used Facebook for teaching and learning in the classroom, illustrated when they responded on the pros of using Facebook in higher education classroom – PEOU and PU – which are in accordance with the theory (see Chapter Five). Lastly, the Conversational Framework by Laurillard (1999) is applied to describe the conversation between teachers and learners in a technology-enhanced learning environment in the findings on the lecturers' and students' perceived outcomes and impacts of using Facebook for classroom teaching and learning (see Chapter Five). However, it should be noted that the entirety of the Laurillard framework is not directly applied to the findings of the study, due to its complexity.

2.7 Chapter summary

This chapter has reviewed literature relevant to the uses and impacts of Facebook for teaching and learning in higher education, including social media use in higher education, social media use in Malaysian higher education, Facebook use in higher education, Facebook use in Malaysian higher education, as well as Malaysian higher education system, focusing on public and private universities. The literature also discussed how four theoretical frameworks of U&G theory, social constructivist theory, TAM and the Conversational Framework are applied to consider uses of Facebook for teaching and learning in Malaysian higher education classrooms. In the following chapter, Methodology, the research design and procedures for data collection and analysis are explained and discussed in detail.

Chapter 3 Methodology

3.1 Introduction

In order to address the four RQs, namely, research question (RQ) 1: How do lecturers and students of Malaysian universities use Facebook for formal classroom education?, RQ2: What are their perceived outcomes and impacts (positive, neutral or negative) of using Facebook for teaching and learning, and communication in formal classroom education in Malaysian higher education?, RQ3: How do lecturers of Malaysian universities perceive the use of Facebook for classroom education in engaging students and constructing knowledge through collaboration and social learning?, and RQ4: What is the students' evaluation of the effectiveness of using Facebook as a useful learning tool that supports, enhances and strengthens their classroom learning experiences in Malaysian universities?, a multiple-method design was adopted. A multiple-method research methodology is considered the most appropriate for this study as it allows multiple forms of data gathered from educators and students (Lim, Harper, & Chicharo, 2014; Lim et al., 2014). A 'methodological pluralism involves combining quantitative and qualitative methods in a study in which multiple quantitative and/or qualitative methods are used in tandem' (Anderson, 2016, p. 233) as 'both qualitative and quantitative approaches have inherent strengths and weaknesses' (Connell, 2016, p. 121).

According to Connell (2016), quantitative methods are able 'to facilitate rigorous hypothesis testing, produce research that is both internally valid and externally generalisable, and assess cause-and-effect relationships between constructs' (p. 121), while qualitative methods are able 'to explore, discover, and describe

the experiences, meanings, processes, and purposes of the phenomenon under consideration from the perspective of those who are experiencing it… value the uniqueness, natural variation, diversity, and ambiguity in the findings… give attention to the iterative nature of processes and knowledge, as well as the standpoint of both the researcher and participants in the production and discovery of such knowledge (Brodsky, Buckingham, Scheibler, & Mannarini, 2016, p. 14). Notwithstanding, both quantitative and qualitative methods have their limitations. Anderson (2016) claimed that 'researchers tend to use qualitative methods for a topic with currently little research and/or for a more in-depth examination, but tend to use quantitative methods to test hypotheses and/or for generalisation' (p. 234). Additionally, quantitative methods require larger sample sizes, perhaps through random sampling techniques, but do not provide insights on the full complexity of human experiences and perceptions, whereas qualitative methods employ smaller sample sizes, perhaps through purposive sampling strategies, and could not provide a generalisable outcome due to context and potential subjectivity (Wimmer, & Dominick, 2014).

There are benefits for employing multiple methods research for this study, because, through multiple methods of data collection, this approach could increase the validity and 'trustworthiness of inferences and assertions by providing mutual confirmation of findings' (Anderson, 2016, p. 236), as well as providing a wealth of information and nuanced understanding about the topic. Yet the challenge could be the ambiguity in addressing the 'incompatibility issues of mixing methods… synthesis of both across and within methods'

(Anderson, 2016, p. 236), and a longer period of time to complete, compared to a single-method study. Therefore, I will discuss the ways in which the different methods in my study complement each other, rather than leading to incompatibility.

The empirical data of this study were collected through: (1) semi-structured interviews with lecturers and students from Malaysian universities; (2) participant virtual observation of Facebook closed-group pages; as well as (3) content analysis of students' reflection journals to understand lecturers' and students' perspectives on the uses and impacts of Facebook for teaching and learning in classroom education in Malaysian universities. The sample of the study was drawn from the population of 20 public and 44 private universities in Malaysia (MOHE, 2016). The full list of public and private universities in Malaysia is shown in Appendix One. The lecturer and student participants for the interviews were purposefully selected because they had used Facebook for teaching and learning in a formal classroom education in Malaysian universities; therefore, the sample is not entirely a representative proportion of the population of Malaysian higher education. Nevertheless, in searching for appropriate participants for the study, I contacted the authors who had published journal articles on Facebook uses in the Malaysian higher education context; sent invites through a Facebook Doctorate Support Group whose members are postgraduate students and academicians of Malaysian higher education institutions; and through personal contacts with lecturers who had used Facebook for teaching in Malaysian universities. The primary concern of selecting the participants was 'not to sample for proportionality but rather to

obtain an estimation of the range of responses… to particular experiences, ideas and practices' (Hemmi, Bayne, & Land, 2009, p. 22).

The semi-structured interviews with lecturers and students from both public and private universities in Malaysia allow me to identify the experiences of lecturers and students on the use of Facebook in a formal learning environment in Malaysian higher education, and to evaluate the perceived outcomes and impacts of Facebook usage on teaching and learning in classroom education across the Malaysian higher education sector. The findings from the interviews allow me to examine the perspectives of lecturers and students of Malaysian universities on the uses as well as the pros and cons of Facebook implementation for formal learning. I seek to identify the elements that educators should consider when implementing Facebook in the classroom. The participant virtual observation and content analysis of students' reflection journals of a private university as a case study enable me to further explore the applicability of Facebook as part of a module in a Malaysian university. The case study aims to understand the forms and levels of engagement and interaction between students and peers and with the lecturer in the Facebook group in a module. The data collected from the observation identify the actual usage of the Facebook group by the lecturers and students. The content analysis of students' reflection journals provides students' evaluations of the outcomes and impacts of Facebook on learning experiences in classroom education. The reason for using a specific case study that is based in a single institution – a private university – is because of time constraints and restrictions in terms of access to more detailed and sensitive data in other institutions.

However, the case study provides useful indicative evidence that details the uses and outcomes to a greater extent by supplementing the interview data with additional detail, complementing rather than providing an alternative perspective.

3.2 Qualitative research

Prior to conducting this research, I asked myself about my role as a researcher and the degree of bias that I might introduce in collecting and analysing the data from lecturer and student participants of this research. I am a Malaysian female lecturer of a private university in Malaysia. I have been teaching in Malaysian higher education for about 13 years and have used Facebook for teaching for four years. My experiences of using Facebook for teaching and learning in higher education led to my interest in conducting a qualitative research study to learn more about the experiences of lecturers and students of Malaysian universities in using Facebook for formal learning environments. Through conversations with my colleagues and students, I heard about some lecturers who had begun to integrate Facebook in their teaching and how university students had used Facebook for learning and for communication with peers in higher education. I hoped to develop an understanding about the ways lecturers and students of Malaysian universities experienced the uses of Facebook and evaluated its perceived outcomes and impacts for teaching and learning in classroom contexts. Due to my previous adoption of Facebook for teaching and learning, as well as in striving to remain objective when conducting the semi-structured interviews, participant virtual observation and content analysis of reflection journals, I was mindful of the fact that not all

lecturers and students in Malaysian universities who used Facebook for formal learning environments would perceive positive outcomes for teaching and learning practices. Before conducting the research, I considered the ethical needs of qualitative research and used a reflexive approach in collecting, analysing and interpreting the data of this research, as discussed in section 3.6.

Interview is the core component of this study because it provides information 'about people's ideas, thoughts, opinions, attitudes and what motivates them by talking to them and asking the right questions' (Berger, 2014, p. 161). It plays a significant role in data collection 'in a natural setting sensitive to the people and places under study' (Creswell, 2007, p. 37). Freeman (2014) stated that semi-structured interviews enable us to understand how social media were integrated by faculty members 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 most important advantages of using interview are the wealth of detail and focused responses that an interview provides, regardless of the difficulty in generalising the data (Wimmer, & Dominick, 2014) and the possibility of not getting the whole truth (Berger, 2014). Though qualitative inquiry using interview focuses on relatively small samples, which are purposefully selected (Patton, 1990), I am able to 'to explore the research questions through rich descriptions and explanations' (Chen, & Bryer, 2012, p. 92) and the participants are able to express how they felt about using Facebook for teaching and learning in classroom education. The interviews with lecturers and students (n=20) from Malaysian universities involved participants

purposefully selected, due to their known uses of Facebook for teaching and learning in a formal classroom setting. The interviews will reveal their perspectives and real-life experiences of using Facebook for teaching and learning, and online communication in classroom education.

The use of semi-structured interviews, participant virtual observation and content analysis of students' reflection journals as the instruments for data collection with lecturers and students who used Facebook for teaching and learning are consistent with some past studies (Bosch, 2009; Hemmi, Bayne, & Land, 2009; Lewis, & West, 2009; Deng, & Tavares, 2013; Lin et al., 2016). Firstly, Lewis and West (2009) recruited students who were active Facebook users via a purposive snowballing approach for the interviews. Second, Hemmi, Bayne and Land (2009) used semi-structured interviews to obtain detailed qualitative data from tutors and students who used Facebook within teaching and learning contexts and undertook a virtual ethnography of online activities for undergraduate and postgraduate courses. Thirdly, Bosch's (2009) research methodology comprised a virtual ethnography and qualitative content analysis of 200 student Facebook profiles, and semi-structured qualitative interviews with a purposive sample of undergraduate students and lecturers who were currently engaging with their students via Facebook. Fourthly, Deng and Tavares (2013) developed 'an interview protocol consisting of general questions that tapped into students' experiences with and perceptions of Moodle and Facebook, and tailor-made questions based on individual students' online activities' (p. 169). The last study, Lin et al. (2016), collected the data through group page content and semi-structured interviews. They observed the

Facebook group page content and content-analysed the group pages from September 2012 to September 2013 through iterative techniques, as well as interviewing 23 students and a teacher about the frequency of visiting the group page, the purposes of using Facebook versus e-learning, preferences of face-to-face versus online learning, and interactions on the Facebook group page, reasons for opening a Facebook group, teacher–student relationships, task design on Facebook, and teaching efficacy in face-to-face versus online environments (Lin et al., 2016).

Initially, in my research, a pilot study was carried out with a lecturer and a student from a Malaysian private university to refine the instrument for the interviews. Piloting is recognised as being essential, so that the researcher can better understand the questions being asked as well as to avoid questions that might be ambiguous or confusing to the interviewees (Young, & Chae, 2015). The pilot study gave the opportunity to test the order and flow of questions as well as the duration of interview. The semi-structured interview with two participants who had used Facebook for teaching and learning in classroom education were conducted at a university campus on 11 January 2017, lasting 53.1 and 47.2 minutes respectively. The interviews were conducted using the English language. Malaysian participants are able to listen, understand and speak in English, because English language is a compulsory subject taught at all levels of education in Malaysian schools, with a minimum formal learning of eleven years' duration (Darmi, & Albion, 2013). Both participants (L1 and S1) of University A, a private university in the Klang Valley (an area in Malaysia which is centred in Kuala Lumpur, and includes its adjoining cities

and towns in the state of Selangor), were able to understand the questions and answer the ten questions asked during the interview, which focused on their usage of Facebook in higher education classrooms, the advantages and disadvantages of Facebook usage and their perception of the effectiveness of using Facebook in classroom education. The participants volunteered to share their experiences and perspectives of using Facebook as a teaching and learning tool in Malaysian university classrooms. The interviews were audio-recorded and transcribed verbatim in 50 single-spaced pages of transcription in English for thematic analysis. The pilot study results provided a preliminary understanding of the uses and impacts of Facebook on teaching and learning in higher education classrooms. It was found that the questions asked during the pilot study were appropriate; therefore, no revision was made to the instrument. The two pilot interviews were retained in the data analysis, together with the remaining 18 interviews during the main research period.

A total of eight lecturers and 12 students (n=20) were purposively selected through volunteer and snowballing technique from both public and private universities in Malaysia (see Appendix One). My sample was chosen from those lecturers and students using Facebook in classroom education, a formal use of Facebook for classroom teaching and learning. To ensure that the sample was not one-dimensional, the criteria in selecting the lecturers and students of Malaysian higher education institutions were based on the following: 1) they had a Facebook account; 2) they had used Facebook for academic purposes; and 3) they had used a Facebook group for teaching and learning in a module in formal classroom education. These criteria were used to qualify the

participants for the interviews to ensure that they had experience of using Facebook in formal education, and had the content to discuss about their use of Facebook in classroom education.

The lecturers and students volunteered to participate even though some researchers had found 'it is not easy to identify faculty who use social media in their teaching… finding faculty who will consider discussing their experiences was found to be challenging' (Freeman, 2014, p. 360). I found one lecturer through his published journal article, four lecturers were from my personal contacts, and three lecturers were invited through a Facebook Doctorate Support Group. For the student sample, I interviewed seven students through volunteer sampling and the other five students were recommended by their lecturers from the interview sample. The interviewees were recruited via email (see email invitation in Appendix Two) from the population of 20 public and 44 private universities in Malaysia (MOHE, 2016). These interviews were gathered from participants across seven universities – three public and four private universities – selected in order to gain an overview of that sector in terms of practices. Prior to the interviews, participants were asked to view the participant information sheet (see Appendix Three) and sign the consent form (see Appendix Four). All interviews were arranged via email and Facebook Messenger, with 19 interviews taking place in a face-to-face meeting at the university campus and public café, while one interview took place on Skype. The interview sessions were carried out using English language and were recorded using a digital audio recorder and transcribed verbatim for analysis. Semi-structured interviews with the 20 lecturer and student participants were

conducted, with an average duration of 43.9 minutes (ranging from 30.1 minutes to one hour and 11.4 minutes), resulting in 501 single-spaced pages of transcription in English. The details of the interviews are shown in Table 3.1, listed in chronological order.

Participants	Date	Duration	Venue
Lecturer 1 (L1)	11 January 2017	53.1 minutes	Participant's office (University A campus)
Student 1 (S1)	11 January 2017	47.2 minutes	Meeting Room (University A campus)
Lecturer 2 (L2)	14 January 2017	40.1 minutes	Meeting Room (University B campus)
Student 2 (S2)	4 February 2017	38 minutes	Meeting Room (University A campus)
Student 3 (S3)	5 February 2017	30.7 minutes	Public café nearby participant's house
Lecturer 3 (L3)	6 February 2017	1 hour 9.2 minutes	Skype (video conferencing)
Lecturer 4 (L4)	9 February 2017	46.3 minutes	Public café nearby participant's house
Student 4 (S4)	21 February 2017	36.3 minutes	Meeting Room (University A campus)
Lecturer 5 (L5)	3 March 2017	48.7 minutes	Participant's office (University D campus)
Lecturer 6 (L6)	7 March 2017	55.8 minutes	Participant's office (University A campus)
Student 5 (S5)	11 March 2017	30.4 minutes	Meeting Room (University B campus)
Student 6 (S6)	11 March 2017	32.3 minutes	Meeting Room (University B campus)
Student 7 (S7)	11 March 2017	32.3 minutes	Meeting Room (University B campus)
Lecturer 7 (L7)	16 March 2017	1 hour 11.4 minutes	Participant's office (University A campus)
Lecturer 8 (L8)	24 March 2017	50.4 minutes	Public café nearby participant's house
Student 8 (S8)	25 April 2017	39.3 minutes	Meeting Room (University A campus)
Student 9 (S9)	30 May 2017	33 minutes	Meeting Room (University A campus)

Participants	Date	Duration	Venue
Student 10 (S10)	30 May 2017	1 hour 2.1 minutes	Meeting Room (University A campus)
Student 11 (S11)	2 June 2017	30.1 minutes	Meeting Room (University D campus)
Student 12 (S12)	9 June 2017	30.4 minutes	Meeting Room (University G campus)

Table 3.1 Interview details.

The use of interview as the core component of this study was complemented by two other qualitative methods – participant virtual observation of Facebook closed-group pages and content analysis of students' reflection journals – which served as supplementary components for cross-validation and to offer additional detail at a point-of-use level. An analysis of social media content is very much needed for measuring the actual use of Facebook by lecturers and students of Malaysian universities. A systematic study of the content of Facebook closed-group pages of undergraduate students allows me to observe the kind of connections and interactivity between students and the lecturers in the Facebook group pages. The interaction between the students and lecturers and among students was in the English language. This observation is part of virtual ethnography, a research method which examines the interactions and communication in online environments that includes a participant virtual observation in the SNS (Uzun, & Aydin, 2012). As mentioned earlier in section 3.2 (pages 81-82), Bosch (2009), Hemmi, Bayne and Land (2009), and Lin et al. (2016) adopted multiple research methods in their studies, which included virtual ethnography and qualitative content analysis. The virtual observation enables me to better understand the online community and its members, and

better analyse the events and the interaction that takes place within the online community (Garcia et al., 2009). The participant population for the virtual observation and content analysis consists of undergraduate students of a private university – University A – as access to sensitive data was possible at this institution. Permissions were obtained from the participants through a participant information sheet (see Appendix Six) and completion of a consent form (see Appendix Seven). All the forms (participant information sheets and consent forms in Appendices Three, Four, Six and Seven) were approved by the Faculty of Arts and Social Sciences and Lancaster University Management School Research Ethics Committee (REC Reference Number: FL16020).

According to Yin (2009), a case study is best used when a researcher addresses the how and why of a particular real-life phenomenon, though a possible drawback to the use of this approach is that results cannot be easily summarised to reflect an overall generalisation. A Facebook closed-group page was created as part of the course requirement for two modules in a Malaysian private university. At the end of a 12-week semester, students wrote in English a summary of their learning experiences of using Facebook closed-groups in classroom education, as well as an evaluation of the experience of using Facebook closed-groups as a platform for online communication and group discussion in classroom education.

3.3 Data analysis

The data of this study were 'reviewed multiple times and open-coded to produce an initial code list until analysis reached theoretical saturation' (Chen, & Bryer,

2012, p. 92). The data from the interviews were manually content-analysed following Miles and Huberman's (1994) thematic approach of data analysis which included the process of data reduction, data display, and conclusion drawing and verification. The analysis process begins by manually summarising the raw data into coding and themes which are relevant to the research objectives through: selecting, simplifying, and extracting themes and patterns from the interview transcripts; interpreting the displayed data by making comparison among the interviewees' responses; and finally drawing and verifying the conclusion based on data display in answering the four RQs set in this study. The analysis was done manually instead of using computer assisted qualitative data analysis software such as NVivo because I considered that I had limited computer skills and it would take considerable time learning how to use the software effectively. Although NVivo 'ensures easy, effective and efficient coding which makes retrieval easier' (according to Zamawe, 2015, p. 14), it is 'recognised as a complicated software programme, the use of which requires considerable effort with a steep learning curve' (according to Salmona, & Kaczynski, 2016, p. 9).

A content analysis was performed on the virtual observation of Facebook closed-group pages and students' reflection journals for the two modules. The data from Facebook closed-group pages were content-analysed, again following Miles and Huberman's (1994) thematic approach to data analysis by: manually summarising the observation on the content of the group pages into coding and themes; interpreting the displayed data of the observations; and finally identifying the themes relevant to the research objective that were

developed in answering RQ1 on Facebook use for formal classroom education. Lastly, data from the reflection journals were manually analysed using the constant comparison technique (Glaser, & Strauss, 1967), which involved reading the qualitative feedback in the reflection journals in order to gain an overview of the data. The data were then read again and coded in terms of categories related to three RQs – RQ1, RQ2 and RQ4 – about the use of Facebook closed-group for classroom education, students' perceived outcomes and impacts of Facebook use for learning in higher education, and students' evaluation of the effectiveness of using Facebook as a useful learning tool that supports, enhances and strengthens their classroom learning experiences. The data from the Facebook closed-group pages and students' reflection journals were quantified, based on the frequency of repeated categories and themes. The frequency distribution was used to summarise the distribution of values taken from the observation on the content of the group pages and the qualitative feedback in the students' reflection journals (Almadhoun, Dominic, & Lai, 2011). According to Comai (2017), a basic quantitative analysis of contents based on frequency of repeated categories and themes 'can be usefully integrated into qualitative studies in order to provide additional information, fine-tune interview guides, or corroborates evidence' (p. 15). The inclusion of quantitative elements in this study, therefore, enables me to corroborate the evidence of lecturer-student and student-student interactions in the Facebook closed-groups and students' perspectives through their reflection journals with the interview data provided by the lecturer and student participants of the study.

An overview of the research methods and data analysis are shown in Table 3.2.

Phases / Approaches	Data Collection	Data Analysis	Research Objectives
Qualitative Research (Core component of the study)	Semi-structured interview with eight lecturers and 12 students of Malaysian universities (volunteer and snowball sampling)	Thematic analysis (Miles, & Huberman, 1994)	To investigate lecturers' and students' experiences of using Facebook for classroom education, and evaluate their perspectives of Facebook impact on teaching and learning practices. This answers RQ1, RQ2, RQ3 and RQ4.
Qualitative Research (Simultaneous supplementary component of the study)	Participant virtual observation of two Facebook closed-group pages (volunteer sampling)	Thematic analysis (Miles, & Huberman, 1994). Also included quantitative indicators based on frequency distribution of repeated categories and themes (Almadhoun, Dominic, & Lai, 2011)	To identify the actual usage of Facebook closed-groups for classroom education and observe the pattern of interaction and engagement between lecturers and students and among students. This answers RQ1.

Phases / Approaches	Data Collection	Data Analysis	Research Objectives
Qualitative Research (Simultaneous supplementary component of the study)	Qualitative textual analysis of 38 sets of students' reflection journals (volunteer sampling)	Constant comparative method (Glaser, & Strauss, 1967). Also included quantitative indicators based on frequency distribution of repeated categories and themes (Almadhoun, Dominic, & Lai, 2011)	To investigate students' use of Facebook for classroom education and analyse students' evaluation on the effectiveness of the Facebook group for classroom learning. This answers RQ1, RQ2 and RQ4.

Table 3.2 Data collection and analysis.

3.4 Limitations of methods

Since this study examines the experiences and perspectives of lecturers and students of selected Malaysian higher education institutions (seven out of 64 universities in Malaysia) on the uses and impacts of Facebook for teaching and learning in classroom education as well as a case study analysis on Facebook closed-group pages and students' reflection journals of one private university, as reflected in the nature of the samples, the results should be considered in this context and should not be viewed to be generalisable to all Malaysian higher education contexts. Nonetheless, this study is able to provide insights on the experiences and perspectives of lecturers and students who have used Facebook in a formal learning environment for teaching and learning practices.

In addition, it should be noted that the participation of lecturers and students of private universities is slightly higher than public universities for the interviews, due to the larger population of private universities in comparison to public universities in Malaysia (see Appendix One). With that in mind, the participants were comprised of six lecturers and eight students of four private universities, one lecturer and four students of three public universities and one private teacher who has taught in one of the public universities.

Lastly, a case study of participant virtual observation and qualitative textual analysis of students' reflection journals from a private university was carried out. This case study provides useful indicative evidence of the engagement and interaction between students and peers and with the lecturer in the Facebook group in a module, and identification of actual usage of Facebook group by the lecturers and students for classroom education.

3.5 Instrument design

The semi-structured interview consisted of ten questions each for lecturers and students (see Appendix Five). The questions were drawn from my previous experience as an educator in Malaysia, researching on the appropriate tool used for teaching and learning, on how the tool affects teaching and learning practices in Malaysian higher education as well as from knowledge of reading journal articles related to technology and teaching and learning in higher education such as Hamid et al. (2011; 2014), Lim et al. (2014), and Khan and Bakhsh (2015).

The interview protocol consisted of three broad questions: 1) what are the usage of technologies such as Facebook in higher education classrooms?; 2) what are the advantages and disadvantages of Facebook use in classroom education?; and 3) what is the perception of lecturers and students on the effectiveness of using Facebook for teaching and learning in classroom education? The questions were emailed to the participants prior to the interview session. The following are the interview questions:

1. What are the tools and technologies you have used for teaching/learning in classroom education?
2. To what extent are the above tools and technologies used effective? (effective pedagogical approach/effective learning experience)
3. What do you think are the factors affecting teaching/learning practices in classroom education in Malaysian higher education?
4. To what extent do you use Facebook in classroom education? Why use Facebook?
5. How effective is Facebook for teaching/learning in classroom education in Malaysian higher education? (effective pedagogical approach/effective learning experience)
6. What is your comment on the use of Facebook as a formal teaching/learning tool in classroom education in Malaysian higher education?
7. What are the pros and cons of Facebook use for teaching/learning in classroom education?
8. What are the perceived challenges and supports needed for using Facebook in classroom education in Malaysian higher education?

9. To what extent does use of Facebook enhance your teaching/learning practices in comparison to other methods and technologies such as LMS and other social media technologies?
10. To what extent does Facebook improve teaching/learning, communication and engagement for classroom education? How does this bring impact to Malaysian higher education institutions?

3.6 Ethical consideration

As the researcher, my role is to: design the interview questions; obtain permissions through ethics approval from Lancaster University Faculty of Arts and Social Sciences and Lancaster University Management School Research Ethics Committee; and consider how from the participants they would agree involvement through an informed consent form. My role is then concerned with collecting the data, analysing and interpreting the data, and finally writing up the study within the thesis. I needed to ensure objectivity and to remain as neutral as possible when analysing and interpreting the data. I used reflexivity as a way of dealing with researcher objectivity (as indicated by Sin, 2017) in analysing and interpreting the data. As a researcher and a Malaysian female lecturer, I recognised my own preconceptions of using Facebook in a formal learning environment. Although I had used Facebook in my teaching for four years, I was cautious when developing the questions for the interviews and ensured as far as was possible that I only asked questions and follow-up questions which I had developed and in a way that the participants would not be influenced with my belief and stance on the use of Facebook for formal learning environment. In the process of collecting the data, the participants of

the interviews – lecturers and students of Malaysian universities – were asked to read the participant information sheet and sign a consent form (see Appendices Three and Four). In addition, I asked ten structured questions (see Appendix Five) to draw out what the participant is trying to communicate and at the same time I continuously evaluated my role and performance as an interviewer.

In the supplementary component of the study of participant virtual observation and content-analysis of students' reflection essays, the participants comprised of students of a Malaysian private university. They were asked to read the participant information sheet and sign a consent form (see Appendices Six and Seven). The participants were under no obligation to participate in the study. If they did not agree to be recorded, I excluded their participation in the analysis of the Facebook group page content and reflective journal content. It was stated that the relationship with the University would not be adversely affected if they chose not to participate in the study. In selecting the participants for my study, the participants – 38 students from two modules – willingly agreed to be part of the study by means of the informed consent process discussed above. I conducted the supplementary component of study at the institution where I was able to access personal data. I was cautious in ensuring objectivity during the data collection.

3.7 Chapter summary

This chapter has described the research design, which includes: the methods employed in this study; population and selection of sample; data collection and

data analysis procedures; limitations of methods; instrument design; and ethical consideration. The pilot study was discussed and results from it are included in the findings and discussion in the following two chapters.

Chapter 4 Uses of Facebook for Classroom Education

4.1 Introduction

This study examines the uses of Facebook by lecturers and students for classroom education and its outcomes and impacts for teaching and learning practices in Malaysian higher education. This chapter is concerned with evidence to address the themes of RQ1 – Facebook usage in Malaysian formal classroom education. The results provide an understanding about how and why lecturers and students leverage social media technology, in this case Facebook, as a teaching and learning tool in formal classroom education in Malaysian universities.

This chapter begins with the analysis and interpretation of the interviews with eight lecturers and twelve students from seven Malaysian universities. Additionally, it details a content analysis of participant virtual observation on two Facebook closed-group pages between lecturers and students and among students, and 38 students' reflection journals. Semi-structured interviews consisting of ten questions were conducted with the 20 lecturer and student participants, with an average duration of 43.9 minutes (ranging from 30.1 minutes to 71.4 minutes), resulting in 501 single-spaced pages of transcription in English. The interviews with the participants were arranged from 11 January 2017 to 9 June 2017; the interview schedule is shown in Appendix Eight. These interviews were gathered from participants across seven universities – three public and four private universities – selected in order to gain an overview of those sectors in terms of practices. The discussion of the results from the interviews with lecturer and student participants is in sections 4.2 and 4.3. The

more specific case study that is based on a single institution's data looks at the participant virtual observation log and students' reflection journals. Some interviews and the qualitative textual analysis are connected, so the one institution's textual analysis serves as a case study example. This case study of a private institution offers a more in-depth focus on additional evidence beyond that gathered from the interviews. The qualitative textual analysis of the Facebook closed-groups and reflection journals offers further details about the interaction and engagement between lecturers and students and among students beyond the scope of the interviews. The discussion of the results from the qualitative textual analysis is in section 4.4.

The results and discussion in this chapter address RQ1, which is to identify how and why lecturers and students use Facebook as a platform for teaching and learning in classroom education in Malaysian universities. Codes associated with specific lecturers and students are used throughout the chapter, in order to keep their identity anonymous. The lecturer and student participants for the interviews are labelled L and S, while those in the reflection journals are labelled P.

4.2 Lecturers' use of Facebook for teaching in classroom education

This section explores how and why eight lecturers of Malaysian universities used Facebook as a teaching tool in classroom education. The interview participants comprised of seven lecturers and a private teacher of Malaysian higher education institutions, who ranged in age from 30 to 55 years. The participants comprised of four males (L1, L6, L7 and L8) and four females (L2,

L3, L4 and L5) from three main ethnicities – five Chinese, two Malays and one Indian. The lecturers' profiles are shown in Appendix Nine. Additionally, the lecturers of this study had used Facebook for teaching in higher education from between one year up to 10 years – one lecturer (L4) had one year of experience of using Facebook for teaching, four lecturers (L1, L2, L5 and L6) had four to five years, one lecturer (L7) had used Facebook for seven years and finally two lecturers (L3 and L8) had used Facebook for ten years in their teaching practices.

During the interview, four questions were discussed to ascertain the lecturers' experiences of using technologies including Facebook for teaching in classroom education. Two questions were asked of the lecturers about the type of technologies used for teaching and learning in Malaysian higher education and why these technologies were used. Besides Facebook and the university LMS, the lecturers also used ten other technologies for teaching – WhatsApp, YouTube, Skype, Twitter, Padlet, Google products such as Google Hangout, Google Docs, and Google Drive, blogs, LinkedIn, Viber, and Wiziq. WhatsApp had been used by five lecturers (L2, L4, L5, L6 and L8) and two lecturers had each used Padlet (L1 and L2), YouTube (L4 and L5), Skype (L3 and L6), and Twitter (L6 and L7). One lecturer had each used Google Hangout (L3), Google Docs (L4), Google Drive (L4), blogs (L4), LinkedIn (L6), Viber (L6), and Wiziq (L3). The participants further asserted that these technologies were used for the following reasons: to better engage with students; to bridge geographical distance between the students and lecturer; to better manage work and personal time; to help students to be interested in learning; to bring learning out

of the classroom; to handle big classes; and finally to share external material with students.

In response to the question about the effects of using the above-mentioned technologies for classroom education, the following three excerpts of the interviews (by L1, L2 and L3) show that lecturers' use of Padlet and Facebook: encouraged students' active participation in tutorials; created more engagement with students; balancing work and family time; as well as helping students to be interested in learning.

*I tried out using Padlet***,** *I was quite impressed. I started using it [Padlet] for a few of my tutorial class. You know our students come to tutorial without doing any of the tutorial questions, without reading the questions. They come in to tutorial bringing the tutorial questions hopefully we give them the tutorial answers and so on. Basically there is no participation from them, monotonous, no dialogue. When I use Padlet, it allows them to form groups and give them questions to do in class… makes them more active in tutorial.* (L1)

I would say that in these days and age that students are very active on social media, so we have to keep up with them, that is why I created the Facebook group for every cohort that I teach for each semester… this create more engagement… I feel that if you want to be more interactive with the students, I would rather use Facebook. (L2)

Because the technology is there, I do teaching online. I teach adults online. I teach English online… The difficulties of being a mother and a working mom in this technological era is the time, yeah? You have very little time and you have to juggle everything. So technology, I like it because I can manage, I decide okay I want to teach at night. I want to concentrate on my family, you know, in the morning, for example. With technology, that's why I think many women lecturers or teachers should learn how to use technology… very helpful. When you blend in the new technology, to merge the new technology in the classroom, it can then help the students to be interested in learning. (L3)

The excerpt from L2 that states that the use of social media such as Facebook enables her to create more engagement with students as students are active on social media corroborates Taylor, King and Nelson (2012) who stated that 'it makes sense to utilise Facebook as a higher learning tool because students are already engaging in it' (p. 31). The technologies used by lecturers for teaching and learning illustrate a growing phenomenon for academic use of social media technologies to create, engage, and share existing or newly produced information in classroom education, promoting educational opportunities for improved student understanding (Taylor, King, & Nelson, 2012). On the other hand, besides enhancing student engagement, L3 highlighted that social technologies such as Facebook enable a working mother to balance work and family because it is important for women lecturers or teachers to be able to work according to their time and place needs. She suggested that teaching via Facebook can be extended beyond the traditional classroom walls as well as beyond the normal working hours in the university,

which is from 8am to 6pm. With the use of Facebook, lecturers can bring formal learning outside the classroom, anywhere and anytime. This insight of how this female lecturer has used social media such as Facebook due to its convenience for managing work and family at the same time and for the purposes of extending classroom education beyond traditional location and working hours, may motivate other women lecturers to use technology in teaching.

When asked how Facebook had been used for teaching in Malaysian classroom education, questions such as frequency of usage, Facebook features, and types of activities carried out on Facebook were discussed. Referring to the frequency of usage, all participants disclosed that they log on to Facebook daily and three lecturers claimed that they are on Facebook all the time because "*through the phone, it's perpetually on*" (L1), "*My Facebook is on my mobile… 24 hours*" (L3), and "*I'm on Facebook all the time*" (L4). Specifically, L1 explained: "*One thing of Facebook, students demand, expect immediate response… Facebook prompt you, I can respond to them anytime, as soon as I can*". He further added, "*Students doing discussion on Facebook group towards to exam week, I'm moderating their discussion*" (L1). Another lecturer claimed that students using Facebook group "*is part of their assignments*" (L4). The extensive use of Facebook by lecturers in this study, no matter whether it was during class time or out-of-class time, is in contrast with Lim, Harper and Chicharo's (2014) study. Their study suggested that many educators in Malaysia have not effectively used social media for teaching and learning activities in class, especially for classroom activities which involve assessment. The educators of their study 'were quite new to the use of social

media for academic purpose. They mainly use social media as a communication tool to connect to their students and to provide additional consultation online' (Lim, Harper, & Chicharo, 2014, p. 188). In my study, one lecturer (L7) further stated that lecturers have used social media such as Facebook because they "*want to be where the students are*".

In responding to the questions of Facebook features and type of activities used for teaching, the lecturers highlighted a number of features that they used, such as Facebook closed-groups, private messenger, newsfeed, Facebook Live, emojis, uploading files and images as well as creating events. Specifically, the lecturers claimed that the Facebook Group was a common feature used for: communication with students; making announcements; group and assignment discussions; as well as sharing of information. For example, L2 "*mainly used Facebook for announcing and reaching out to the students*"; L3 "*used secret group- and closed-group to share teaching materials and upload files… also using Messenger, video calls and Facebook Live*" and L5 stated: "*I create a group for the subject I'm teaching for every semester so they can Facebook me their pictures and I will reply to them*". The use of Facebook group for making announcements to students, and for communication purposes, corroborates with the results of the study by Noh et al. (2013) whereby Facebook was found to be a medium suitable for making an announcement to students in the future implementation of the curriculum.

In addition, Facebook groups were also used by three lecturers for online discussion (L2, L6 and L8) and by two lecturers (L2 and L5) for online

consultation. L2 expressed it in this way: "*students used Facebook group because they want to do their discussion there and share them with the whole class… I would use Facebook group as a discussion with my students but sometimes students treat it as a consultation. I do not mind Facebook consultation… a lot of consultation and online discussion were on Facebook*"; L6 claimed that he "*posts challenges for students to discuss on Facebook group because learning is the moment where you can appreciate what is being expected to learn, that's the beginning to learning*"; and L8 also conducted online discussion with his students by "*giving them a topic then they have to comment and discuss*". The finding on the use of Facebook by the lecturers for online discussion is in accordance with Lim's (2010) study; she concluded that Facebook has the potential to be used as a platform for online academic discussions in achieving the desired quality and quantity of online discussion.

Most lecturers who took part in this study had used Facebook for communication purposes and for online discussions, one lecturer specifically using Facebook for assessment. L4 stated: "*I get them to run a Facebook, social media health promotion programme to reach out to Malaysians who are caring for the elderly people and Malaysians who are caring for children, special needs children and educate the general public… Facebook is their assignments. They get marks out of it… We also have the OT for OT network for the students to interact with other occupational therapist and for the students to interact with the Malaysian public*". I found this finding insightful because Facebook is not only used as a supplementary tool for teaching and learning (de Villiers, 2010; Munoz, & Towner, 2011; Leelathakul, & Chaipah, 2013;

Manca, & Ranieri, 2013; Hassan, 2014; Saaty, 2015; Hope, 2016); here, it is an integral part of teaching pedagogy used as an assessment tool. In a similar way, Facebook closed-groups are created for two modules in a Malaysian private university as a platform for communication between students and lecturers and among students and for online discussion in classroom education. The analysis of the observation of the two Facebook closed-groups is reported in section 4.4.

Lastly, in answering why Malaysian lecturers used Facebook for teaching, the results from the interviews are manifold. Firstly, L1 asserted that he begins to use Facebook in his teaching because opening a Facebook account is free and easy. Most of the participants agreed that Facebook is ubiquitous – everyone is on Facebook especially the students, "*because this is their generation, Facebook is their thing, they know it better than I do*" (L1); "*because they check Facebook right? It's a ritual, that's why any information they want to say, they post on Facebook*" (L2); "*Here you have all students regularly available from the morning till night*" (L3); "*because everybody has Facebook*" (L5); and "*it's the system that they would use*" (L6). Drawing from the above interview excerpts, five lecturers (L1, L2, L3, L5 and L6) expressed respectively the ubiquity of Facebook, which motivates them to use it as a teaching tool.

The next factor that causes the lecturers to use Facebook for teaching is its interactivity function. One of the lecturers, L5 stated, "*because it's interactive, you can do a lot of things, you can do groups, you can create icons, you can share songs, videos... I create that group for easy interaction*". In addition, two

lecturers (L1 and L7) used Facebook due to the large group of students they teach. L1 mentioned "*I have bigger audience. I'm tired of answering individual emails and also seeing them individually for consultation. They all asking the same questions*", and L7 agreed with L1 and expressed his frustration about communicating with a large number of students, "*How do I make announcements to a class of 200? Back then nobody checks their university e-mail, nobody checks their Blackboard account. So trying to announce anything was nearly like next to impossible.*" He further added, "*As the years went on, I learned that handling the Facebook class group is better, I use them for quite a number of semesters simply because I couldn't think of any other way*" (L7). Both L1 and L7 who teach large groups of students, shared similar reasons for using Facebook as a platform for communication and making announcements to students.

On the other hand, some lecturers reported that the other reason for using Facebook in their teaching was based on personal preference. L3 prefers to use a flexible tool such as Facebook "*because I want to be more flexible when I teach*", while L4 wants her students to "*learn from the perspectives of these practitioners from around the world. So it helps to give them a globalised worldview so they understand occupational therapy not only from Malaysian point of view, but also from people outside of Malaysia*". In summary, L3, a private online English teacher, prefers to use Facebook to teach due to flexibility; while L4, a lecturer of a private university, hopes to give her students a global view on the subject she is teaching through Facebook groups.

This finding about why lecturers are using Facebook for teaching is consistent with the conclusion of Arteaga Sánchez, Cortijo and Javed's (2014) study that 'although Facebook was not originally designed for educational purposes, it has a great potential to enhance the learning experience… Facebook can promote collaborative models of learning, connect students and instructors, increase learners' motivational level, and create a more comfortable classroom climate' (p. 146) and it has 'great potential to enhance learning through increased communication, networking and collaboration as opposed to the traditional classroom setting' (Balakrishnan, 2017, p. 91). Despite the various reasons given by the participants for the use of Facebook in teaching, lecturers of Malaysian universities have begun to use Facebook to complement their current teaching and learning practices (Hamid et al., 2011) and specifically 'the question is not whether individuals are using a particular medium, but how' (Pasek, More, & Hargittai, 2009).

Section 4.2 has explored *how* and *why* eight lecturers have used technologies – including Facebook – for teaching in classroom education. The next section reports on students' use of Facebook for learning in classroom education, drawing from the 12 students' interviews.

4.3 Students' use of Facebook for learning in classroom education

This section explores how and why students of Malaysian universities used Facebook as a learning tool in classroom education. The interview participants comprised of twelve students of Malaysian universities who ranged in age from 19 to 22 years. The participants comprised of five males (S2, S3, S6, S8 and

S11) and seven females (S1, S4, S5, S7, S9, S10 and S12) from three main ethnicities – six Chinese, two Indians and one Malay – as well as three international students. Most students started to use Facebook for educational purposes when they were younger, during their secondary school days, and have from five years up to 10 years of experience of using Facebook.

Throughout each interview, four questions were discussed to allow students to describe their uses of technologies such as Facebook for learning in classroom education. In terms of frequency of Facebook usage, all students mentioned during the interviews that they logged on to Facebook daily while five of them were on Facebook all the time. For example, S4 claimed that "*literally I'm always on Facebook. I'm constantly on Facebook*", S6 stated that "*Yeah, I am on Facebook all the time but I don't necessarily post things, I just browse through and check what's going on… Facebook App, it's in my phone, it's in my tablet, in my computer*", S7 stated: "*Every day, yeah it's on 24 hours, each time around 20 minutes to check*". S8 is on Facebook "*every single minute*" while S11 said: "*Every day always on it. I could be there for five minutes; I could be there for an hour*." The participants are considered heavy Facebook users who log on to Facebook daily and this finding is consistent with Lau's (2017) research which reveals university students participate in various social media activities on a daily basis. I found that the students in this study were not only using Facebook daily, they were constantly on Facebook – practically all the time with the use of a smartphone.

When asked about the type of technologies used besides Facebook and the university LMS, the participants listed 13 examples: Instagram (ten participants), Twitter (seven participants), Snapchat (six participants), WhatsApp (five participants), Google products (two participants), WeChat (two participants), blogs (two participants), LinkedIn (two participants), as well as one participant each who used YouTube, Tumblr, Friendster, MySpace and Mindomo. The top three most used technologies were Facebook, Instagram and Twitter. These technologies were used for personal and educational purposes. For example, S12 used several social technologies such as "*Twitter, Instagram… mostly* Facebook", and S2 claimed using "*WhatsApp, Facebook and WeChat… for personal I think it's more on WhatsApp, for study I use Facebook*". The students claim that various technologies were used in higher education to help enhance their learning and teaching experience, which is in agreement with Ismael and Al-Badi (2014) who said that 'the present-day students' way of thinking is very different from that of students in the past. The present generations of students are mostly digital natives who enjoy learning using educational technology' (p. 2431).

During the interviews, the students mentioned that they frequently used Facebook closed-groups and Facebook Messenger for educational purposes. The use of Facebook closed-groups was for several purposes such as: communication with lecturers and peers; discussion about assignment and course-related matters; receiving announcements and course material from lecturers; and sharing of information related to the course and assignments.

The following two excerpts of the interviews illustrate students' uses of Facebook group and Messenger for educational purposes.

Our lecturer will just post something on Facebook, in our group, the closed-group, and maybe she asks one question then everyone will just reply… for almost every subject we have one Facebook closed-group. (S5)

We usually use Messenger, we communicate, we send our part of assignment, then we combine together, we also create a group on Facebook where we also communicate… for the events, we create groups, where we can share our knowledge, information, everything. (S9)

Two students (S5 and S9) detailed their uses of Facebook for educational purposes, for communication with the lecturers and peers, assignment discussion, questions and answers about the subject, and sharing of information about events and news.

Besides educational purposes, two students also used Facebook for personal reasons. S6 mentioned: "*For Facebook, it is more of checking how my friends are doing, checking what people posts and all the news updates that I see from the public post. Usually I just go up there and watch whatever videos that I find interesting, see the posts about what my friends are doing and more or less just look at how things are going around my circles of social communication. I used to play a lot of games on Facebook, but I recently stopped and I'm using more of it for college life now*", while S10 was "*active in terms of checking newsfeed.*

I check my newsfeed, check my notification, chat with friends on the Messenger, and view information from the Facebook pages which I follow, check my friends' pages, and get updates about my friends' activities daily". Both S6 and S10 used Facebook to keep in touch with their friends and for browsing for news and videos.

The students' use of Facebook group and Messenger for both educational and personal purposes supports the results of the study by Wang, Woo and Quek (2012) that 'Facebook is a SNS… mainly used for making new friends, keeping contact with old friends, or sharing information and photos. It has affordances and potential for teaching and learning. The most useful component of Facebook for teaching and learning is its group. It can be used as a LMS to put up announcements, share resources, organise weekly sessions, and conduct online discussions. It can also be used by students to support their group work. By using the Facebook group, students can share information, negotiate ideas, coordinate their collaboration, and monitor their progress' (p. 30).

In summary, most students asserted that they had used Facebook for communication with lecturers and among peers as well as for sharing and exchanging information among students. This finding concurs with past studies (Silius, Kailanto, & Tervakari, 2011; Oberer, & Erkollar, 2012; Al-Rahmi, & Othman, 2013b; Gülbahar, 2014; Herrera Batista, Tamez, & de Velasco y Arellano, 2015; Balakrishnan, 2016; Chawinga, 2017), that Facebook supports networking and social interaction, which helps students connect with lecturers and other students (Silius, Kailanto, & Tervakari, 2011; Oberer, & Erkollar,

2012; Al-Rahmi, & Othman, 2013b; Herrera Batista, Tamez, & de Velasco y Arellano, 2015; Balakrishnan, 2016) and sharing of knowledge (Gülbahar, 2014; Chawinga, 2017). Additionally, the findings on students' uses of Facebook indicates that it gratifies students' needs for: (1) social interaction; (2) acquiring of information and understanding of their social environment; and (3) improves social knowledge, which is consistent with the U&G theory (Quan-Haase, & Young, 2010; Tanta, Mihovilović, & Sablić, 2014; Phua, Jin, & Kim, 2017).

Based on the results obtained from the interviews with 20 Malaysian lecturer and student participants, Facebook has increasingly been used by students and faculty members in higher education in Malaysian universities. Thus, technology plays an important role in the university experience of learners as well as educators, and Facebook is stated by those interviewed to have a significant effect on teaching and learning benefit. In order to assess the actual use of Facebook by lecturers and students of a private university in Malaysia, the following section describes the results from the analysis of two Facebook closed-groups and 38 students' reflection journals on the use of Facebook in classroom education.

4.4 Qualitative analysis of Facebook group pages and reflection journals

Besides the interviews with the lecturers and students, an observation on two Facebook closed-groups was carried out to examine the actual usage of Facebook groups by lecturers and students for classroom education. This case study in a private university context explored the forms and levels of

engagement and interaction between students and peers and with the lecturers in the Facebook group, focusing on uses in two modules for a twelve-week semester. Two Facebook closed-groups were created on 27 March 2017 by the lecturers for Year 2 and Year 3 students of a Bachelor of Arts (Hons) in Communication course in a Malaysian private university. In the first group, the members comprised of two lecturers and 30 Year 2 students, while there was only one lecturer and eight Year 3 students in the second group.

In terms of data analysis, the textual data were collected from the closed-group page postings and thematic analysis was the means of analysis for the qualitative data generated from the group wall postings (Miles, & Huberman, 1994). The analysis began by reading all the wall postings in both Facebook closed-groups to gain an overall sense of the data. The data were then read again and coded for frequency according to the types of posting by the lecturers and students in the Facebook groups. The codes were recorded for analysis (and are shown in Appendix Ten). The qualitative data from the Facebook closed-group pages was quantified, based on the frequency of occurrences such as repeated categories and themes of the postings. The frequency distribution was used to summarise the distribution of values taken from the observation on the content of the group pages (Almadhoun, Dominic, & Lai, 2011).

Throughout the twelve weeks of the semester, only 27 postings were found in the first group, while the second group had 68 postings. In the first group, which had fewer postings, the lecturers posted 23 times while the students only

contributed four postings. For the second group, the lecturer and the students equally contributed 34 postings.

The analysis of the Facebook closed-groups showed that lecturers uploaded files of lecture slides, posted information about assessments, created online discussions, made announcements, as well as sharing information such as articles and website links. When analysing the education-related interactions between the lecturer(s) and students from the two Facebook closed-group postings, three main themes emerged from the data associated with the lecturers: (1) uploading of files; (2) making announcements and updates about subject-related matters and assessments; and (3) creating online discussions.

Considering files uploaded by the lecturers in the groups, the lecturers uploaded 12 files in the first group, and 16 files in the second group. For the first group, the lecturers uploaded nine files of lecture slides, a file of subject outline and two files about assignments. Almost half of the class viewed the posting of the files of lecture slides, but all students viewed the files about assignments. This suggests that more students were concerned about files uploaded about assignments than lecture material. For the second group, the lecturer uploaded seven files of lecture slides, five files about assignments, and four files about online tutorial discussion. Similarly, all students viewed the files about assignments, but the number of views of files of lecture slides was higher than the first group, with almost all students having viewed the lecture files. Drawing from the analysis above, a Facebook group was found to be used by students and lecturers for information sharing and engagement with unit

materials, and as stated in a previous research study, ‘students would have liked the Lecturer to post more frequent comments and updates regarding the unit materials’ (Staines, & Lauchs, 2013, p. 801).

As claimed by the lecturers during the interviews, the Facebook closed-group was also used by lecturers to post announcements and updates about subject-related matters such as assessments. However, the observation of the Facebook groups showed that only five postings were announcements and updates related to the subject and assessments in the first group, while 12 announcements were made in the second group. This observation differs from the evidence gathered from the interviews, where lecturers, in particular L2, claimed that the Facebook group was mainly used for broadcasting announcements and updates about the subject. Though there were limited postings about announcements, all students from both groups viewed all the announcements posted by the lecturers, but students of the first group were very passive, with very few ‘likes’ and not providing any comments on the announcements. The result about students’ passiveness in these Facebook groups is in line with Lim’s (2010) study that students performed the activity of ‘lurkers’ who log in to read posts but do not offer their opinions (p. 79) because lecturers are considered as the main source of information in a Facebook group in comparison with students (Sim, Naidu, & Apparasamy, 2014).

According to the observation of two Facebook closed-groups, the last theme identified and concerned with Facebook usage was to conduct online discussion among the students. In particular, the lecturer made one posting on

29 May 2017 in the first group as the starting of an online discussion had garnered a total of 42 comments and seven ‘likes’ from the students. In the second group, the lecturer made two postings on 8 May 2017 and 5 June 2017 for the online discussions and the total number of comments and ‘likes’ received for the two-day online discussion were 16 (1 ‘like’) and five (4 ‘likes’) respectively. The comparatively high amount of comments received from the students for the online discussions illustrates that the Facebook group is acknowledged by students as a suitable and valuable platform for online discussions, confirming results from other studies (Hurt et al., 2012; Omar, Embi, & Md. Yunus, 2012; Deng, & Tavares, 2013; Kent, 2013; Öztürk, 2014).

Besides the lecturers’ postings in the Facebook groups, the Facebook group was used for discussion by 38 students in this case study. In the first group of 30 students and two lecturers, only two students (JM and SY) contributed four postings out of the total of 27 postings; while in the second group comprised of a lecturer and eight students, there were a total of 68 postings and half of these (34 postings) were contributed by the students. Table 4.1 shows the actual number of postings by the students in the two Facebook closed-groups. For example, in the first group, JM posted three postings on 29 May 2017 and there were 37 comments, in which nine comments were made in response to the first posting, ten comments in response to the second posting, and 18 comments in response to the third posting, replying to the threads of conversations in the online tutorial discussion. The one posting by SY was directed to one of the lecturers (CL) about an assignment matter on 6 June 2017. In the second group, all eight students interacted with the lecturer (CL) and peers from 27

March 2017 to 8 May 2017. The students also uploaded 23 files about their assignment, posted ten queries about assessments, and one posting each about online tutorial discussion and sharing a link of an article related to the assignment.

Items	First Group (n=30)		Second Group (n=8)	
	Postings	Comments	Postings	Comments
Add files	0	0	23	11
Query about assignment	1	1	10	17
Online discussion	3	37	1	0
Information sharing	0	0	1	1

Table 4.1 Students' postings in the two Facebook closed-groups.

Drawing from the analysis of the participant virtual observation of two Facebook closed-groups, students of the first group rarely posted or made any comments on the postings made by the lecturers and their peers. The 30 students of the first group contributed 38 comments throughout the twelve-week semester on one day, which was during the online tutorial discussion; they liked only three postings and a total of 11 'likes' were garnered in the closed-group discussion. A greater engagement among the students during the online discussion illustrated the ways that it might be possible to promote SNS usage for online discussion, which could lead to an enhancement of a sense of knowledge sharing between students, which in turn could lead to improved student learning (Eid, & Al-Jabri, 2016). On the other hand, the eight students of the second group contributed 29 comments. However, they only liked one post. Therefore, in the two Facebook closed-groups, as stated in an earlier study, 'the majority

of primary posts were contributed by the lecturer, rather than students' (Staines, & Lauchs, 2013, p. 798).

Additional to the interviews and the participant virtual observation of the two Facebook closed-groups in the private university case study, at the end of a 12-week semester, the students wrote a summary of their learning experiences of using Facebook closed-groups in classroom education, as well as an evaluation of the experience of using Facebook groups as a platform for online communication and group discussion. The analysis of the reflection journals by 38 students identified students' experiences and their evaluation of the Facebook closed-group discussions. The data were quantified based on the frequency of occurrences – the repeated categories and themes of students' use of the Facebook group. The frequency distribution was used to summarise the distribution of values taken from the qualitative feedback in the students' reflection journals (Almadhoun, Dominic, & Lai, 2011).

When analysing the students' reflection journals, three themes emerged from the data about the usage of the Facebook closed-groups: (1) a platform for online discussion; (2) a repository of subject-related materials; and (3) announcements and updates about subject-related matters and assessments. The textual data were collected from 38 reflection journals and were analysed using the constant comparison technique (Glaser, & Strauss, 1967). This involved reading all the reflection journals to gain an overall sense of the data. The data were then read again and coded in terms of categories related to the

first RQ about the use of Facebook closed-groups for classroom education. The codes were recorded for analysis (as shown in Appendix Eleven).

The first theme emerging from the reflection journal analysis showed that students used the Facebook closed-group as a platform for online discussion. For example, in P1, the student stated: "*Throughout the academic weeks, the class took part in online discussion twice. Our lecturer posted questions for us to have a discussion, voice out our opinions and also to share our knowledge that are relevant to the topic*", while another student wrote: "*the subject integrated a closed Facebook discussion group as part of our learning experience where our class came together to discuss a specific issue on hand… I believe that my previous experience enable[s] me to participate more effectively in the discussion*" (P11) and lastly the student in P29 claimed to enjoy having the online discussion because "*it is a new method of learning and we get to share ideas with our fellow classmates and also lecturers and get real-time responses immediately*". The use of the Facebook group reported by these students for online discussion is in accordance with much of the literature related to the use of Facebook as a means for online class discussion in higher education. One scholar, for example, points out that the 'addition of Facebook as a discussion forum… increases the level of student activity' (Kent, 2013, p. 562). The use of a Facebook group as a discussion platform gave students a new experience as a new method of learning; students could access information from the Internet as well as answers from previous online discussion, while at the same time engaging with fellow classmates through Facebook group discussions.

Students also commented on using the Facebook group as a repository of subject-related material. They downloaded materials and information such as subject outlines, lecture slides, assessment briefs, marking rubrics, and tutorial questions posted by the lecturers in the group. Two students wrote: "*Facebook has long-term storage as long as the group is still in existence*" (P9); and "*All course materials and announcements are available in the group. I had downloaded course materials and received announcements such as weekly lecture, assignments, upcoming events, useful links, and samples of work… all materials and information outside the classroom*" (P30). Students noted that a Facebook group was a source for retrieving subject-related materials and information, which is in agreement with Munoz and Towner's (2011) study which claimed that a course group in Facebook functions as a central location for course material.

The last theme illustrated the use of the Facebook closed-group by students as an alternative means of communication with the lecturers and peers out-of-the-classroom. The Facebook groups helped facilitate communication between lecturers and students and among students as the students used the Facebook group "*for communicating, getting updates and announcements from the class*" (P31), and "*the functions of Facebook allowed for the interaction with the lecturers as well as other classmates*" (P34). Two students wrote in the reflection journals (P31 and P34) that the Facebook group served as a communication platform. The students also received latest information about the subject and assessments in the forms of announcement and reminders

posted by the lecturers. From two reflection journals, in P21, the student noted: "*This ensures that we can get first-hand notification on any updates of the subject*" and in another reflection journal, a student wrote: "*I used the Facebook group mostly to check on updates and announcements made by the lecturers*" (P24). The students' feedback based on their reflection journals showed the use of the Facebook group as a medium of communication with the lecturers and peers, as well as for receiving announcements, concurring with the studies of Mazer, Murphy and Simonds (2007), and Rasiah (2014), that Facebook is a good medium for communication among students and between students and the lecturer.

4.5 Chapter summary

Presented in this chapter are the results of the analysis and interpretation of qualitative data gathered from semi-structured interviews, participant virtual observation of Facebook closed-group pages, and students' reflection journals. The results indicate the frequent usage of Facebook by lecturers and students as a platform for teaching and learning in classroom education in Malaysian universities. In summary, both lecturers and students of this study are daily Facebook users and they have used Facebook closed-groups for: communication between students and lecturers and among students; making and receiving announcements about subject-matters and assessments; sharing of files and information; as well as online discussion and online consultation. All participants disclosed that Facebook was used for classroom education, due to factors such as cost-effectiveness, ubiquitous access as well as immediacy and interactivity afforded by Facebook.

After identifying the various uses of Facebook by lecturers and students for classroom education in this chapter, the next chapter discusses the lecturers' and students' perceived outcomes and impacts of using Facebook for teaching and learning, and for communication in formal classroom education. Their experiences and evaluation of Facebook use are combined with the results derived from the data analysis of semi-structured interviews with eight lecturers and twelve students, and from 38 students' reflection journals.

Chapter 5 Lecturers' and Students' Perceived Outcomes and Impacts of Facebook Use for Teaching and Learning in Classroom Education

5.1 Introduction

In this chapter, I present the results and discussion to address three RQs of the study: RQ2, which was to explore lecturers' and students' perceived outcomes and impacts (positive, neutral or negative) of using Facebook for teaching and learning, and communication in formal classroom education in Malaysian higher education institutions; RQ3, which was to gauge how lecturers perceive the use of Facebook for formal education programmes in engaging students and constructing the knowledge through collaboration and social learning; and RQ4, which was to measure how students evaluate the effectiveness of using Facebook as a useful learning tool that supports, enhances and strengthens their learning experiences. The data from the semi-structured interviews and reflection journals were transcribed and examined for themes, to evidence my understanding of how the data were connected to the RQs.

I begin with the analysis and interpretation of the interviews with eight lecturers and twelve students from seven Malaysian universities, as well as a qualitative textual analysis of 38 students' reflection journals on the perceived outcomes and impacts of Facebook used for teaching and learning. The data collected from the interviews were analysed using thematic analysis (Miles, & Huberman, 1994) while the data derived from students' reflection journals were analysed using a constant comparative method (Glaser, & Strauss, 1967). Additionally, the qualitative data from the students' reflection journals were quantified based

on the frequency of repeated categories and themes. The frequency distribution was used to summarise the distribution of values taken from the qualitative feedback in the students' reflection journals (Almadhoun, Dominic, & Lai, 2011). Codes are used throughout the chapter in order to keep the identity of the lecturers and students anonymous. The lecturer and student participants for the interviews are labelled L and S, while those in the reflection journals are labelled P.

5.2 Lecturers' perceived outcomes and impacts of Facebook use for teaching in classroom education

This section explores the lecturers' perceived outcomes and impacts of Facebook use for teaching in classroom education from the perspective of student engagement and constructing knowledge through collaboration and social learning. During the interviews, six questions were asked of the lecturers – the pros and cons of using Facebook for teaching in Malaysian higher education; the perceived challenges when implementing Facebook for classroom education in Malaysian universities; the extent Facebook is used in enhancing teaching practices in comparison to other methods and technologies; the elements or supports an educator should consider when implementing Facebook in the classroom; and comment on the use of Facebook as a formal teaching tool in classroom education for improved teaching, communication and engagement and its overall impact in Malaysian higher education institutions.

Through thematic analysis, I will show that the responses to the questions shed light on how and why lecturers have formally used Facebook in formal classroom education, which could pave the way for Malaysian university administrators and government officials of the MOHE Malaysia to offer a new framework within higher education to be designed to support optimum use of social media tools such as Facebook, to improve pedagogical practices.

5.2.1 Advantages of using Facebook in classroom education

Firstly, in addressing RQ2, lecturers of this study reported positive outcomes and impacts of Facebook use for teaching and learning, and communication in formal classroom education. The themes that emerged from the interviews on the benefits of Facebook adoption were: interactivity, ease of use, user-friendliness, immediate response, flexibility, global reach, convenience, and its usefulness for reaching out to students. The descriptions of the benefits of using Facebook for classroom education were reflected in the following comments, which provide a general view of lecturers' perceptions on the positive outcomes and impacts of Facebook use for teaching and learning:

I feel that if you want to be more interactive, I would rather use Facebook because the Facebook interface is more interesting and exciting… I feel that it is faster for us to reach them [students] in case we have any urgent matters that pop up and if we need to remind them urgently, I feel that this is the easiest and fastest channel that I can use to reach out to them. (L2)

It's very user friendly because many people know the features, you don't have to teach people to use Facebook… I think Facebook is so flexible because you can do so many things. I love it because of its flexibility, it simply gives you the flexibility to be anywhere you like. (L3)

If it's not effective, I wouldn't be using it, right? You have that global reach… that diverse, you know, those diverse perspective. Students can post on those Facebook groups so that other experts can answer their queries because I don't know everything... you will get input. I might say something wrong, and someone else can help correct me. (L4)

One thing that is important I think is its interactivity. It's much easier. Facebook is everything you know – convenient, it's very fast, it's very easy to understand. Any message I want to tell the students, anything I want to share, they are able to see it. You know first-hand without going here and there, it's automatically there and I can share anything I want and it's easily accessible by the students. It's very easy. You don't have to go and look, or to scroll and scroll and scroll and look for your back post, you can always search for it. (L5)

You can't deny that Facebook is the only platform now that you can reach the students the fastest way. This is where the students spend their time, and therefore, you can reach them, you know, it can be one of the good choice… convenient to use it. If it's not efficient, people would not use it anyway. (L6)

They make it so easy in social media to just click once and everything gets out… click once and it reaches everybody and now it is on their phone right, it's instant… there's like hardly a chance you'll miss any news or announcement. In terms of reach and communication, it's easy… social media seems cool, social media is social. The fact that things like Facebook, it's very social, it's colourful, it's fun. They allow more creativity whenever you express *yourself… You know our learning management systems are really boring so we can incorporate some social media elements into them*. (L7)

Six lecturers (L2, L3, L4, L5, L6 and L7) disclosed their pros of using Facebook in their teaching practices. L2, L5 and L6 talked about easier interactivity with students; L3 was happy with Facebook's user-friendly features; L7 claimed that Facebook is a good way to broadcast announcements to large groups of students; and L4 stated that her students could receive diverse inputs about the subject through Facebook groups.

When the lecturers of this study were asked about the advantages of using Facebook for teaching, two lecturers expressed that Facebook enables better engagement and connection between lecturers and students. They have used Facebook for broadcasting announcements and communication and it creates "*engagement there all the time*" (L3) especially with the students and "*you can feel very connected with the students*" (L2). This finding is consistent with the studies of Clements (2015) and Hashim et al. (2015) who said that 'one of the biggest benefits to using Facebook as an educational tool is for enhancing student engagement' (Clements, 2015, p. 142) and 'Facebook can help

increase the potential for real-time information and face-to-face conversation that are rich with connection' (Hashim et al., 2015, p. 38).

Another advantage of using Facebook in higher education is the availability of audience. L3 acknowledged that "*students are there. Facebook is where students are… people are already embedding Facebook in their life. Facebook is just common*" (L3). L1 further assented that "*the main advantage is that whatever I post, immediately all my students (300+) get to read it, at their own time… you cast a wider net, that's the whole idea of Facebook. You reach a bigger audience instead of one-to-one or email. That's the main selling point why I use Facebook*."

In addition, L1 claimed that Facebook can be used to assess students' learning because "*Facebook is a good way for us to assess student learning, are they in a right direction, or are they completely off*". He also believed that "*in Facebook, you have a record of proceedings. When you post, everyone can read. I can also archive it and read it on my time*." Another lecturer (L8) undoubtedly stated that "*the advantage I can see is their [student] way of thinking is now different… they know that Facebook makes them communicate, and allow them to check for information. They are now more vigilant I think; they are more alert of what they put on Facebook*." These responses about the opportunity Facebook offers for educational communication and student learning, confirm results from other studies (Kayri, & Cakir, 2010; Tiryakioglu, Erzurum, 2011; Isman, & Ucun, 2012; Wang, 2013; Raman, Mohd Sani, & Kaur, 2014; Balcikanli, 2015; Manasijevic et al., 2016). For example, Kayri and Cakir

(2010) concluded that 'those who spent much time on Facebook perceived Facebook as an educational tool' as it 'not only makes lesson enjoyable but also provides lots of electronic material' (p. 56); thus, 'it is on professors to take advantage of the Facebook services to enhance the learning experience of their students' especially for communication and collaboration between students (Manasijevic et al., 2016, p. 448).

Two of the themes that emerged from the lecturers' responses on the pros of using Facebook in higher education classroom were ease of use and usefulness. In accordance with the TAM (Davis, 1989), the two key factors – PEOU and PU – have significant influence on how the lecturers described how they used Facebook for classroom education and further facilitate lecturers' academic experience of using Facebook in their teaching. For example, L5 expressed many times throughout the interview that Facebook is easy to use and easy to understand "*like an open book for us… Facebook is everything you know*", while L6 claimed that Facebook is "*useful for reaching out as getting the message out to students is definitely efficient. If you say you want to reach out, Facebook is proven to be effective… to engage with students*". Hence, Facebook is perceived to be easy to use by L5, while Facebook is perceived to be useful for reaching out to students by L6.

The results of this part of the study suggest that the lecturers who have used Facebook for classroom teaching unanimously agree that Facebook brings benefits for teaching in higher education; this positive view of the lecturers in leveraging Facebook for academic purposes aligns with the findings of studies

by Chen and Bryer (2012), Lupton (2014) and Lim et al. (2014). Chen and Bryer's (2012) study revealed that SNSs such as Facebook has 'significant potential to recreate the learning environment between student and teacher… allow greater interaction across the teacher-student divide… students are more engaged with the professor' (p. 97); Lupton (2014) concluded that academics are using a social media platform because it offered many benefits such as 'the opportunity to establish global networks with a wide range of academics and people outside academia, promote a diversity of relationships that otherwise would not have been achieved' (p. 30); and lastly, Lim et al.'s (2014) findings disclosed that educators in Malaysia 'have been using social media technologies as a communication tool to connect to their students' (p. 186).

Interestingly, two lecturers (L1 and L3) claimed that a Facebook group provides a safe environment for student learning, which differs from the findings of some studies (Cloete, de Villiers, & Roodt, 2009; Tiryakioglu, & Erzurum, 2011; Said, Tahir, & Ali, 2014). As shown in the literature, 'the reasons why Facebook would not be considered are that lecturers already have a dedicated 'secure' site to interact with students; course content is not conducive to online networking tools; security issues… in using Facebook' (Cloete, de Villiers, & Roodt, 2009, p. 20), and one study reported that 'an important issue raised by students was to keep their academic contents safe and secure. This is because the Facebook page was accessible to anyone in their network or their mutual friends, so the concern was genuinely in protecting their academic works prior to the evaluation of the teachers' (Said, Tahir, & Ali, 2014, p. 123).

The safety and privacy matters remain a reason for lecturers' reluctance to use Facebook for educational purposes because the instructors 'are still neutral for accepting' that Facebook is 'a safe environment for accessing to education materials' (Tiryakioglu, & Erzurum, 2011, p. 147). Conversely, one lecturer of this study (L3) repeatedly said: "*For me, lecturers need to be aware that Facebook is a safe place… a safe place. It's safe. It's really not dangerous at all.*" L1 agreed with L3 and asserted that Facebook "*is a safe environment for them [students] to learn… It's a safe environment for them to ask questions, to respond to a question because a topic or question can be asked, there can be more than one respondent we can learn of. As a facilitator for the Facebook group at that time, I can know what the students are thinking*."

In terms of safety, L1 noted: "*In Facebook, they can remain anonymous, not faceless, different name. They feel safer this way. This idea is to make students feel that they are safe. This environment where they are safe to make mistakes, no one is going to laugh at them. Then they will come out*." This perspective of Facebook safety is consistent with some literature that Facebook 'served as safe spaces for learning academic writing' (Rambe, 2013, p. 329) and 'presented a safe habitat for student experimentation with exaggerated or counterfeit identities' (p. 330). Besides, Rambe in his study (2012) suggested that Facebook 'fostered safe havens for student democratic expression' and 'the multiple postings on Facebook resonates with student conception of Facebook as a "safe space" for posting those queries which academics would normally perceive as "unsophisticated," "ridiculous" or "naïve" in face-to-face contacts' (p. 142). Similarly, Wang et al. (2012) in their study asserted 'the

Facebook group could provide a safe and friendly environment in which the students could conveniently communicate and interact with one another. The undergraduate students basically believed that the Facebook group provided a rather safe environment' (p. 433).

In addition, the claim of L1 and L3 that Facebook is perceived to be a safe platform for learning in classroom education reinforces Manca and Ranieri's (2016c) analysis which reported a number of studies on the formal use of Facebook in formal learning settings emphasising that Facebook 'allows learners to experiment in a safe environment' (p. 9) and it is also consistent with Saaty's (2015) study that Facebook closed-groups 'offer a constructive educational experience for learners while maintaining privacy and safety' (p. 117) and 'Facebook usage helped learners to socialise and to produce language in a safe and non-threatening environment' (p. 121). Despite a mixed result on the safety and privacy matters of Facebook use in higher education, Liu (2010) concluded that 'it is educators' responsibility to make sure this learning environment is protected for the best interest of student learning' (p. 113). Thus, when two lecturers perceived that Facebook is a safe environment for student learning, I concur that a Facebook closed-group can be an appropriate platform for teaching and learning in a formal classroom education. With that understanding, a Facebook closed-group is created for each of the two modules taught in University A, to be observed and analysed as a supplementary component for cross-validation of this study (refer to section 3.2 in Chapter Three and the findings and analysis in section 4.4 in Chapter Four and section 5.4 in Chapter Five). Facebook closed-groups facilitate easier

formation of groups for people with similar interest and they provide a toolkit of features which are only limited to a particular group of people (Ahern, Feller, & Nagle, 2016).

In contrast, even though one lecturer (L7) acknowledged the importance and omnipresence of social media for education, he said, "*I don't see social media going away, I don't think we can run away from it whether it's students or academic*", yet he disagreed with L1 that Facebook is a safe environment for student learning. He stated: "*especially for things like learning and teaching, demonstrate to me, whether this is going to be safe, you know, for myself and students. They are not safe, not as safe as they should be for teaching and learning purposes and there's a lot of confidential data when you're running a class, student's information that we have to protect and guard. Once we open up a can of worms in social media then who's the guardian? Who takes responsibility? So even an institution needs to think of the legal implications if they're using any LMS or virtual learning environment*". This comment of L7 on safety was similar with one of Wang et al.'s (2012) findings that respondents did not feel safe and comfortable, and did not perceive Facebook as a safe environment as their privacy might be revealed in the Facebook group which 'confirms that privacy and Internet safety become a critical concern in social learning environments' (p. 436); however, in the same article, the social affordances refer to Facebook as a safe and friendly environment.

5.2.2 Disadvantages of using Facebook in classroom education

The next question asked of the lecturers during the interviews was about the disadvantages of using Facebook for teaching and learning. The themes that emerged from this discussion were: Facebook is a public domain (L1, L3 and L7); a distraction for teaching and students' learning (L2 and L5); overwhelming student requests and overloading of information (L3 and L6); difficulty of tracking and compiling students' work (L4); fear of losing course content and plagiarism (L4); and disturbance from advertisements (L5).

During the interviews, one of the drawbacks of using Facebook, described by three lecturers, was because Facebook is a public domain and it could hinder teaching and learning in a higher education classroom. Two lecturers (L1 and L7) claimed that "*because Facebook is not the official university platform, the danger is that I do not know who's reading. That's my greatest fear. If I post something new, who else is reading it. Facebook is a public domain; you do not know who's reading*. *So I don't post things like exam questions*" (L1), and "*social media is not linked with student identification. They don't often use their real names or they change their names and they don't even use a real picture of themselves. So there is no proper identification, and there can be strangers in the group and there is no way I can identify them*" (L7). In addition, L3 echoed L7 that *"it's so difficult for us to identify them [students] on Facebook*". The difficulty of identifying the students and the possibility of access by external parties other than the registered students were the explanation by the lecturers that Facebook is a public domain, aligned with the findings of the studies by Kayri and Cakir (2010), and Willems and Bateman (2011). Kayri and Cakir

(2010) stated that Facebook was first 'started by the students of Harvard University in 2004 for only the students of the university. Later, it spread to other universities and gradually became a public domain' (p. 48), while Willems and Bateman (2011) identified the pitfalls of using Facebook in higher education as 'issues surrounding the provision of an electronic identity… public domain challenges' (p. 1323).

Two lecturers (L2 and L5) noted that Facebook can be a distraction for the students as well as for learning in a classroom. L2 said: "*I wouldn't use Facebook for class teaching because it's very distracting. When everybody goes on Facebook, I believe that they won't be focusing on what we are teaching but they will be more focusing on the notification that comes in and so the distraction is there*". Another lecturer (L5) commented: "*one of the disadvantages I know is students tend to use Facebook a lot in class. Because they're always on their phone and when you have the notification in your phone, you tend to check it. So, it's quite a distracting thing in class when the phone is on*". Similarly, Fewkes and McCabe (2012) described Facebook as a distraction to students 'leading to teachers not using Facebook' (p. 96), and Ali et al. (2017) found that social media such as Facebook is 'a source of distraction and negatively influences students' academic performance' (p. 557).

In addition, overwhelming student requests and overloading of information were two other disadvantages emerging from the lecturers' responses. L3 noted that "*you will be overwhelmed with requests from students all over the world because these students come to you, ask you a lot of questions, and you don't*

have much time every day… overall it can be quite overwhelming for us" and "*sometimes Facebook is not the best place because the postings can get very long, people start to makes it even longer. Also too many notifications… overwhelm of information, overloaded I would say*" (L6). Information overload is one of the concerns of professionals in higher education when using Facebook for teaching (Reuben, 2008) because 'students may find that they are overloaded with the abundant information shared by instructors and classmates' (Duncan, & Barczyk, 2015, p. 20).

Lastly, the disadvantages reported by L4 and L5 were: difficulty of tracking and compiling students' work, conversations or discussion (L4); fear of losing the course content and risk of plagiarism (L4); as well as disturbance from advertisements (L5). Specifically, lecturers who have used or thought of using Facebook for teaching were worried about the issue of plagiarism 'given the prevalence of the sharing of academic materials and work in progress via Facebook' (Rambe, 2013, p. 331). Besides, academics were 'struggling with evaluating whether their ideas may be plagiarised by expressing them on social media rather than in traditional academic publication outlets' (Lupton, 2014, p. 29). The lecturers' comments on the three disadvantages mentioned above are shown in the following two interview excerpts:

Tracking is difficult. Compiling all those things together in one place is the difficult part. I'm in so many Groups so it's very hard for me to keep track on what they're [students] doing. I have to ask them to remember to tag me, otherwise I wouldn't even know that they've posted… Another thing about

Facebook is that there's a lot of input from other people so you can lose your stuff very easily, and Facebook does not belong to us, whatever content that you put on Facebook, it can get erased without warning… I guess the negative part is plagiarism, they just copy and paste everything. (L4)

One of the disadvantage is I don't want to see the ads but it's still there. How they know that I search for a bag in the shopping portal? After that it's on, you know, my Facebook page. It appears on my Facebook on a small banner. WOW, these people very smart, they can track you. (L5)

In short, the lecturers of this study highlighted both the advantages and disadvantages of using Facebook for teaching and learning in Malaysian classroom education. L5 specifically alleged: "*There's a lot of disadvantages and advantages, it all depends on people's opinion*". This presents a more nuanced and complex picture of the benefits and limitations of social media – Facebook – as a double-edged sword that potentially helps and hinders university learning (Smith, 2016). Despite the above-mentioned disadvantages shared by the lecturers, one lecturer (L8) believed in the potential of using Facebook as a support for teaching and learning as he confidently said: "*When using Facebook as the teaching tool, I don't see any disadvantage there. It's all there*." It is evidenced that the lecturers' perceived positive impact of Facebook use for teaching and learning, and communication in Malaysian higher education classrooms, was attributed to the pros outweighing the cons.

5.2.3 Challenges of using Facebook in classroom education

Besides discussing the pros and cons of Facebook for classroom education, the lecturers also discussed the perceived challenges when implementing Facebook for classroom education in Malaysian universities. Danciu and Grosseck (2011) concluded that social media is 'a source of intellectual optimism' which 'increasingly become a fact of learning' (p. 3773) and there will be challenges posed in the preparation and teaching of courses using Facebook. The challenges highlighted by four lecturers (L1, L3, L5 and L7) were: students' language proficiency (by L1 and L3); poor Internet connection (by L3 and L5); different time zone and response timing (by L3 and L5); limited contribution from students (by L1); pedagogy design (by L3); and lastly, the risk of double posting (by L7). At the same time, Manca and Ranieri (2017) reported one of the challenges offered by social network sites was 'pedagogical and technological challenges related to incorporating social networking practices into teaching and academic practices' (p. 608).

Two lecturers (L1 and L3) emphasised that language proficiency is one of the causes that hinders learning on Facebook and it is a challenge for lecturers to teach online. "S*tudents fear that their command of language is not that good and people might laugh at them when they participate on Facebook discussion. But if they could break this barrier, they will progress very well*" (L1) and "*It's a bit of a challenge for the students because they are not confident in writing in English and they perceived they are not good in English. They think that they make mistakes all the time and they don't like to make mistakes*" (L3).

In addition, L3 and L5 disclosed poor Internet connection as well as different time zone and response timing were the challenges of teaching using Facebook. The challenge with Internet connection is consistent with Esteves's (2012) study which concluded that the challenges surfaced in her study were difficulties in Internet connection and limited accessibility. L3 is a private online teacher for English language. She teaches English to international students from different parts of the world and therefore she was concerned about the Internet connectivity and the different time zones when teaching online through Facebook. She commented: "*The Internet here [Malaysia] is not stable. The connection is not really good sometimes*. *The only thing I need is a good Internet connection*" (L3). She further stated: "*I get requests from Pakistan, China and even Europe. Now here in Malaysia I cannot deal with students from Europe and I say oh, I'm so sorry, because of the time zone differences, I cannot simply teach students from countries which has eight hours' gap. Because then, you will not be sleeping. Besides, students tend to interact at odd times. For example, they will post their comment in the middle of the night, at 1 o'clock and they expect you to answer. I consider this a challenge to teach on Facebook*" (L3).

Similarly, L5, a graphic design lecturer of a private university in Malaysia also faced the challenge of poor Internet connection. She stated: "*Number 1 challenge is the Internet connection. If you have a faster Internet, a better Internet system like Singapore, we can do more on Facebook. I mean Malaysia is one of the slowest in the world, probably you know, with our 'wonderful' Internet connection sometimes it just takes a long time to load, it's very*

frustrating. Even Vietnam is much faster than us and they have more connections everywhere compare to us". She further highlighted the challenge of responding to students' queries on Facebook after office hours. "*They [student] can Facebook me their work or queries, and I will reply to them even if it's at 12 o'clock midnight. If I'm awake, and if I'm on the phone, I will respond, because for design, ideas come at any time. I mean I don't limit them as long as they don't bug me for lame questions like 10 o'clock at night, Miss what to submit tomorrow then I wouldn't bother replying but if it's really important, I'll give my opinions if I'm still alert. I'm awake, I will reply.*" (L5)

Other challenges reported by individual lecturers were limited contribution from students, pedagogy design, and double posting. These challenges are shown in the following three interview excerpts by L1, L3 and L7:

My biggest setback is still in terms of the number of contributors. It's the same students over and over again, and it's only a small fraction. When I post a question for discussion, only a few students will respond. It is a challenge to continuously using it. I told my students that they are supposed to take charge of Facebook – if you don't have a question, that's only one way broadcast from me. But if you have a question, then we have a dialogue, we have discussion. (L1)

It [Facebook] can be helpful if the [pedagogy] design is good. That means you need to design the Group to be a learning group. How well you design and how well the teachers know the students. Because students can act quite funny on

Facebook. They know that they are not really meeting you on real life, right? I mean they can simply step back and don't do anything… unless you can chart the progress or the development of students. (L3)

I find myself double posting. Whatever I post here [Facebook] must appear there [university Blackboard], because some of my students actually don't have Facebook account. It's not fair if I post something on Facebook account, it's not on Blackboard so this student is disadvantaged. (L7)

While the lecturers considered the challenges of using Facebook for teaching in classroom education as language proficiency, poor Internet connection, different time zone and response timing, limited contribution from students, pedagogy design and double posting, the lecturers discussed at length the many benefits of Facebook for teaching and learning. Therefore, 'the challenges should be viewed as opportunities to learn and to help students move forward in a constantly changing society'. It is suggested that 'educators should themselves embrace technology, provide active learning, change and develop new methodologies for motivating and training Net Gen students' (Susilo, 2014, p. 21). Other authors argue, 'today everything is about social media' (Kaplan, & Haenlein, 2010, p. 67) and they are 'important for teaching and learning in the classroom today' due to the trend of how students are 'using social media as tools for learning and teaching in the classroom' for knowledge transfer between teachers and students (Suebsom, 2015, p. 440).

5.2.4 Comparison between Facebook and other methods and technologies

In addressing the next question on the extent of Facebook use in enhancing teaching practices in comparison to other methods and technologies, three different viewpoints were gathered from the interviews. First of all, four lecturers (L1, L3, L5 and L8) were optimistic about the use of Facebook in classroom education in comparison with the university LMS or other social media technologies and they will continue using it in their teaching. On the other hand, three lecturers (L2, L4 and L6) were neutral in their perspective of the use of Facebook as an effective educational tool in the classroom in comparison with the university LMS and face-to-face classroom teaching because they treat Facebook as a supplementary tool.

When comparing Facebook with a traditional institutional LMS, Manca and Ranieri (2013) claimed that Facebook has been used as a LMS because it is 'free of charge and come without the restrictions usually found in many institutional LMSs' (p. 489) but when 'comparing statistics on the use of Facebook and Blackboard, for instance… students were more likely to post and be exposed to posts on Facebook than on traditional LMS' (p. 493). Kurtz's (2014) findings showed that Facebook provides 'a sense of ownership of the learning process', serves as a 'social domain of the learning' and 'perceived to be less structured and more of a student place' while an institutional LMS is 'more of top-down content imposed by the instructor', serves the 'individual learning domain' and 'perceived to be more structured and a formal teacher's place' (p. 70). Thus, several lecturers appreciated the contribution of Facebook in their classroom teaching. The following four interview excerpts show the

lecturers' enthusiastic view of the use of Facebook in classroom education in comparison with other teaching tools:

I find it [Facebook] an effective tool… The idea now is when you share, you learn. The more you share, the more you learn. The more you teach, the more you will learn. From my side, I look at Facebook as something really positive as a teaching and learning tool. To them [students], they look at our [university Blackboard] as an official thing. Although you see the features are identical, they don't like it. They look at it [university Blackboard] as too bureaucratic, too official because it comes from the university… just as a storage area. If they delay in payments, they have no access to [university Blackboard]. Will still be using Facebook, I will still be using it. (L1)

If we don't use technology, students gonna say wow, this is dinosaur… I'm saying that Facebook is the sole tool that you can use to teach online… If you ask me, Facebook is actually better than LMS, do you know why? Not many people flock to LMS. The audience is not there. The LMS is just designed for university… The willingness to use a platform has to come from the students themselves. But Facebook is different. They come to Facebook because they want to be there. They spend their time there. If you're on Facebook, you'll know that Facebook is the greatest platform to connect with students, for classes and to get help. So from then, I realise that WOW, really, people are coming into Facebook to learn. You have to treat Facebook as you are being in your classroom. (L3)

It's [Facebook] not only for personal thing but teaching face-to-face in the classroom or in the university is not enough. It's a communicator for me, it's a mediator for me, you know, sometimes in class they don't really listen... I'm excited using Facebook yeah. I think it's just that I can do more things on Facebook with my students you know… I mean I find the easiest thing which I always use, the students always use as well. Facebook, it's already there, they're using it for their personal use. So like it or not whatever I do in the group is going to appear on Facebook… When I post on Facebook, they know it is there, it's like a reminder for them. I don't have to repeatedly tell them individually because when I post on Facebook they will not ask me again. I still have Facebook group, it's very important for me so I can share things. (L5)

I'm using Facebook not only for myself, it's for delivering all my instructions and teaching them through Facebook because they [students] ask a lot of questions and I reply to them and I will send them information, some papers or other reading materials through Facebook... Not through e-mail but through Facebook… Yeah, to me as long as I enjoy doing it [using Facebook] I won't change. Why, why, why should I change if I really enjoy it and my students enjoy it too. So far, nobody is challenging them [Facebook]. They're still very influential… If you take it positively then you get a lot of advantage. Perceive the thing positively. Your mind-set has to be very positive. (L8)

Despite all lecturers interviewed acknowledging the benefits of using Facebook for teaching in Malaysian higher education, three lecturers (L2, L4 and L6) considered Facebook merely a supplementary tool for teaching in the

classroom. This may be because Facebook 'in principle is a SNS. It is mainly used for making new friends, keeping contact with old friends, or sharing information and photos' (Wang, Woo, & Quek, 2012, p. 30) and students 'do not always feel comfortable and at ease with Facebook, and they do not appear to be willing to use informal tools such as Facebook as a unique teaching tool for learning' (Manca, & Ranieri, 2013, p. 496). The lecturers' views of the use of Facebook as a supplementary tool for classroom education are shown in the following three interview excerpts:

I don't want to encourage them to just rely on Facebook. I told them that on Facebook it's just for us to have discussions you know, further discussions for certain things but not to post all the materials. I never post any of the lecture materials on Facebook. Most of the students are not going on [university Blackboard] because they are comfortable on Facebook. A lot of lecturers are using Facebook. Facebook is an alternative platform just in case you know, technology, just in case the system is down, they upgrade certain things and then they [students] cannot retrieve… and when they need it urgently so we are there as an alternative platform to tell them. Because as a university's direction, we are supposed to encourage them [students] to use [university Moodle]. For me I would say do not just restrict them from using Facebook but allow to a certain degree. Let them be aware that the learning platform, the [university Moodle] is the official one. They must know how to distinguish between the very official one and the one that use as supplementary. I would call Facebook, a supplementary compared to the major one. I think that we should continue this Facebook usage and also let students learn what is supposed to be posted and

not. It also teaches them responsibility, a sense of responsibility. It [Facebook] will not replace… because like I said this is supplementary. (L2)

It has to be positive. Because otherwise, I won't keep using it. I don't communicate with them [students] on their statuses. I'm just mindful of what I post on Facebook. Educators probably need to be mindful about that. But it depends. Each person's style is different. Facebook is a…, I mean all social media tools are social media tools. It's just how you use them. So it's more a matter of getting competent at using social media in general. Yeah, it is a tool. Because it's not the main teaching tools, I used so many others. I mean we do in person sessions with our clients and all that. So it's just something complementary, it's just one of the tools. (L4)

I would still say it's not the most efficient tool because it gets cluttered very fast. But that's the nature you can't change. I think we still insist it [Facebook] cannot be the sole channel. It is not a formal or measurable thing. Learning is still learning no matter it's media or not. This is just a channel, right? There're all tools, you see. We cannot over rely. That's my view. The whole thing came in because of the trend. No policy stopping us then we'll use it. The university would not officially endorse and say this is the official channel, which is, not anyway. But they also did not stop us for using this. I think that's good. I think it should be kind of that way. Social media was not created for this [teaching and learning], it's just to support. It's just like since Facebook and all this social media is their [students] main tool to communicate, they probably don't look at e-mail as often as we do… They are tools to me. Every academic should take

their responsibility how they can engage their students best, we shouldn't be tool driven. Or else, we are limited by the tool. Teaching should never be limited by tools. Like in blended learning, we do talk about using YouTube. Therefore, find what is suitable. Make sure students learn the right thing. It shouldn't be the sole method or the replacement for real communication anyway. Therefore, Facebook doesn't make me a less lecturer for him/her. If it's good for this purpose, we'll use it. If not, that's okay, there must be another way. You know, not replacing LMS but complement in terms of disseminating information. (L6)

Lastly, only one lecturer (L7) was sceptical towards the use of social media for teaching and learning in comparison to other technologies and face-to-face teaching. L7 started off using Facebook in his teaching, but later described the added value of Facebook for teaching and learning in higher education as "*a love-hate relationship with social media*". L7 claimed: "*the technology is here for support. We have to be in charge fully of the tools we use and ensure that we convey our values and our identity in whatever tools we use. If technology can help, fine. When we use the technology, we shouldn't be slaves to it. There are ways to do it without a lot of technology*". He added: "*I think keeping our finger on the human element is important. I don't think teaching or learning in the classroom should ever be neglected… or try to turn into a 100% digital experience which to me isn't an experience fully. I use the Internet a lot but I still think teaching needs to have that mix. I still think there is a place for the human presence in the room, the teacher's presence, the student's presence connecting with each other. If we use technology, I suppose it just plays a support role, maybe to enhance it to some extent but I don't think anything can*

actually replace it… Even though I love technology but I'm very wary of it so I still like to go to class and do a lot of stuff in class, face-to-face, throw out or distribute a worksheet and do stuff with their hands, or just talk to each other you know, like real human beings are supposed to do I think. Social media seems cool and the keyword in social media is social. It's very social, it's colourful, it's fun. I can post YouTube links, I can get very interesting content but it can also go out of control and enforcing the rules is not as easy as it sounds especially when you don't know what rules to set". Due to his concern of using technology for teaching in the classroom compared to face-to-face teaching, L7 finally made up his mind to stop using Facebook in his teaching. He asserted: "*I shut it down after that, I shut everything down. In fact, I was so stressed and burn out and deleted everything. I didn't want to look at the stuff anymore, it's too much, too stressful to manage. I still think social media as a learning environment is not that secure or private and there's nothing to stop the student to taking what is shared in class and posting it to the rest of the social media world you see.*"

5.2.5 Elements or supports to implement Facebook in the classroom

During the interviews, the lecturers were also asked about the elements or supports educators should consider when implementing Facebook in the classroom. Three prominent themes emerged from this analysis: enforcement of university policy and guidance; training support for academics; and the availability of infrastructure such as Internet connection in the university. According to Wang et al. (2014), the widespread use of Facebook 'makes it appropriate for consideration as an educational tool; though one that does not

yet have clear guidelines for use' (p. 21). All lecturers stated that the university they worked in do not have any policies or guidelines on the use of Facebook for teaching and learning in the classroom regardless of 'a growing interest in creating policies and guidelines regarding social media usage on campus' (Munoz, & Towner, 2011, p. 5). L7 specifically wanted some kind of guidance from the university when he said: "*I think the university should provide some policy guidance on what is appropriate usage because you find different teachers practicing different things with students and students will compare*", while L5 claimed that due to the lack of institutional policy on social media usage, lecturers are able to decide which pedagogical design is appropriate for themselves because of "*the freedom given by the university or the institution to go and explore, you know, give you more venue to do your teaching. I mean you can do e-learning, or your teaching can be done outside classroom, at an open space.*"

In addition, several lecturers suggested their university should provide support for academics in terms of training, and make available the basic infrastructure such as an Internet connection. L3 asserted: "*there should be a training or workshop for lecturers to do this. Lecturers need to know how to use it [Facebook] and know how to handle group interaction*" and L2 alleged: "*because from time to time we also see the needs of training*". L6, a lecturer and a departmental head agreed with other participants that training on the use of Facebook for teaching and learning is necessary for lecturers when he said: "*that's why we are pushing training to tell the staff to know that better*" and L7 hinted using Facebook or any social media technologies in the classroom "*can*

be fun if you handle it right but the key is to learn about it first before you plunge into it. So I think the university needs to adopt a reasonably good platform and invest in that platform. Don't just buy the basic, you know. Invest in it and really do solid training for the staff". It is useful to note that these suggestions on the support required by lecturers when implementing Facebook for classroom education could encourage the university administrators in Malaysia as well as government officials of the MOHE Malaysia to formulate educational policy to support optimum use of social media tools to improve pedagogical practices.

5.2.6 Perceived outcomes and impacts of using Facebook for teaching

In this final part of the analysis on lecturers' perceived outcomes and impacts of Facebook use for teaching in classroom education, I examined the overall experiences and attitudes of the lecturers in answering RQ3 – how the lecturers perceive the use of Facebook for formal educational programmes in engaging the students and constructing the knowledge through collaboration and social learning. As demonstrated in the findings from the interviews, using Facebook for teaching and learning in Malaysian higher education classrooms brings benefits for educators and students. Because of its beneficial qualities as an educational tool, Facebook is considered a pedagogical tool 'for connectivity and social support, collaborative information discovery and sharing, content creation and knowledge, and information aggregation and modification' (Al-Rahimi, Othman, & Musa, 2013, p. 91). However, Sarapin and Morris (2015) claimed that there was 'a well-documented tendency for college administrations and faculty to avoid, or outright reject, new technologies' due to the lack of

studies on the use of Facebook by instructors and 'relegating the instructor's perspective to uncharted territory in the literature' (p. 16).

Due to the mixed responses regarding Facebook usage in formal learning environments from the literature, through the process of selecting, simplifying, and extracting themes from the lecturers' interview transcripts, it was found that almost all lecturers of this study recognised the effective use of Facebook for teaching in classroom education in their Malaysian universities. Seven themes were drawn out as responses to answer RQ3: (1) Facebook as an effective teaching tool; (2) students' norms of practice; (3) excitement; (4) flexibility; (5) connectivity; (6) a controlled environment; and (7) collaborative and social learning. When the lecturers were asked about the overall use of Facebook in classroom education, whether or not Facebook improved teaching, communication and engagement for classroom education, almost all participants unquestioningly pointed to its use as an effective teaching tool. As L1 and L3 put it, "*From my side, I look at Facebook as something really positive as a teaching and learning tool*" (L1) and "*I'm saying that Facebook is I think the sole tool that you can use to teach online*" (L3). Three other lecturers (L2, L4 and L6) further explained the use of Facebook as a teaching tool, though they also noted not to be over-reliant on it because "*I don't encourage them [students] to just rely on Facebook. Facebook is an alternative platform*" (L2). Another lecturer (L6) agreed that "*It cannot be the sole channel. There're all tools, you see. We cannot over rely*" (L6), and this was echoed by L4, "*because it's [Facebook] not the main teaching tools, it's just something complementary, it's just one of the tools*."

Throughout the interviews, five lecturers (L1, L5, L6, L7 and L8) underlined that the use of Facebook by lecturers for classroom education is due to the norm of students using Facebook for educational purposes. Specifically, L5 asserted that she used Facebook in her classroom teaching because "*I have to use something that students will be using all the time… they'll be checking on it 24 hours*". She further explained: "*this Facebook thing is like a mandatory thing. When I post or share information on Facebook, because everybody [students] is using Facebook, it will appear on their feed and they will not ask me again. Students tend to use it a lot in class. They are grateful that I am doing more to help them not only in the class but also outside.*" Besides, L7 suggested that most lecturers "*know they are competing with social media platforms. So they wanna be where the students are*" and L1 pointed out: "*Whereas in Facebook, it's their tool, we are playing in their turf… They are on Facebook with their friends. They are on Facebook for news. Instant messaging to them their Facebook, they will reply to you straightaway*."

As presented in the interview transcripts, three other themes emerged from the lecturers' perceived positive outcomes and impacts of Facebook for teaching, including excitement, flexibility and connectivity. As demonstrated in prior literature, 'the growing trend of using social media is also strongly influenced by perceived enjoyment as a stimulating factor' (Sarwar et al., 2018, p. 9). Lecturers perceived a SNS such as Facebook, providing a '24-hour access to resources and greater flexibility in terms of a suitable time and place' (Cloete, de Villiers, & Roodt, 2009, p. 18) because 'social media interactions are more

flexible in generating discussion on language learning' (Ekoc, 2014, p. 24), and 'students are able to maintain their social connections with their teachers and classmates through their personal profiles' (Aghili, 2014, p. 193). The following interview excerpts clearly showed two female lecturers' (L2 and L5) overall comments about using Facebook for teaching in classroom education were due to the exciting and interesting Facebook interface, flexibility in teaching and learning and better connection with students.

Because the Facebook interface is more interesting and exciting as compared to [university Moodle], it makes students more interested. When they find it more interesting and engaging, they will use it. I feel that if you want to be more interactive, I would rather use Facebook because they [students] are comfortable on Facebook. They check Facebook more than they check [university Moodle]. If I'm on the social media platform, I will be more relax with them because I give them quite a bit of liberty, I don't want to restrict them. I would want it to be more relaxed but also there is a control… I would say that you can feel very connected with the students using Facebook. Students are closer to you. I actually use Facebook to get connected with the students because our students are very much on Facebook. So if you don't plan something, their learning is nothing to do with you and they cannot use Facebook to interact with you… Yes, to be connected with them and to interact with them. (L2)

The interface of the university LMS or any web learning sites is just too boring, not engaging at all. I don't find it as exciting as Facebook. Facebook is

interesting. I'm excited using Facebook. For me, teaching in the classroom face-to-face or in the university is not enough. They can always learn from home. Let's say OK we're having a class and this guy is absent. The internet connection is super good, so he asks, Miss, can I join your class, can I do it on Facebook? Oh why not? You can be at home; I'll be in the class with your friends. Why not? Just because you're sick or you're somewhere else at hometown, you can't make it to class, you have to miss the class. I also have extra consultation on Facebook because I have a lot of students consult me online. You can do a lot of things on Facebook, you can do groups, you can create icons, you can share songs, you can share videos… It's a good thing to connect with people using Facebook. I think one keyword here is connection. It brings me closer to my students. I think it's just that I can do more things on Facebook with my students, bonding with them. Even I don't teach them anymore, they are still in my group. (L5)

Next, two other lecturers (L1 and L2) described Facebook as a controlled learning environment and this theme resonated with prior literature – Facebook is considered 'very trustworthy in that sense and it has the power and policy behind it as how this can be observed and controlled' (Haque, Sarwar, & Ahmad, 2015, p. 1626). For example, L1 highlighted: "*In Facebook, it's a control environment. From time to time, I look at the members, to make sure that's nobody there that I don't know. That's the idea, there's a very control environment… mainly for our students*", and L2 emphasised that "*there is a control. It's confined to the topic, if they really go off engine, you have to bring them back*."

The last theme was how collaborative and social learning among students in the Facebook group has encouraged the lecturers to use Facebook in the classroom. Both L1 and L6 from University A asserted that they used Facebook as a collaborative platform for students to "*discuss about the subject… students will post questions in the group and learn from each other… students doing the discussion towards to exam week as revision and I'm moderating their discussion because questions were not posted directly to me, it's directed at the class itself*" (L1) and L6 "*creates a Facebook group as a forum for the students to make discussion… they [students] will post the latest tech and others can learn about it too… students' discussion is good, they are sharing information*". Both lecturers agreed that Facebook serves as a collaborative platform in which students can learn from their peers and improve their academic performance. This finding corroborates some prior studies (Irwin et al., 2012; Al-Rahmi, & Othman, 2013a, 2013b; Mahmud, 2014; Saaty, 2015) which highlighted Facebook having the potential to 'promote a collaborative and cooperative learning environment' (Irwin et al., 2012, p. 1229). Thus, a collaborative learning environment prepared by the lecturers through a Facebook group enables students to 'learn most effectively by engaging in carefully selected collaborative problem-solving activities, under the close supervision of instructors… have the autonomy to self-select what they need to learn to gain a better understanding of the problem' (Mnkandla, & Minnaar, 2017, p. 239).

This theme supports 'the constructivist learning theory initiated by Vygotsky (1978) which focuses on a rich, active learning environment for effective learning to take place' (Ponnudurai, & Jacob, 2014, p. 124). The social constructivist learning theory had been a theoretical framework for many studies of computer-supported collaborative work which 'refers to an educational process which enables groups to create knowledge and meaning through co-creation' (Pektas, 2012, p. 694). Scholars claimed that social media technologies aligned with the constructivist approaches to teaching and learning, for example, Facebook 'facilitates increased interaction and networking between teachers, students and parents and the co-creation of content both within and outside the classroom' (Greenhow, & Askari, 2017, p. 624). 'The educators and the researchers strongly promote socio-constructivist model for learners and recognise communication and interaction as a significant pedagogical tool of educational practices' (Sharma, Joshi, & Sharma, 2016, p. 340). Therefore, a successful implementation of Facebook in a socially constructivist learning environment can increase the value of using the tool by the students and lecturers (Tananuraksakul, 2015).

Facebook as a collaborative and social learning platform for students is consistent with Laurillard's (1999) Conversational Framework because 'students have an increased sense of ownership of the whole story, their own contributions clearly playing a role in the synthesis of the ideas. The motivational quality of a collaborative output of this kind is much more powerful than a partial contribution to a class discussion' (Laurillard, 2009, p. 15). In addition, through the creation of a "practice environment" for the learners to

share and revise their constructed arguments (Laurillard, 2009, p. 18), Facebook offers the features for students to share, obtain feedback on, and revise an argument during online discussion.

After making sense of lecturers' perceived outcomes and impacts of Facebook as a teaching and learning tool in classroom education as well as their evaluation on the use of Facebook for formal education programmes in engaging students and constructing knowledge through collaboration and social learning, the following section details students' perceived outcomes and impacts of the use of Facebook for learning in classroom education and their evaluation of using Facebook in supporting classroom learning experiences in Malaysian universities.

5.3 Students' perceived outcomes and impacts of Facebook use for learning in classroom education

This section discusses the students' perceived outcomes and impacts (positive, neutral or negative) of using Facebook for learning and communication purposes in formal classroom education in Malaysian higher education in response to RQ2 and RQ4. The data collected from interviews with 12 students were content-analysed following Miles and Huberman's (1994) thematic approach to data analysis. In assessing RQ2, the students were asked two questions about the advantages and disadvantages of using Facebook in classroom education, while in assessing RQ4, three questions were asked for comments about using Facebook as a formal learning tool in classroom education in terms of: perceived challenges; the extent of using Facebook in

enhancing learning in comparison to other methods and technologies; and whether or not Facebook improves learning, communication and engagement for classroom education.

5.3.1 Advantages of using Facebook in classroom education

In addressing RQ2, the findings from the interviews showed that students of this study perceived positive outcomes and impacts of using Facebook for learning and communication in formal classroom education. They perceived Facebook as easy to use, and also useful for educational and communication purposes. Themes which emerged from the students' interviews on the advantages of using Facebook for classroom education were: ease of use; convenience; accessibility; useful for assignment discussion; constant interaction; instant response from lecturers; sharing of information and knowledge; familiarity and comfortability; interesting features; and obtaining worldwide views and feedback.

The responses of the students from the interviews showed that they were open to the idea of using Facebook as a tool in classroom education and they saw Facebook as a benefit for university learning. To begin with, students perceived Facebook as easy to use, and they decided 'to use Facebook as a learning aid is probably affected by the fact that Facebook reduces the risk of technological frustration because people are already familiar with the features of this tool... This significantly affects the factor of PEOU' (Lambić, 2016, p. 316). Drawing from the interviews, nine students repeatedly mentioned during the interviews that Facebook was easy to use and was trouble-free for academic purposes.

The following excerpts illustrate the PEOU of Facebook by the students. S1 stated: "*Because it's all in social media, it's very easy to read*"; S3 noted: "*It's easier to get my friends on Facebook. It saves a lot of time and it's efficient*"; S8 further asserted: "*the advantage of Facebook is that it's easy to use*"; and S9 said: "*I think Facebook is good, it's easy as it provides easy tools, we can use it*". The evidence of PEOU of Facebook as an advantage is also claimed by other students (S4, S5, S6, S7 and S11).

Convenience and accessibility were two prominent themes which emerged as the advantages of ease of use. The responses showed that students of this study considered Facebook as: a convenient platform for communication among peers and lecturers (S3, S5 and S10); is convenient and easy to log on (S4); and is very convenient to connect with people (S8). In particular, one student (S10) thought the convenience of using Facebook could possibly improve the communication between students and lecturers as she said: "*It's a very convenient platform for all of us because other social media doesn't have such platform. Facebook provides us a group, so it's easier for us to communicate. Anyone in the group can access to it, it's much easier… we have our own freedom to talk more. I think this is also a very good platform for lecturers to communicate with students, to have relationship, not only at school, but also through some social media they can understand students more and this enhances their quality as lecturers. I think it's a good way because they can narrow down their barrier between them and students and sometimes it's so informal, you know, so students don't feel like it's serious… It's very convenient, as a student I can access it, I can look for information… is a good way to update*

on events or information about particular thing. If I have a Facebook group, I can communicate with my friends, at the same time, can also check on newsfeed." In terms of accessibility, S1 mentioned: "*I think students just like it to be so accessible, to just switch on something and then say, oh, since I'm here, why don't I just read it*". This theme is consistent with Zakaria's (2013) study in which the accessibility of Web 2.0 tools supported student learning processes and knowledge creation in higher education.

The next theme within the advantages was the PU of Facebook for university learning. This theme aligned with one of the factors of the TAM by Davis (1989) – PU, where users 'accepting to use a certain technological feature… believes that using a particular system would enhance his or her job performance… students will be more willing to use Facebook if it helps them to achieve better learning outcomes. Facebook can be an important means of communication between students, and on the student-teacher relation… students can more easily acquire relevant information about the subject matter, and therefore, more easily fulfil the required assignments. The use of Facebook for discussion proved to be a useful means, and a better approach than other technical solutions like forums and LMSs' (Lambić, 2016, p. 316). In particular, S1 reported: "*Facebook is quite useful because most students access Facebook more often than anything else. You can basically say everyone's on their Facebook almost all the time, even during classes. It's something that is very accessible and very useful for discussing assignments… a useful way to ensure constant interaction*" and S3 added: "*For me, Facebook is useful for my studies. Firstly, I can save cost because I don't need to print out the paper. Second, I*

found it useful because my seniors posted information about the courses and the university on two Facebook pages. I'm able to know about the events, course content, past year questions. I also use Facebook group to interact with my group mates for assignments." The students have described the mundane use of Facebook to facilitate their learning (as indicated by Hope, 2016).

Additionally, students remarked that constant interaction and instant response from lecturers were another two advantages of using Facebook. S4 suggested: "*Facebook is just a click away, it's a platform of connectivity… bridging the gap between lecturer and students. Facebook is very interactive and the lecturers are quite responsive*". In addition, "*because with Facebook it's more direct, you can speak directly to your lecturer with just a few clicks of buttons. The Facebook app will update us whenever the lecturer post something so we'll be sure not to miss anything out. The advantage is easier to communicate with your lecturers*" (S6) and S5 stated: "*Facebook allows instant notifications. So it's very fast and very convenient to communicate with my lecturer. She replied me very fast.*" The description about the interactivity on Facebook enabling the students to instantly communicate with their lecturers is consistent with Kaya and Bicen's (2016) study that it is easier to communicate via Facebook because 'people use Facebook as a communication tool as instant communication is very important in today's world' (p. 378).

From the students' perspectives, the familiarity and comfortability of using Facebook as well as its interesting features were some of the advantages of using Facebook for educational purposes. One student (S8) noted that

"*Facebook is fast and it connects people really nicely into one troop and you can keep each other up to date. You can use Facebook to express your feelings, and since we are more familiar with Facebook than other platforms, it's really accessible, fast, highly convenient*." S11 echoed S8, saying that "*Facebook is faster and we are more comfortable with it for chatting when it comes to Facebook. Because a lot of things are circulated very fast, it's likely you get up-to-date news almost immediately and you could refresh and get new stuff almost all the time. Facebook is an easier way to approach… lots of videos and images.*" S7 also said: "*I think the advantage is it's interesting, Facebook has a lot of videos, photos, games and I can even get ideas from Facebook. It is easier for you to look for source of information or motivation, a faster way to do something.*" S6 also agreed that being comfortable when conversing is one reason why Facebook is favoured. He said: "*When you talk to your friends on Facebook, it's more comfortable because sometimes some people when they talk face-to-face, it can be a bit intimidating so they don't dare to ask questions that they wanted to ask so if you ask them through text or Facebook, they can speak out a lot easier*." (S6)

Lastly, students perceived Facebook enabling the sharing of information and knowledge as well as obtaining worldwide views and feedback. The following two quotes illustrate students' comments on the use of Facebook for sharing educational materials: "*Facebook is use to share knowledge, to share your knowledge to each other. Then everybody learns. Things shared there are quite permanent unless you purposely deleted it*" (S1), and "*Facebook is an information sharing application. So it's easier to share information, you just post*

it there and everybody can open it straightaway, definitely, a convenient and easy platform for sharing" (S6). Moreover, S11 remarked that Facebook provides diverse viewpoints, "*because everyone's on Facebook like 24/7, it's more dynamic, more movements, public discussions… you get public opinion as well as experienced opinion, so you learn from different angles*". S12 also agreed with S11 as she claimed that Facebook "*is a good platform because there's a lot of information there. The advantages, I'll say that we can know a lot of educational things in our country as well as worldwide. We can see things not just in our scope, we can also open up and see everything outside. Because Facebook is international right, so we can see and get responses or feedbacks from people who are from other countries. So it's very refreshing. We're not getting from one side, from our country only, we can see the things we should improve in education from other people's point of view. Not just about how we feel, but we can see from other people's side also. I think this is the advantage. Facebook is more lively and I enjoy using Facebook for educational purposes*". (S12)

5.3.2 Disadvantages of using Facebook in classroom education

Notwithstanding, students of this study also discussed the disadvantages of Facebook use in classroom education. Although two students (S2 and S3) claimed that they did not see any disadvantages of using Facebook in classroom education, the remaining ten students were aware of potential pitfalls of Facebook for learning. The themes that emerged from the discussion about the disadvantages of Facebook were distraction, informality, trustworthiness of information, and privacy. These themes were consistent with the findings of

other studies (Cloete, de Villiers, & Roodt, 2009; Ophus, & Abbitt, 2009; Hurt et al., 2012; Eger, 2015; Khan, & Bakhsh, 2015).

Distraction was the prominent theme emerging from the students' interviews. When the students were asked to express their perception of the disadvantages of using Facebook, S1 stated: "*To me, it's distraction because we also use Facebook for personal use*"; S5 commented: "*It takes up a lot of time because there's a lot of things on Facebook and sometimes it's unnecessary but then you just got attracted to it and then you realised, oh, I've been using my phone for so long on Facebook*"; and S9 asserted that Facebook does disturb time management and learning "*because when you are too deeply in Facebook, you can spend 2 to 3 hours on Facebook, sometimes, it's just wasting of time. Another example, when you have a conversation with your classmates about the assignment, you can go to Facebook to do something else, or maybe some people start to message you about other stuff, so it's kind of disturbing, you can forget all about the assignment*". In this regard, Ophus and Abbitt (2009) disclosed that 'it may be a huge distraction because there is so much more that Facebook is used for than just school' (p. 645), while Khan and Bakhsh (2015) acknowledged that students can be easily distracted from the main objective of using Facebook. The problem of a distraction is also related to Hurt et al.'s (2012) study where they stated 'Facebook was too personal and feared that it would become a social distraction' (p. 13).

Two students (S7 and S10) shared their perception about how they thought using Facebook too often is a waste of time. S7 disclosed: "*When I use*

Facebook to look for lecturer's announcement and then, there are videos, and I'll be watching the videos. I'll be wasting my time watching the videos because now when you watch one video on Facebook, it will auto continue with the next video so I'll be like, oh, this is interesting too, oh, this is interesting too. At the end, I wasted my time watching all the videos", and S10 noted: "*I spent too much time on Facebook. Sometimes I really want to focus on my assignment, but when I'm on Facebook, I keep checking this group, that group, this page, that page… I don't know that I already spent so much time. When I checked, it's already more than two hours spent on Facebook. Unconsciously, I have wasted my time, I wasted my time not doing the assignment*". In accordance to Eger (2015), some people claimed that social media such as Facebook is 'seen as more of an arena for fun and games. It is not a serious environment for teaching and learning process. Students often spend time on their social networks rather than they learn' (p. 235), similarly reflected in the findings of my study on the loss of time mentioned by the students.

In addition, the student participants also expressed their concern about the informality of Facebook use in higher education learning. A finding from Hurt et al.'s (2012) study showed that a few students reported one of the disadvantages of using Facebook was the informality of communications. Similarly, in this study, S4 worried that "*sometimes students may go overboard and disrespect the lecturers because it's Facebook, a lot of short forms are being used. Because you are so used to typing informally on Facebook, you don't know whether you have gone overboard or not, and students might disrespect the lecturers without knowing it*". In addition, S8 stressed that the

informality of Facebook could cause a loss of professionalism when they go out to work in future. He commented: "*if we use too much of informal words on Facebook, like slangs and we don't really care about academic languages, I mean in many Facebook Groups, I think we will soon lose the professionalism in our working culture. The drawback of this is not professional at all because sometimes the things you post on Facebook could be wrong and it's not modified by any lecturers and you could be wrong in your discussion. Students also don't mind their language used in some of the Groups you know… they also upload irrelevant stuffs.*" (S8)

One concern raised by the student participants in the interviews was whether or not the information on Facebook is trustworthy. S5 said: "*Sometimes the information provided in Facebook is not trustable, you can't confirm that whatever is on Facebook is true or it's accredited. It's just information provided by someone unknown*"; S6 revealed: "*Even though Facebook gives us the latest update, it's not very dependable in terms of sharing information safely and systematically*"; S7 stated: "*But then Facebook is all about people's sharing and you wouldn't know whether it's true or not*"; and S12 noted: "*There's a lot of information on Facebook, but we cannot be sure if it's the real information or not. I think we have to really find a good source or website or Groups to follow… There are also a lot of lies on social media. I think that's a huge disadvantage… the unreliable sources.*"

Another disadvantage presented by the students which corroborates with prior literature (Cloete, de Villiers, & Roodt, 2009; Ophus, & Abbitt, 2009) was the

privacy issue. One student (S8) noted: "*One disadvantage is about the leak of information. You're scare that your ideas will be stolen or your information will be leaked. I think privacy is a big problem here on Facebook. Anything on Facebook could be leaked, could be hacked… if people accidentally see it, your privacy is ruined*". Based on the discussion of advantages and disadvantages of Facebook for learning in higher education classrooms, I infer that students who used Facebook in formal learning environments perceived more positive outcomes and impacts of Facebook on their learning experiences because most students felt that Facebook disadvantages were considerably lower in comparison to the advantages.

5.3.3 Challenges of using Facebook in classroom education

Besides the disadvantages, when assessing RQ4, the students were asked for their comments about using Facebook as a formal learning tool in classroom education in terms of challenges. Three themes emerged from the interviews with the students – information clutter, technical problems, and limited contribution. S7 felt that "*Facebook is very congested. People keep on posting, if I comment something, then I'll see my friends will also post their comment there so there's a lot of stuff on my feed all the time... videos, pictures, postings, and some unwanted posts, so it's really congested*", while S8 expressed his concern of technical problems which hinder the effectiveness of using Facebook for discussion, especially when "*you don't have your phone, or laptop and was disconnected with WiFi*". Lastly, S1 experienced the lack of participation from students on Facebook discussion. She stated: "*The problem of having Facebook discussion is, again the same few students will be the one*

responding. I can see the same names responded" (S1). The lack of active participation on Facebook is in accordance with the results of the studies of Kurtz (2014), and Nikhoma, Richardson and El-den (2015) in which most students reported to 'occasionally' contribute to Facebook group discussion (Kurtz, 2014, p. 69) and 'only a few students played an active role in initiating posts; most posts were passively seen by majority of members' (Nikhoma, Richardson, & El-den, 2015, p. 95).

5.3.4 Comparison between Facebook and other methods and technologies

Subsequently, the students were asked during the interviews about the extent of using Facebook in enhancing learning in comparison to other methods and technologies. In this respect, a mixed response was recorded. The analysis from twelve students' interviews revealed three perspectives which were: (1) Facebook is the best and could replace the institutional LMS; (2) Facebook works well with other methods and/or technologies; and (3) Facebook serves as a supplementary tool because face-to-face interaction in the classroom and an institutional LMS are still preferred. Although there were three different themes emerging from this question, the students still acknowledged the important role of Facebook in a student's academic experience (Vivian et al., 2014). From the first perspective, a postgraduate student (S4) from a public university (University F), is very optimistic about using Facebook for learning. She claimed: "*Who is not on Facebook? Like literally, who is not on Facebook, Facebook will still be here… Facebook is a platform that, it's like you are a journalist of your own… I think Facebook is the best, I think it could replace [university Moodle]… everyone wants to go on Facebook and not [university*

Moodle]. Even my lecturers say if you have any question, we are in the Facebook group, so post your questions or any doubts, just ask. Updates are given through Facebook, not [university Moodle], I think Facebook is a multipurpose platform for education". This quote by S4 illustrates the potential of Facebook as a LMS in higher education, as Wang, Woo and Quek (2012) noted, Facebook could even substitute LMS as a fully functioning LMS.

The next perspective of the students was that Facebook works well for learning, similarly with using the institutional LMS in higher education classrooms. Six students (S2, S3, S5, S10, S11 and S12) neither strongly agreed with the use of Facebook nor were opposed to it as a learning tool. In particular, two students (S2 and S3) from a public university (University E) did not clearly state whether or not Facebook is an effective learning tool in comparison with their institutional LMS. S2 noted: "*For study purposes, I mostly use Facebook, I'll say, for assignments. But because we also have online learning in our university… for the quiz and lecture slides*", and S3 used Facebook "*basically for information, check on news and review information… I have to log into [university LMS] to check if the lecturers will upload the slides, exercises or marks. Everyday I have to check before the class*." These two students have used both Facebook and the university LMS simultaneously for learning purposes, even though they use both platforms for different reasons.

Four other students, three (S5, S10 and S11) from different private universities (Universities B, A, D) and one (S12) from a public university (University G) perceived Facebook as a good platform for learning though they also used their

university LMS for receiving notifications and downloading lecture slides and educational materials. S5 and S10 used both the Facebook group and the [university Blackboard] for learning. S5 thought that "*Facebook is a better platform for lecturers and students to communicate for education purposes. I actually like both because I like how my lecturers use [university Moodle] to upload files and put the link to TurnItIn, and we just submit to TurnItIn with that link and then after five minutes later we can get the results… Facebook is convenient for communication purposes and to ask for instant information*" and S10 stated: "*Because Facebook is the most popular social media right now, so I think almost all the people now have a Facebook account and they are an active user. So if you want to get some updates on news or information... Facebook is a good platform. For education, Facebook group is a good tool. You can do anything on that – call, chat, post document, post links, and communicate on Facebook… I just check [university Blackboard] daily for 15 minutes for any notifications and access to lecturers' slides*". Similarly, S11 used "*Facebook because everyone's using it… will still continue because there isn't really any other platform that could replace Facebook*". He further added that he also used the university LMS, "*it's more towards getting the lecture slides, and people go there to check their marks or whatever, it's basically paper content… notes. Whereas Facebook is for information, people pay more attention to it because it's informal and it educates at the same time so it's less boring*" (S11). Lastly, S12 justified her use of Facebook and the university LMS: "*When I have assignments or when the lecturer said you haven't access it for quite some time then I will access it [university LMS]. I just check for assignments, sometimes for submitting assignments. We have to look at all the*

task on [university LMS]. For me [university LMS] is a place for the lecturers to see or monitor our assignments, whether we are submitting or not, we have access it or not... I think the interface is quite boring. We cannot see the feedback from other people… Facebook is more lively. A lot more of people there. I think for me Facebook is okay. I feel like Facebook is more social. If we have group assignments, we have Facebook Group for each assignment. We just divide our work and then, all of us will just post it on Facebook Group Chat. I'll only use that for group assignments only. I think most of my friends also rarely use [university LMS]".

When these six students were asked to indicate whether they prefer to use Facebook or university LMS, they implied that they prefer both. This result is in accordance with the findings of the studies by Dogoriti, Pange and Anderson (2014), and Lin et al. (2016) which demonstrate that 'the use of the LMS platform provided a controlled formal educational environment where students were required to complete their assignments, whereas Facebook was a less rigid, informal learning environment allowing student self-regulating interactions' (Dogoriti, Pange, & Anderson, 2014, p. 259). Thus, 'Facebook served as a complement to face-to-face and traditional e-learning with positive experiences outweighing the negative experiences for the teacher and students' (Lin et al., 2016, p. 107).

Lastly, when comparing the use of Facebook to other methods and technologies such as face-to-face classroom teaching and university LMS, the remaining five students (S1, S6, S7, S8 and S9) from two private universities

(Universities A and B) perceived Facebook as a supplementary tool for learning but they still preferred to have face-to-face interaction with their lecturers and to use the institutional LMS for learning purposes. Prior studies have shown that Facebook works 'as a supplementary or alternative environment facilitating students' discussion, increasing their participation in online activities' (Manca, & Ranieri, 2013, p. 491) and students can use Facebook 'to help each other in their academic studies, build bonds with their classmates and promote supplementary interaction between them and their instructors (Alhazmi, & Abdul Rahman, 2013, p. 33). Some positive trends have emerged from 'using Facebook as a supplementary tool in formal education' (Leelathakul, & Chaipah, 2013, p. 92) because 'Facebook is a good supplementary tool in teaching and learning' (Hassan, 2014, p. 8) and Facebook offers 'teachers and students supplementary learning capabilities to enhance face-to-face participation occurring in the classroom' (Keles, 2018, p. 204). Nevertheless, Facebook or 'any social networking addition to an educational course must stay either strictly supplementary or at best complementary, but not as a substitution' (Mok, 2012, p. 9). The following excerpts show two students' perceptions (S6 and S8) about Facebook usage in comparison to face-to-face interaction and using an institutional LMS for learning in higher education classrooms. They highlighted that Facebook is, nevertheless, perceived as a social and entertainment platform, not as a formal teaching and learning tool in comparison to face-to-face interaction and a university LMS.

Facebook and [university Moodle], I would say it's similar in a way that it's a means of transporting information from one person to another but I think

Facebook is more on notifying you about the information in [university Moodle]. Because in [university Moodle], it's a secured website where your marks, your studies, your lecture slides and everything there… but on Facebook, somebody in a group can add strangers into the group, it happens. So it's a lot safer to use [university Moodle] instead of Facebook. For Facebook, we'll use it more on updating. For academic wise, I don't really do much studying from Facebook. Through Facebook I feel like it's less professional and more personal. (S6)

I don't think I learn through Facebook a lot. Maybe I get information from news and stuff, but I don't learn. Because you know, in the Internet, some information is wrong and not everything on Facebook, you know, is true information. From my learning experiences, I don't think I learn a lot from Facebook. It's more of a social and entertainment platform. So I think face-to-face discussion is better than Facebook. Facebook is only for storing data, I think. As a student, Facebook is like an entertainment tool for socialising and for getting information, for news and updates about society, about what's going on in the society. I think Facebook is a very good tool, very convenient and accessible tool for lecturers to inspire students in the learning process." (S8)

5.3.5 Perceived outcomes and impacts of using Facebook for learning

The final question for the students in answering RQ4 – to analyse students' evaluation of the effectiveness of using Facebook as a useful learning tool that supports, enhances and strengthens their learning experiences in Malaysian higher education institutions – was whether or not Facebook improves learning, communication and engagement in classroom education. Irwin et al. (2012) in

their study stated that an effective learning tool will enhance the communication and interaction between students and lecturers and students are receptive to incorporating Facebook into their academic lives because Facebook is perceived as 'the most efficient and convenient platform for student engagement and learning' (p. 1230). In addition, 'Facebook proved to be an effective learning tool in supporting discussion, interaction, communication and collaboration between teachers and students, and among students… Facebook potential to widen the traditional boundaries of formal settings was reported as an added value for the learning experience… Facebook was used as a proper site for knowledge construction through social interaction' (Manca, & Ranieri, 2016c, p. 11). In order to assess students' evaluation of the effectiveness of using Facebook as a useful learning tool that supports, enhances and strengthens their learning experiences, the findings from the interviews with the students were analysed with reference to the use of Facebook for improved learning experiences, communication and engagement.

5.3.5.1 Facebook improves learning experiences

Prior studies have explored the use of Facebook as a technology-enhanced learning tool in which students appreciate the learning experience in the Facebook environment with a more positive impact on learning processes and participation (Manca, & Ranieri, 2013; 2016c). The analysis from the interviews shows five students (S1, S8, S9, S11 and S12) perceived Facebook as an effective tool which enhanced their learning experiences in classroom education. Specifically, S1 noted: "*For learning, Facebook is always better, always better. This is because we don't really like to discuss with our friends*

during class and students don't like to ask questions from the lecturer in class. We post questions on Facebook group and other students will respond to the questions… our lecturer forced everyone in class to learn through discussion and provide answers to the questions on Facebook group. We share our knowledge with those in the Group and then everyone learns. When nearing exam period, I can see the effectiveness of it. We can actually see the impact that everyone gets to learn even I get to learn. When someone posted a question in the Group, it makes me think how to answer that question… I need to start thinking, really thinking about what I have learned in class… it [Facebook discussion] encourages participation, so everyone will learn at the end."

Four other students (S8, S9, S11 and S12) also provided their comment on the effectiveness of Facebook for their learning experiences. S8 said: "*I think it's a very good way to use Facebook to make the class more interesting for learning because the class itself is a little bit dull, you just sit there passively. But in Facebook, you are an active user, you look for the post, you get the information actively, it's an active learning, not passive in class*". S9 stated: "*My experience of using Facebook for educational purposes, so far is very good because I can find relevant information on Facebook that I can use in my assignment. I would say it was very useful for working on my assignments*", while S11 thought that "*it's a very good way to learn using Facebook. It is more dynamic, more movements because of its videos and articles, in a public discussion, getting public opinion, so you learn from different angles… you get to learn a lot of stuff at the same time. We also have discussions on Facebook and everyone has*

their own opinion, we learn from there", and S12 believed that "*it's a norm and compulsory to have a Facebook group. We can use Facebook to improve our language, our grammar… what we want to learn we can find on Facebook*".

From the quotes above in which the students deemed Facebook as a useful learning tool, which was effective and efficient for learning in formal educational contexts, I concur that the use of Facebook in higher education is 'becoming part and parcel of current student's lifestyles' and 'higher education institutions need to take this opportunity to harness these technologies that are already integrated into students' daily lives to design an innovative and creative education environment that will enhance and improve their learning experiences' (Lim et al., 2014, p. 188). Sharma, Joshi and Sharma (2016) described Facebook uses as giving students an 'enjoyable and relaxed learning environment where they can freely share their opinion with others' (p. 346). From the student responses, I further agree with Staines and Lauchs (2013) that 'Facebook can be successfully used to support university learning. It can provide an excellent mode of communication between students and lecturers, but can also encourage further engagement with unit materials and topics' (p. 803).

5.3.5.2 Facebook enhancing communication practices

Students participating in the interviews expressed the usefulness of using Facebook as a communication platform, used by the lecturers with students as well as for communication among students. They agreed that Facebook was 'providing such a venue outside the classroom... Facebook groups help

students who have problems interacting in class environments… thanks to the Facebook group, they were able to communicate with each other much more easily, and they got the chance to know each other better. They believe that communication over Facebook is easier, uninterrupted, and fast' (Keles, 2018, p. 217). The following interview excerpts illustrate the perspectives of three students on the usefulness of Facebook in enhancing communication practices.

Using Facebook to communicate is more friendly. You don't have the barrier between a lecturer and a student through Facebook. Communication is easier, more informal on Facebook because some of my friends find it hard to communicate with lecturers face-to-face. (S2)

For communication purposes, I think it's still Facebook. I think Facebook is a better platform for lecturers and students to communicate, more convenient for communication, definitely. Facebook is a better place for us to communicate in group or personally. (S5)

I think this is a very good platform for lecturers to communicate with students, to have relationship, not only at school, also through some social media so they can understand students more, enhance their quality as lecturers. When I moved to Malaysia, all the subjects need Facebook to communicate with team mates… it's not from the lecturers, but it's a very convenient platform for us because other social media doesn't have such platform. Facebook provides us a group, it's easier for us to communicate… when we have disagreement or conflict, we use Facebook to communicate. (S10)

5.3.5.3 Facebook enables student engagement

Lastly, students agreed that Facebook was effective as an engagement tool for classroom education. Mok (2012) concluded that 'learning is a social activity and as long as Facebook continues to take up the majority of our students' time, it will continue to stay relevant to teaching especially one that relies on social engagement' (p. 141). In addition, Keles (2018) found that when a lecturer employs 'social network groups that are a part of a course, students' engagement improves' (p. 221). This study showed that two student participants (S4 and S8) perceived Facebook as enabling them to be connected with the lecturers and as such Facebook could be an effective engagement tool. S4 claimed that "*the education institution should apply Facebook into students' studies because that's the only way you connect with the younger generations. Interaction on Facebook is usually informal. That is also a platform where we get to know our lecturers better. Because when you are informal with your students, that is where we can, how to say, we interact… because if it's too formal, then students and lecturers won't be that close. It's actually bridging the gap between lecturer and students. The student and lecturer can work more closely… there's a lot of interaction and a lot of discussion about the subject, assignments… that's the way you get to know your lecturers better. So in Facebook, it's best that you become a friend to your lecturer*." S8 echoed S4 and noted: "*If you want to enhance your relationship with your lecturers, yes, you should use Facebook. You can talk to them freely on Facebook and you get response quite fast because the lecturers are really responsive to students. In the Facebook Group, we feel like we are more connected to the subject.*

Because all the posts in the Group are relevant to the subject, we feel like we like this subject. We discuss about assignments, we have online discussion as tutorials. I think it's a good way to enhance the class and make us stay connected to the lecturer."

In a nutshell, an effective tool for supporting, enhancing and strengthening learning experience in classroom education, such as Facebook, focuses on the ability of students using it to learn, communicate and engage with lecturers and peers. The discussion of the results in the sections above has identified lecturers' and students' perceived outcomes and impacts – positive, neutral and negative – of using Facebook for teaching and learning, and communication in formal classroom education in Malaysian higher education institutions. Throughout the interviews, the lecturers and students of this study spoke of the aspects of Facebook which were useful and beneficial for teaching and learning in Malaysian classroom education, and those which have hindered and been perceived as challenging. In order to advance our understanding of students' perceptions on the outcomes and impacts of actual use of Facebook – Facebook closed-groups – in classroom education in Malaysian universities, a qualitative analysis of students' reflection journals of a private university was carried out and the results are discussed in the following section.

5.4 Qualitative analysis of students' reflection journals

In addition to the interviews with the students, the analysis of the reflection journals of 38 students from University A, also reflected students' perceived outcomes and impacts of using a Facebook closed-group for classroom

education. The data from the reflection journals were read to gain an overview of the data, they were then read again and coded in terms of categories related to RQ2 about students' perceived outcomes and impacts of Facebook use for learning in higher education, and to RQ4 about their evaluation of the effectiveness of using Facebook as a useful learning tool that supports, enhances and strengthens their learning experiences.

The students' reflection journals were assessed according to four criteria – advantages, disadvantages, challenges, and students' evaluation on Facebook as an effective learning tool in formal classroom education (see Appendix Eleven). When analysing the student reflection journals using a constant comparative method (Glaser, & Strauss, 1967), nine themes emerged from the data about the pros, three themes emerged about the cons, two themes about perceived challenges and three themes about the perceived outcomes and impacts (positive, neutral and negative) of using Facebook for teaching and learning in Malaysian classroom education.

5.4.1 Advantages of using a Facebook group in classroom education

Firstly, when students from University A had used a Facebook closed-group as a formal platform for learning for two modules for a 12-week semester, 38 students recorded their perceived outcomes and impacts of Facebook in terms of its advantages and disadvantages. In terms of advantages, data from the students' reflection journals revealed the following nine prominent themes: convenience; ease of use; accessibility; engagement and interactivity; sharing of knowledge and information; instant feedback; saving time; efficiency; and

developing critical thinking skills. Five of the themes which were most frequently highlighted were convenience, ease of use, accessibility, enhanced engagement and interaction, as well as sharing of knowledge and information between lecturer and students and among students.

Specifically, the convenience of using Facebook for teaching and learning in higher education as perceived by the students of University A was consistent with the studies of Shaltry et al. (2013), Mahmud (2014), and Tananuraksakul (2015) as this benefit characterised students' learning behaviours and Facebook had become an essential part of the then current generations of educators and students for educational purposes. Additionally, the PEOU, ease of accessibility as well as engagement and interactions were three recurring themes which were consistent with the responses of the lecturers and students from the interviews of this study as well as from findings from the studies of Hurt et al. (2012), Omar, Embi and Md Yunus (2012), Staines and Lauchs (2013), Graham (2014), Clements (2015), Hamid et al. (2015), Sarapin and Morris (2015), and Lin et al. (2016). It is reported that Facebook is easy to use and its accessibility helps 'students navigate many of the common barriers to online discussion participation' (Hurt et al., 2012, p. 14). The findings of my present study also show that 'Facebook can be used for enhancing and optimising the independent engagement of undergraduate students' (Clements, 2015, p. 144) and in turn has 'the potential to nurture and develop increased participation and engagement outside the classroom for Humanities students' (Graham, 2014, p. 22) because the students 'valued the increase opportunity to interact with their lecturers afforded by social technologies' (Hamid et al., 2015, p. 7). Lastly,

according to Kurtz (2014), although Facebook was 'not originally created for educational purposes, [it] can be used as a virtual environment for discussion and sharing knowledge' (p. 70). In this way, students of University A have used a Facebook group as an online discussion platform because 'chatting and discussion, and the file sharing based on SNS tools are important predictor of knowledge sharing' (Eid, & Al-Jabri, 2016, p. 24).

Three excerpts from P2, P8, and P22 relating to the pros of Facebook use for teaching and learning in Malaysian classroom education in terms of engagement, convenience and sharing of information are:

It forms an engagement because Facebook discussion forum enables student to interact more by commenting and replying posts. Facebook online discussion makes everyone to share knowledge, opinions or points of view and I got more information and understanding on the topics from my peers. (P2)

The first being that I knew that I can access Facebook to join in the discussion at any given time, so there was an element of convenience present that I welcomed graciously. Facebook would serve as an extremely convenient method of getting all students to participate… our mobile devices are readily available to us reinforcing the ease of access of Facebook. (P8)

I was very pleased with the outcome of the discussion and the convenience of the platform. In my opinion, Facebook group did facilitate my learning process conveniently… it allows lecturers to communicate with students directly and

smoothly. Knowledge sharing is the very reason why this group was created. It allows me and my peers to share ideas and knowledge through the discussion, enabling us to learn from one another. Facebook enables us to share information and ideas about a certain topic easily. With the information being shared, Facebook closed-group is very engaging. It is easy to interact and communication with another through online as most of us visit Facebook more than mails. (P22)

In addition to the above themes, students also commented on the advantage of getting instant feedback from lecturers through a Facebook group for formal learning. For example, in P1: "*Facebook allows us to receive instant feedback from Ms. C in comparison to iMail [university email] where some lecturers might take up several days to reply.*" Next, saving time was noted in P19 and P35 which recorded: "*Students could also save their meeting time with one another when they encounter an issue. If we were to wait for the meet up session only to ask questions, it would be late*" (P19) and "*Students have more time to formulate response and opinions because online discussion on Facebook occur completely online, we have the flexibility to add our input when we are prepared*" (P35). These advantages – instant feedback and saving time – as illustrated in the students' reflection journals were similar to the findings of Deng and Tavares's (2013) and Tananuraksakul's (2015) studies as their findings similarly stated that students in their study 'expressed their confidence in receiving feedback very instantly' (Deng, & Tavares, 2013, p. 171), and Facebook group 'helps save time and money for group discussion... ask the

instructor virtually without face-to-face interaction' (Tananuraksakul, 2015, p. 242).

Another benefit, the PU of Facebook in terms of efficiency and effectiveness for classroom education such as for communication, sharing files and online discussion, was one key factor in the TAM (Davis, 1989) which influenced students to use Facebook for learning as noted in three reflection journals, such as P17: "*If the lecturer wants to tell us some urgent information, Facebook closed-group definitely will be the more effective way to deliver the message. It is a very effective platform for any education and learning process*"; P34: "*Facebook is efficient in sharing files such as lecture slides as it is quick and straightforward. I believe Facebook could be effective for formal learning*"; and P37: "*Facebook has been effectively used to support online classroom discussions. Facebook is by all accounts a standout amongst the best devices… I would personally say Facebook is a very effective teaching resource. The system is as of now set-up and functioning and most students are now utilising it.*" Students also claimed that Facebook helps develop their critical thinking skills as shown in P12: "*Facebook online discussion allowed me to develop critical thinking skills*" and P15: "*By using Facebook discussion, I have the opportunity to compare my answers with others, this helps me in my critical thinking*". The positive student learning outcomes such as critical thinking were achieved because Facebook creates the environment for supplementing student coursework with outside materials (Tarantino, McDonough, & Hua, 2013).

Interestingly, when analysing the data from 38 students' reflection journals, the students also documented 13 other advantages of Facebook such as collaborative work, expression of inner self, comfortability, relationship building, tracking students' work, well-organised, two-way communication, a learning community, long-term storage, multitasking, it is free of charge, reliable, and as a timely reminder. Though these themes were not obviously identified by many students, they were highlighted by one to five students in the reflection journals, and these benefits were consistent with the findings derived from the interviews with the lecturer and student participants in sub-sections 5.2.1 and 5.3.1. The advantage of Facebook for collaborative work and two-way communication for a learning community as noted by the students in their reflection journal is also consistent with the study of Veletsianos and Navarrete (2012) that 'frequent and ongoing participation and collaboration within the context of the social network… seemed to mitigate the problems traditionally facing online learners, such as isolation and lack of support, while contributing to a positive learning experience' (p. 160).

Four examples from the reflection journal analysis (P6, P7, P20 and P21) concerning the advantages consistent with the findings from the interviews are:

Using Facebook for learning provided a free, reliable and convenient platform for lecturers and students to access. Students may also multitask with doing the online discussion and other matters if they are capable. (P6)

I personally feel it was a good two-way communication process as this group enables us to inform and share information with the lecturer and with our peers. Facebook can be a very conducive educational platform to first reaching out to students for information dissemination then to ensure effective two-way communication flow. (P7)

The positive impact of Facebook group is able to express ourselves well. It is easier to express our thoughts and opinions without feeling burdensome on Facebook. We can be ourselves freely and not trying to impress others or go with the majority. Knowing where your thoughts and opinion matters are very helpful in building your inner self up to be an outspoken person. (P20)

Collaboration among students was also made easier through this Facebook closed-group. During our discussion on the tutorial topic, everyone put in their two cents and most of us put in website links as well as to share the information we found with our classmates. If any student found the links to be useful, he or she can even click into the link and bookmark it for future reference. (P21)

5.4.2 Disadvantages of using a Facebook group in classroom education

Aside from the documented advantages of Facebook use, the students also reflected on the disadvantages of using Facebook for formal classroom education. Not all aspects of the experience of using a Facebook group for discussion were positive because most students from the case study mentioned their experiences of Facebook distraction, information overload, and lack of active participation. Specifically, in the literature, Facebook is described as a

distraction for classroom education, and not to be used as an educational tool because it is labelled as 'unable to teach and uneducational' (Fewkes, & McCabe, 2012, p. 95). Facebook is also acknowledged as a source of distraction in some studies (Hurt et al., 2012; Tarantino, McDonough, & Hua, 2013; Gupta, & Irwin, 2014; Nkhoma, et al., 2015; Al-Sharqi, & Hashim, 2016; Ali et al., 2017). Below are two excerpts (P28 and P34) from the reflection journals on Facebook distraction.

One of the disadvantages of using Facebook for university formal education would be distraction. I personally am distracted by the notifications popping out and I'm even anxious to read other's status on Facebook. (P28)

Facebook, a networking and entertainment platform, can be a distraction for students during learning. The notifications from friends or liked pages can take our minds away from focusing on the topic, though distractions are also present in physical contexts. (P34)

Information overload was another concern of educators and students when using Facebook for educational purposes due to the abundance of information shared (Reuben, 2008; Hung, & Yuen, 2010; Barczyk, & Duncan, 2013; Duncan, & Barczyk, 2015). Three students noted: "*I was sceptical as how the online discussion procedures would go on Facebook because the discussion system in the Facebook group is very unorganised and scattered*" (P10); "*The posting for the discussion was flooding with comments, notifications after notifications. Some comments were extremely long which make it even harder*

to read and response because by then you'd be flooded with 10 other comments… the online closed-group discussion didn't help and it turned out to be messy, in my opinion" (P14); and "*Students are constantly talking at the same time, constantly commenting on a discussion topic, it can be overwhelming and causes information overload*" (P34).

The third prominent theme that emerged from the reflection journal analysis was the lack of active participation during Facebook group discussion. One student emphasised: "*Most students just posted their answers regarding the discussion topic and did not really participated in further discussion, it lacks of engagement because the discussion did not involve everyone to be in the same path of discussion*" (P2) and in P7, the student admitted "*Most of the time, the post is being seen by everyone but there is lack of responses by the members of the group and this reduces the collaboration between peers and the lecturer in this Facebook group.*" A highly effective method of teaching in formal classroom education through social constructivism requires active participation and utilising the full potential of participatory and collaborative technology such as a Facebook group (Powell, & Kalina, 2009; Bonzo, & Parchoma, 2010; Greenhow, & Lewin, 2015), yet the low participation rate in a Facebook group discussion as shown in journal P2 and P7 was one disadvantage.

Other students indicated that Facebook disadvantages included informality, misinterpretation, getting off-track, lack of non-verbal cues, redundancy and being time consuming, trespassing on personal space, and lack of proper guidelines. Contrary to the beliefs of Facebook's educational benefits, three

students (P1, P8, and P27) reported the above-mentioned disadvantages which confirmed the description of Facebook disadvantages in the literature (Fuchs, 2010; Shih, 2011; Odom et al., 2013; Al-Tarawneh, 2014; Khan, & Bakhsh, 2015; Lin, 2016).

Facebook is a social media for personal use. Therefore, using it for educational purposes will trespass my personal space. I personally do not prefer the academic matters associate with my personal social media account. Similarly with how working adults are having separate email address for career and personal use. Hence, it is a disadvantage of using Facebook in formal classroom education. (P1)

The formality of the group discussions, although was formal, the nature of the platform used wouldn't be appropriate as Facebook is known for casual sharing of daily life. Thus, future discussions wouldn't be fitting to the seriousness of academical activities such as the discussions that took place. (P8)

There were many repetitive answers as this discussion was done when we were all in separate locations, so it was time consuming to read through everyone's answers… it also disrupts group discussion as there were too many people commenting the same answers. (P27)

5.4.3 Challenges of using a Facebook group in classroom education

In addition, students also documented two main challenges of using a Facebook group in formal education – technical problems and language

proficiency – which were similarly expressed by the lecturers and students during the interviews, discussed in sub-sections 5.2.3 and 5.3.3. One student (P17) wrote: "*Technical problems such as Internet speed, server crashed are the important points which can influence our online discussion*" and another student (P23) noted: "*It is quite challenging especially when you would want to say something but you are not allowed to say it face-to-face and when you put your ideas into words, people might get even more confused on what you are trying to say.*"

5.4.4 Perceived outcomes and impacts of using a Facebook group for learning

Lastly, in the overall evaluation of students of University A on their use of a Facebook closed-group for teaching and learning in classroom education, the data from the analysis was categorised under the following themes: perceived positive impact, neutral, and perceived negative impact. Based on the frequency of repeated categories and themes, 18 journals reflected a positive impact, 14 journals recorded a neutral perspective (including six journals which did not clearly state either a positive or negative stance), and six journals reflected a negative impact. These perceived outcomes and impacts were identified on the basis of the views expressed by the students with reference to the use of the Facebook closed-group as a formal platform of learning for two modules for a 12-week semester in University A.

The Facebook group was established for the lecturer: to share with students, lecture slides and educational material; to broadcast announcements and

reminders; and to conduct online discussion as tutorial activity. The aspects with positive codes mentioned by the students in their reflection journals under this theme were: "*extending the learning experience beyond the boundaries of classroom*" (P3), "*accessing information anywhere, anytime*" (P4), "*a useful platform in facilitating our course outline*" (P5), "*stimulate students' critical thinking*" (P6), "*flexible and independent learning*" (P12), "*controlled yet casual*" (P13), "*collaborate outside classroom*" (P15), "*great experience in voicing out my opinion*" (P17), "*convenient and good learning tool*" (P18), "*facilitate interaction between lecturers and students*" (P21), "*a great tool in improving academic skills*" (P22), "*organised and expanding our thinking*" (P23), "*smoothened learning process*" (P24), "*enhanced communication*" (P29), "*user-friendly*" (P34), "*comfortable online discussion*" (P35), "*best device for sharing opinion and information*" (P37), and "*efficient and great platform for group discussions*" (P38).

These positive quotes were consistent with the perception of the lecturer and student participants from the interviews (see sub-sections 5.2.1, 5.2.6, 5.3.1 and 5.3.5), as well as congruent with two past studies on the positive impact of Facebook for teaching and learning in Malaysian higher education (Helou, & Ab. Rahim, 2014; Moghavvemi et al., 2017). For example, the positive codes of 'accessibility' and 'convenience' as stated in P4 and P18 respectively are consistent with the lecturers' and students' comments on the flexibility of access anywhere anytime (L3), the convenience of Facebook (L5) as a platform for communication among peers and lecturers (S3, S5, S10), and Facebook is convenient and easy to log on to (S4). Other comments in students' reflection

journals, such as in P21 and P29 on the communication and interaction between lecturer and students as well as in P35 and P38 on online discussion are consistent with Helou and Ab. Rahim (2014) that the SNSs such as Facebook 'can be used for various academic activities such as communicating with the faculty and university authority, communicating with lecturers and supervisors, making academic discussions with classmates and chatting with friends in respect to topics of educational interest' (p. 251). Thus, the student participants of the case study agreed with the literature that using Facebook has positive effects and 'does not negatively affect students' academic performance. This paves the way for using Facebook as a communication and teaching tool' (Moghavvemi et al., 2017, p. 4).

On the other hand, some students noted that the use of the Facebook group in a formal classroom education was neither good nor bad. They referred to the Facebook group as: "*two-way learning process… able to progress through assignment more quickly… Facebook brings a neutral impact for formal classroom learning… the impact is not significant enough*" (P1); "*a popular social networking site but no positive or negative impact*" (P2); "*as an alternative means of communication*" (P11); "*an open platform to gain knowledge, neither bad nor great*" (P20); and "*a communication channel between lecturers and students, no clear impact*" (P30). Other students described their opinion on the use of the Facebook group such as "*I was both relieved and reluctant to use it for online discussion*" (P8), "*a neutral stance with both positive and negative impact*" (P9), "*Was sceptical in the beginning but wonderful to try something new*" (P10), and "*advantages outweigh disadvantages, not to get distracted*"

(P25). Similarly, these comments on students' reflection journals are consistent with the interview participants that there are positive and negative aspects of using Facebook in formal learning environments because Facebook is viewed as a double-edged sword that both helps and hinders learning, as also claimed in the literature (Wang, Woo, & Quek, 2012; Odom, Jarvis, Sandlin, & Peek, 2013; Said, Tahir, & Ali, 2014; Smith, 2016).

Finally, a few students had been affected negatively by the use of the Facebook group for classroom education. The students voiced the ineffectiveness of the Facebook group as a platform for online discussion; instead, they suggested Facebook is more suitable as a communication channel. For example, students commented: "*Facebook group is not highly recommended, serves more as an announcement platform rather than a discussion ground as a class*" (P7); and "*overall, I feel Facebook is not the best tool for formal classroom learning, no significant impact to students… Facebook only serve as a communication platform*" (P27). Drawing from the literature, SNSs are becoming more prevalent in the educational context because most SNSs are designed to enhance interaction, communication and sharing between users (Hamat, Embi, & Hassan, 2012) and it is easier to communicate via Facebook because 'people use Facebook as a communication tool as instant communication is very important in today's world' (Kaya, & Bicen, 2016, p. 378).

But, some students preferred the traditional way of discussion which was face-to-face. Some students wrote: "*in my opinion, having the discussion online was not what I expected it to be; there were more drawbacks compared to the*

benefits… discussion through face-to-face is much more effective and efficient because online discussion on Facebook Group turned out to be messy" (P14); "*comes with fair share of challenges, certain things should be done the good old ways… not effective compared to face-to-face discussions. Facebook puts a burden on students*" (P26); and "*Facebook is not a place for having a discussion as too many notifications and distractions. I solely believe formal education should be received on face-to-face communication basis*" (P36). One student complained about the unpleasant experience of Facebook discussion: "*I am dissatisfied with the experience of discussing on Facebook due to having no clear direction for the discussion… the experience of Facebook discussion was not an enjoyable one, it did not change my experience towards online discussion as I still find Facebook discussion to be annoyance and not a suitable platform to discuss matters such as studies*" (P32).

It is evident from the analysis of students' reflection journals that the Facebook group has more advantages rather than the disadvantages and the majority of students perceived the Facebook group to be effective with positive outcomes and impacts on teaching and learning in the selected Malaysian higher education institutions. A smaller number of students recorded the challenges and negative outcomes and impacts of using a Facebook group in formal classroom education, and a handful of students expressed a neutral perception towards using Facebook group for formal learning.

5.5 Chapter summary

The findings of this chapter were based on the analysis and interpretation of qualitative data gathered from the lecturers and students through semi-structured interviews as well as through students' reflection journals. Both lecturers and students of Malaysian higher education institutions in this study acknowledged that Facebook is a double-edged sword which comprised of both advantages and disadvantages for teaching and learning in Malaysian higher education classrooms. These findings lead to the understanding of potentials and limitations of Facebook use for teaching and learning in this context.

Drawing from the interviews and reflection journal analysis, the lecturers and students consistently described Facebook benefits such as: interactivity; ease of use; instant responses; convenience; usefulness for reaching out to students; assignment discussion; efficiency and effective classroom education. In terms of Facebook disadvantages and challenges, the consistent themes which emerged throughout the interviews and reflection posts were: distraction; information overload; and technological problems. The list of the advantages and disadvantages of using Facebook for teaching and learning in Malaysian higher education classrooms is summarised in Table 5.1 to illustrate the key findings for RQ2 – the perceived outcomes and impacts of lecturers and students of using Facebook for teaching and learning, and communication in formal classroom education in Malaysian higher education institutions.

	Advantages	Disadvantages
Lecturer participants	• Interactivity • Ease of use • User-friendly • Immediate response • Flexibility • Global reach • Convenience • Usefulness in reaching out to students • Better engagement and connection between lecturers and students • Availability of audience • Able to assess students' learning • A safe environment for student learning	• Facebook is a public domain • A distraction for teaching and student learning • Overwhelming of student requests • Overloading of information • Difficulty of tracking and compiling students' work • Fear of losing course content • Risk of plagiarism • Disturbance from advertisement
Student participants	• Ease of use • Convenience • Accessibility • Useful for assignments discussion • Constant interaction • Instant response from lecturers • Familiarity and comfortability • Interesting features • Sharing of information and knowledge • Obtain worldwide views and feedback	• Distraction • Informality of communication • Trustworthiness of information • Privacy issue

	Advantages	Disadvantages
Students' reflection journals	• Convenience • Ease of use • Accessibility • Enhanced engagement and interactivity • Sharing of knowledge and information • Instant feedback • Saving time • Efficiency and effectiveness for classroom education • Developing critical thinking • Collaborative work • Expression of inner self • Comfortability • Relationship building • Tracking students' work • Well-organised • Two-way communication • A learning community • Long-term storage • Multitasking • Free of charge • Reliable • As a timely reminder	• A distraction for classroom education • Information overload • Lack of active participation • Informality • Misinterpretation • Getting off-track • Lack of non-verbal cues • Redundancy and time consuming • Trespassing on personal space • Lack of proper guidelines

Table 5.1 Summary of advantages and disadvantages of Facebook usage in classroom education.

Although the findings reported both advantages and disadvantages of Facebook for teaching and learning in Malaysian universities, I observe that both lecturers and students who have used Facebook for teaching and learning in formal classroom education disclosed more advantages in comparison to disadvantages of using Facebook for teaching and learning (see Table 5.1). For example, two lecturers (L4 and L6) highlighted that Facebook is effective

and efficient, hence they are using it for teaching, while L7 claimed that social media such as Facebook is "*not safe as they should be for teaching and learning purposes and there's a lot of confidential data when you're running a class, student's information that we have to protect and guard*". Therefore, I concur with the literature which describes Facebook as a double-edged sword (Wang, Woo, & Quek, 2012), which has a mixture of pros and cons when it is used for teaching and learning (Said, Tahir, & Ali, 2014) and in the Malaysian context, 'integration of digital technology into teaching and learning is a double-edged challenge' (Passey et al., 2016, p. 122). Given that Facebook use is a double-edged sword for university teaching and learning (Smith, 2016), it is important that we recognise and further understand lecturers' and students' perspectives of Facebook use in formal learning, as well as the uses of Facebook now for higher education classroom teaching and learning.

This chapter has provided insights into lecturers' and students' experiences and evaluation of Facebook use for teaching and learning in Malaysian higher education (RQ3 and RQ4). Table 5.2 provides a summary of the lecturers' and students' perspectives and perceived challenges regarding the effective use of Facebook for teaching and learning in classroom education, in response to RQ3 and RQ4. The results of this study show a high degree of potential importance of Facebook usage for teaching and learning in classroom education in Malaysian universities. It is important to note that the findings demonstrate the benefits of integrating Facebook formally in higher education curricula in Malaysian universities, reported by students and lecturers to help improve lecturers' pedagogy practices and students' learning experiences.

	Perceived Outcomes and Impacts	**Perceived Challenges**
Lecturer participants	• Facebook as effective teaching tool • Students' norm of practice • Excitement • Flexibility • Connectivity • A controlled environment • Collaborative and social learning	• Students' language proficiency • Poor Internet connection • Different time zone and response timing • Limited contribution from students • Pedagogy design • Risk of double-posting
Student participants	• Facebook is the best and could replace institutional LMS • Facebook works well with institutional LMS and face-to-face communication • Facebook serves as a supplementary tool, preferred face-to-face interaction in the classroom and institution LMS • Facebook is effective in improving student learning, communication practices and engagement	• Information clutter • Technical problems • Limited contribution

	Perceived Outcomes and Impacts	Perceived Challenges
Students' reflection journals	• Majority of students perceived a positive impact of Facebook group as a useful platform in facilitating course outline and extending learning experience beyond classroom • Some students claimed that the use of Facebook group in formal classroom education was neither good nor bad • A few students had been negatively affected by the use of Facebook group for classroom education	• Technical problems (Internet speed) • Difficulty and confusing when expressing ideas into words

Table 5.2 Summary of lecturers' and students' perspectives and perceived challenges of the effective use of Facebook for teaching and learning in classroom education.

Scholars have claimed that 'a high rate of student engagement with the course Facebook page… suggests that this technology could promote a collaborative and cooperative learning environment. Continued integration of Facebook into courses may see further benefits through enhanced "student to student" and "student to instructor" communication, which in turn may translate to greater learning outcomes… the most efficient and convenient platform for student engagement and learning' (Irwin et al., 2012, p. 1229). In this regard, my study

contributes to the literature as it sheds light on the use of Facebook for lecturer-student and student-student engagement; as stated previously, 'collaboration was the most important predictor of social media adoption in higher education' (Sharma, Joshi, & Sharma, 2016, p. 349). The technology – Facebook – 'facilitates the shift from teacher-focused to learner-focused activities… represented in the Conversational Framework: the continual iteration between theory and practice, learner and learner, and learner and teacher, on both levels' (Laurillard, 2009, p. 15). It is also evidenced that 'a high level of interaction and engagement of using Facebook is due to PEOU, while the PU for learning motivates students to use Facebook in the classroom for collaborative learning, has in turn led to students' satisfaction of social media use in higher education' (Al-Rahmi, & Othman, 2013b, p. 1548).

By providing detailed analysis of lecturer and student perspectives regarding the use of Facebook, especially the Facebook closed-group use in the Malaysian higher education classroom, this study addresses existing research gaps in the literature which illustrate the prominence of Facebook as a teaching and learning and communication tool.

The next chapter, Chapter Six Conclusion, provides a summary of the study and conclusions related to the findings of this study. Attention will be given to addressing the theoretical and practical implications of the study as the contribution to knowledge, as well as providing the limitations and suggestions for future research on the topic of interest in this study.

Chapter 6 Conclusion

6.1 Introduction

The conclusion chapter provides responses to the set of questions identified at the outset of the study and offers a clear picture of the research problem and how it has been explored. This chapter offers a summary and conclusions, pertaining to the findings related to the background informed by the literature reviewed. Attention is given to implications of the study for relevant audiences, as well as stating limitations and suggestions for future research on the topic of interest in this study.

Recently, there has been much interest in the use of social media technologies in educational settings (Adalberon, & Säljö, 2017; Chugh, & Ruhi, 2018; Keles, 2018), and, especially, research on Facebook use in Malaysian educational contexts has been growing at a rapid rate (Faryadi, 2017; Al-Rahmi et al., 2018). However, from the literature review undertaken and discussed in Chapter Two, little is known about the use of Facebook in formal learning environments and there is clearly a gap in the literature in understanding how Facebook is used for teaching and learning in formal classroom education in Malaysian universities. Therefore, the purpose of this study was to assess the uses and impacts of Facebook for teaching and learning in classroom education in Malaysian universities. The study investigated how and why lecturers and students of Malaysian universities used Facebook for teaching and learning in formal classroom education, and further evaluated both lecturers' and students' experiences and perspectives on the outcomes and impacts of Facebook for teaching and learning in that context. Four RQs were posed and examined –

RQ1) How do lecturers and students of Malaysian universities use Facebook for formal classroom education?, RQ2) What are their perceived outcomes and impacts (positive, neutral or negative) of using Facebook for teaching and learning, and communication in formal classroom education in Malaysian higher education?, RQ3) How do lecturers of Malaysian universities perceive the use of Facebook for classroom education in engaging students and constructing knowledge through collaboration and social learning?, and RQ4) What is the students' evaluation of the effectiveness of using Facebook as a useful learning tool that supports, enhances and strengthens their classroom learning experiences in Malaysian universities?

This study employed a multiple-method study approach, interviewing eight lecturers and twelve students from three public and four private universities in Malaysia about using Facebook in a formal learning environment. Additionally, a case study of a private university was undertaken, to identify in more detail the interaction and engagement between lecturers and students and among students in two Facebook closed-group pages, and to content-analyse 38 students' reflection journals on their participation in the Facebook closed-group. Data collected from the semi-structured interviews with lecturers and students addressed all four RQs, which allowed me to identify experiences of lecturers and students on the use of Facebook in formal learning environments in Malaysian higher education, and their perceived outcomes and impacts of Facebook usage for teaching and learning in those contexts through the perceived pros and cons of Facebook implementation for formal learning. Data collected from the systematic analysis of the content of Facebook closed-group

pages of undergraduate students allowed me to identify the kinds of connections and interactivity between students and the lecturers in the Facebook group pages (in essence, as they were happening, albeit the analysis was done at a later time). At the end of a 12-week semester, 38 students of the private university wrote a summary of their learning experiences of using Facebook closed-groups in classroom education, and an evaluation of the experience of using Facebook closed-groups as a platform for online communication and group discussion in classroom education (perceptions that were gathered very soon after completion of the activities, rather than using post-activity interviews or questionnaires at a later time). The qualitative data from the Facebook closed-group pages and students' reflection journals were analysed based on the frequency of repeated categories and themes related to three of the RQs – RQ1, RQ2 and RQ4.

My intention for this study was not merely concerned with lecturers' and students' experiences and perceptions on the uses and impacts of Facebook for teaching and learning practices in the classroom in Malaysian universities, but was interested in exploring the similarities and differences of practice between the lecturers and students within this context as well as the elements of Facebook features that support learning and the management of learning. The following points show the results of my study, the contributions to knowledge, which were not discovered in previous literature reviewed in Chapter Two.

- An exploration of the perspectives and experiences of both lecturers and students in public and private universities in Malaysia ranging from 15

different disciplines on their use of Facebook for teaching and learning in formal classroom curriculum for: lecturer-student and student-student communication, making and receiving announcements, online discussion, group and assignment discussion as well as uploading and sharing of information (see sub-section 6.2.1).

- Analysis of data gathered from a multiple-method study through semi-structured interviews, participant virtual observation of Facebook closed-group pages and content-analysis of reflection journals reporting positive perceived outcomes and impacts of Facebook in classroom teaching and learning (see sub-sections 6.2.2 and 6.2.3, and Figure 6.1).
- The similarities and differences between lecturers and students on the uses of Facebook and their perspectives and evaluations in terms of pros and cons and perceived outcomes and impacts for using Facebook in classroom education (see sub-section 6.3.1, and Figures 6.2, 6.3 and 6.4).
- The integration of elements from the U&G theory (Katz, Blumler, & Gurevitch, 1974), social constructivist theory (Vygotsky, 1978), and TAM (Davis, 1989) as a framework to explore practice of Facebook uses, motivations of usage and participants' perceived outcomes and impacts of Facebook on teaching and learning in classroom education contexts in Malaysian universities (see sub-section 6.3.2, and Figure 6.5).
- The distinction of elements of Facebook features which support learning and the management of learning (see sub-section 6.3.3, and Figures 6.6 and 6.7).

By understanding how Facebook is used in a formal educational environment in the perspectives of both lecturers and students of Malaysian universities, this could assist faculty members in designing curriculum assisted by social media technologies, and utilising new forms of communication between students and the faculty. The importance of this study is to offer Malaysian higher education an original perspective on the role of SNSs, specifically Facebook, within formal classroom teaching and learning.

6.2 Summary of findings and discussion

This section addresses the four RQs of the study, discussed through three themes that are related to the four RQs and the systematic analysis of Facebook closed-group pages and reflection journals of the case study (as reported in Chapters Four and Five). It also discusses the findings and their relationship to previous literature and theoretical frameworks. The summary of the findings is extracted from the findings chapters (Chapters Four and Five) and the discussion of the findings in relation to previous literature and theoretical frameworks refers back to the literature review and theoretical framework chapter (Chapter Two).

6.2.1 Lecturers' and students' uses of Facebook in classroom education

The findings in Chapter Four indicate that all the lecturers and students in this study are daily Facebook users; three lecturers (L1, L3 and L4) and five students (S4, S6, S7, S8 and S11) are on Facebook all the time, no matter in class or out-of-class, supported by the fact that the Facebook app is on their mobile telephones. The student participants were considered heavy Facebook

users and this finding is in accordance with Hope (2016) and Lau (2017), whose studies revealed that university students participate in various social media activities such as Facebook on a daily basis. Apart from being a daily Facebook user, the lecturers of this study can be considered ‘tech-savvy’ as they have used various technologies for teaching in classroom education (see section 4.2 in Chapter Four).

The next finding for RQ1 shows the Facebook features and type of activities used by the lecturers and students for higher education teaching and learning. The lecturers and students consistently emphasised the use of Facebook closed-groups, Facebook messenger and file uploads. In particular, Facebook groups were used for lecturer-student and student-student communication, making and receiving announcements about subject-related matters, online discussion about assignments and tutorial topics, and sharing of information and course materials. This finding is consistent with the studies of Chen and Bryer (2012), Noh et al. (2013) and Herrera Batista, Tamez and de Velasco y Arellano (2015), that Facebook was used by the instructors for teaching, discussion and collaboration in formal learning in higher education (Chen, & Bryer, 2012), with Facebook offering a suitable platform for making announcements to students (Noh et al., 2013), and social media such as Facebook having high potential for learning activities because ‘the communication and interaction between students and professor is performed in an efficient manner’ (p. 159).

The lecturers' consistent use of Facebook for teaching in higher education concurs with Hamid et al. (2011), that online SNSs such as Facebook are able to complement current teaching and learning practices when the lecturers are confident to use social technologies in their teaching. Additionally, the use of Facebook gratifies students' needs for: (1) social interaction; (2) acquiring of information and understanding of their social environment; and (3) improved social knowledge, and these needs are in accord with the U&G theory (Quan-Haase, & Young, 2010; Tanta, Mihovilović, & Sablić, 2014; Phua, Jin, & Kim, 2017).

6.2.2 Lecturers' and students' perceived outcomes and impacts of Facebook use in classroom education

This section considers points related to three RQs (RQ2, RQ3 and RQ4), which sought to explore lecturers' and students perceived outcomes and impacts (positive, neutral or negative) of using Facebook for teaching and communication in formal classroom education in Malaysian universities: to gauge how lecturers perceive the use of Facebook for formal education programmes in engaging students and constructing knowledge through collaboration and social learning; and to assess how students evaluate the effectiveness of using Facebook as a useful learning tool that supports, enhances and strengthens their learning experiences. Throughout the interviews, the lecturer and student participants provided views about these questions – the pros and cons of using Facebook; the perceived challenges; the comparison of Facebook with LMS and other teaching methods; and their

perceived outcomes and impacts of using Facebook for teaching and learning practices.

Firstly, the responses of the lecturers about the potentials of Facebook for educational communication and student learning confirm past studies, in which Facebook enhances student engagement (Clements, 2015) in a safe and flexible learning space (Tiryakioglu, & Erzurum, 2011; Wang et al., 2012; Rambe, 2013; Rasiah, 2014), as well as facilitating the academic experience with positive collaborative learning correlated with interactivity between students and lecturers (Hashim et al., 2015). In particular, two of the themes that emerged from the lecturers' responses on the pros of using Facebook in higher education classrooms – PEOU and PU – are in accordance with the TAM (Davis, 1989). These themes have been shown to have significant influence on how the lecturers used Facebook for classroom education and further facilitate lecturers' academic experiences of using Facebook in their teaching. As indicated earlier (in sub-section 5.2.1 in Chapter Five), the lecturers highlighted that Facebook is easy to use and is useful for reaching out to students and assessing student learning.

From students' perspectives, they were open to the idea of using Facebook as a tool in classroom education because they saw Facebook as a benefit for university learning. In particular, ease of use and trouble-free use when managing Facebook for academic purposes as well as its usefulness for assignment discussion and interaction were two prominent themes which emerged from the students' interviews on the advantages of using Facebook

for classroom education. These benefits are consistent with the literature (Said, & Tahir, 2013; Rubrico, & Hashim, 2014; Haque, Sarwar, & Ahmad, 2015; Mohd Zaki, & Khan, 2016; Lee, & Chong, 2017), that students perceived positive outcomes and impacts of using Facebook for classroom learning, assignment and project discussion, as well as students being more willing to use Facebook if it helped them to achieve better learning outcomes, which aligned with the factors of the TAM (Davis, 1989).

Regardless of the many advantages discussed in the interviews, the lecturers and students also highlighted drawbacks of using Facebook for teaching and learning, such as: Facebook is a public domain; distractions for learning; overwhelming of information; informality; trustworthiness of information; privacy; and risks of plagiarism. Although some of the drawbacks are similar to those found in the literature which relate the public domain challenges of Facebook (Willems, & Bateman, 2011), issues of information overload and plagiarism (Reuben, 2008), as well as distractions (Fewkes, & McCabe, 2012; Eger, 2015; Khan, & Bakhsh, 2015), the lecturers in this study also highlighted the following drawbacks which were not found in prior literature, such as facing overwhelming numbers of student requests, difficulty of tracking and compiling students' work, fear of losing course content, and disturbances from Facebook advertisements. Nevertheless, the participants felt that Facebook disadvantages were considerably lower in comparison to the advantages. This viewpoint was further demonstrated in this study when one student (S4) asserted that Facebook was the best option and could replace an institutional LMS for classroom learning as students have acknowledged the important role

of Facebook in a student's academic experience (Vivian et al., 2014). The findings of my study concur with Moghavvemi et al. (2017), that 'using Facebook does not negatively affect students' academic performance. This paves the way for using Facebook as a communication and teaching tool' (p. 4) due to no students or lecturers in this study indicating that learning was negatively affected with the use of Facebook in the classroom.

The lecturer participants further identified six challenges faced when using Facebook in higher education classrooms. Three prominent themes emerged from the challenges highlighted: students' language proficiency; poor Internet connection; and limited contribution from the students. These challenges were similarly faced by the student participants of this study (see sections 5.3 and 5.4 in Chapter Five), especially technical problems and language barriers, which have previously also been identified as the two challenges for educational use of social networking technology in higher education (Hung, & Yuen, 2010). Drawing from the disadvantages and challenges summarised above, the lecturer participants suggested three forms of support needed from the universities for implementing Facebook for classroom education: enforcement of university policy and guidance; training support for academics; and the availability of infrastructure such as Internet connection in the university. These suggestions on the support required by lecturers when implementing Facebook for classroom education could offer to the university administrators in Malaysia as well as government officials of the MOHE Malaysia to formulate educational policy to support optimum use of social media tools to improve pedagogical practices.

Additionally, during the interviews, when the lecturers and students compared the use of Facebook to a university LMS and/or face-to-face teaching for formal learning environments, three perspectives arose: 1) an optimistic view on Facebook use compared to LMS; 2) a neutral view whereby Facebook acts as a supplementary tool; and 3) a sceptical view on Facebook's ability to enhance teaching and learning in higher education classrooms. As many as four lecturers (L1, L3, L5 and L8) and one student (S4) positively perceived Facebook to be an effective teaching tool for a formal learning environment, while three lecturers (L2, L4 and L6) and six students (S2, S3, S5, S10, S11 and S12) agreeing with previous studies (Munoz, & Towner, 2011; Hassan, 2014; Haque, Sarwar, & Ahmad, 2015) that Facebook is considered a supplementary tool that will hopefully enhance students' classroom learning. Lastly, the remaining five students (S1, S6, S7, S8 and S9) still preferred to have face-to-face interaction with their lecturers and to use the institutional LMS for learning purposes, and only one lecturer (L7) who previously used Facebook for teaching for seven years stated a current 'love-hate relationship' with social media and critiqued the added value of Facebook for teaching and learning in higher education.

In summary, the lecturer and student participants in this study acknowledged the potentials of Facebook for their teaching and learning practices with six out of eight lecturers and two students reporting positive attitudes towards using Facebook in the classroom. This finding about lecturers' positive attitudes towards Facebook is consistent with Lau's (2010) research that Malaysian

academic staff who have experienced using Facebook in their teaching demonstrated ‘a clearly positive attitude towards the Web and Web 2.0 as an instrument for the processing and performance of teaching and learning’ (p. 204). On the other hand, one lecturer and five students held a neutral stance; while three students had a negative attitude towards the use of Facebook for learning and one lecturer was not expecting to use Facebook for teaching.

Drawing on the pros and cons as well as its challenges for teaching and learning in classroom education, Figure 6.1 illustrates the reasons for the lecturers’ and students’ perceived outcomes and impacts of using Facebook for classroom teaching and learning in Malaysian universities. This model provides a summary of the key factors that those interested in taking Facebook use forward should consider.

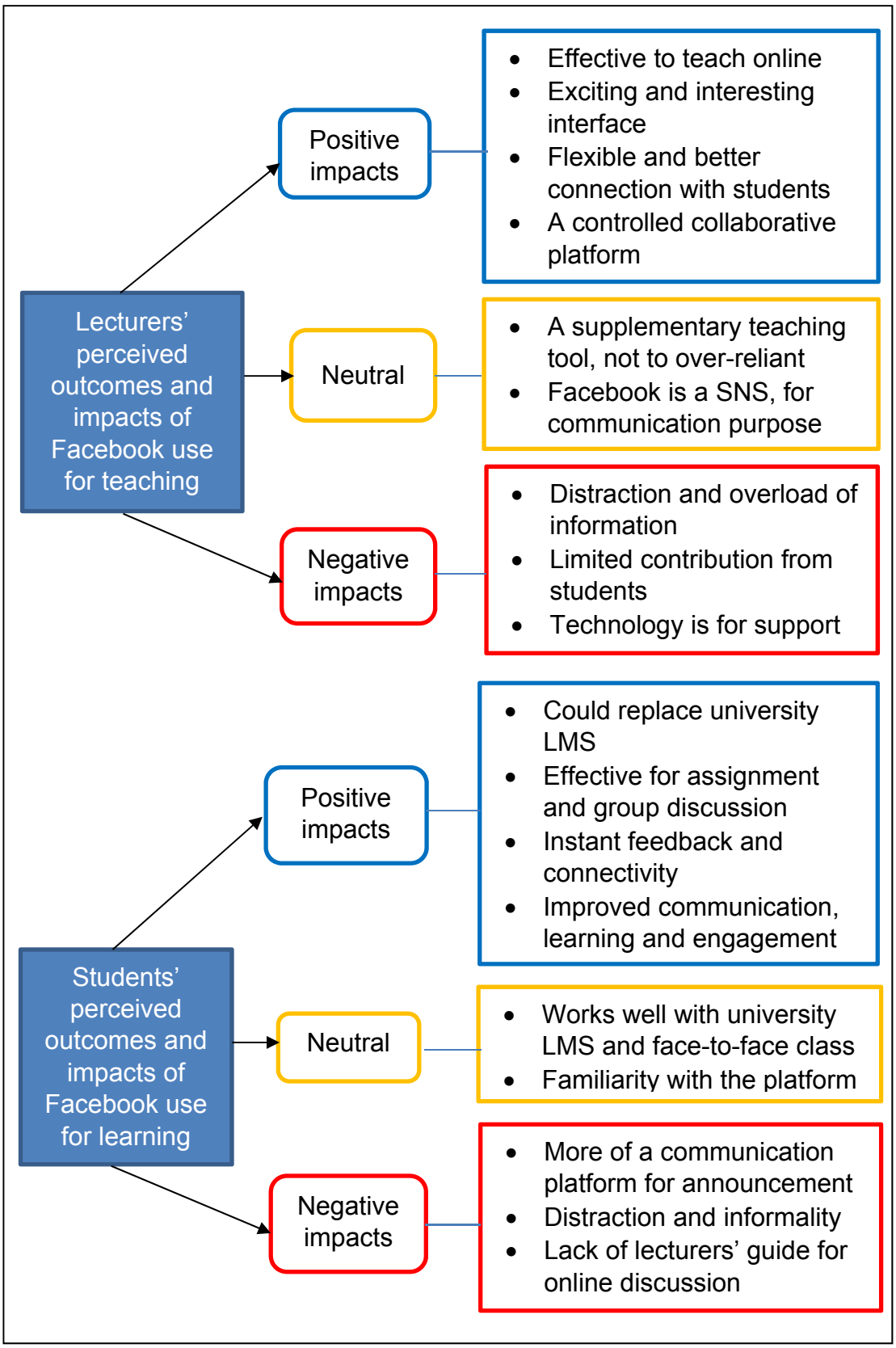

Figure 6.1 Lecturers' and students' perceived outcomes and impacts of using Facebook for teaching and learning in classroom education.

6.2.3 Case study: Uses and impacts of a Facebook group in classroom education

This section summarises the qualitative textual analysis of the virtual observation of two Facebook closed-group pages and 38 students' reflection journals of a case study of a private university (University A) in Malaysia. The data were coded in terms of categories related to three of the RQs – RQ1, RQ2 and RQ4 – about the use of Facebook closed-group for classroom education, students' perceived outcomes and impacts of Facebook use for learning in higher education and students' evaluation of the effectiveness of using Facebook as a useful learning tool that supports, enhances and strengthens their classroom learning experiences. This case study provides additional indicative evidence of the engagement and interaction between students and peers, and with the lecturers in the Facebook group in a module, and identification of actual usage of Facebook group by the lecturers and students for classroom education.

Throughout the 12-weeks of a semester from March to June 2017, a total of 27 and 68 postings were found in the first and second Facebook closed-groups respectively. The education-related interaction between two lecturers and 38 students of University A illustrated that very few contributions were made by the students. The findings about students' passiveness in posting in Facebook groups is in line with Lim's (2010) study that students performed the activity of 'lurkers' who log in to read posts but do not offer their opinions (p. 79) because lecturers are considered the main source of information in a Facebook group in

comparison with students (Staines, & Lauchs, 2013; Sim, Naidu, & Apparasamy, 2014), especially in activities such as uploading of course-related files and website links, making announcements and updates about subject-related matters and assessments, and creating online discussions.

On another note, in terms of posting and commenting during online discussion sessions at the Facebook closed-groups, the qualitative textual analysis of Facebook group pages revealed a high amount of comments received from students about online discussions. This indicates that the Facebook group is acknowledged as a suitable and valuable platform for online discussions which facilitates (as reported by most students) increased interaction and networking between lecturers and students and among students, as well as for co-creation of content in classroom education. This is in accordance with previous studies (Hurt et al., 2012; Omar, Embi, & Md. Yunus, 2012; Deng, & Tavares, 2013; Kent, 2013; Öztürk, 2014; Greenhow, & Askari, 2017). This form of social interaction and collaboration of online discussion through the Facebook group supports the concept of student learning arising in a way that relates to social constructivist theory, recognised as a highly effective method of teaching that all students can benefit from (Powell, & Kalina, 2009). This indicates that Facebook facilitates collaboration, interaction, and exchange of user-generated content (Churcher, Downs, & Tewksbury, 2014). When students and educators work together for mutual contribution through using social media technologies, students may be better motivated to learn and make more creative accomplishments (Sarwar et al., 2018).

Drawing upon 38 students' reflection journals, nine themes emerged from the data about the Facebook group advantages, three themes emerged about the disadvantages, two themes about challenges and three themes about students' perceived outcomes and impacts of using Facebook for teaching and learning in Malaysian classroom education. The advantages demonstrate that students in the study saw the use of Facebook group in a positive way to support classroom learning (Bowman, & Akcaoglu, 2014). On the other hand, not all aspects of the experience of using a Facebook group for classroom education were positive (see section 5.4 in Chapter Five).

It is worth mentioning that the students' evaluations of the Facebook group used in classroom education in terms of advantages, disadvantages and challenges as reported in the reflection journals were consistent with the findings drawn from the lecturers' and students' interviews, as well as those of previous studies (Wang, Woo, & Quek, 2012; Said, Tahir, & Ali, 2014; Smith, 2016). As one article states, Facebook is considered 'a positive tool for learning, but can also be a negative one if it is not properly used' (Wang, Woo, & Quek, 2012, p. 24). Therefore, lecturers and students need to weigh up both positive points and negatives associated with using Facebook for teaching and learning in the classroom (see Table 5.1 in section 5.5 in Chapter Five which summarises the pros and cons of Facebook use for classroom education and sub-section 6.3.1 in Chapter Six which identifies the similarities and differences of perspectives of lecturers and students about the pros and cons of Facebook uses for classroom teaching and learning).

6.3 Contribution to knowledge

The use of social media technologies, such as Facebook, by lecturers and students of Malaysian universities for educational purposes has become more prevalent in the 21st century, with more articles in prior literature focused on students' perspectives, yet only limited studies examining the perspective of the lecturers on the uses and impacts of Facebook for teaching and learning in classroom education contexts in Malaysian universities (see sub-section 2.3.1 in Chapter Two). Drawing on the literature review in Chapter Two, there is a gap in the research literature with respect to studies which examine the uses of Facebook and its outcomes and impacts for classroom teaching and learning from both lecturers' and students' experiences.

My study addresses the research gap identified in section 2.5 in Chapter Two that: (i) most studies on Facebook use in Malaysian higher education were not implemented in a formal classroom curriculum; and (ii) studies mainly applied quantitative methodology such as questionnaire surveys on Malaysian students' use of Facebook. Through a multiple-method study, my study reveals that Facebook was used by lecturers and students in this study for classroom teaching and learning (or in some cases used in classrooms but then leading to extended learning beyond the classroom). Lecturers in this study had extensively used Facebook for communication with students, online discussions, and as an assessment tool, which differs from results reported in prior literature that claimed Facebook was used as a supplementary tool for teaching and learning (de Villiers, 2010; Munoz, & Towner, 2011; Leelathakul, & Chaipah, 2013; Manca, & Ranieri, 2013; Hassan, 2014; Saaty, 2015; Hope,

2016). By contrast, my study shows that some lecturers are using Facebook as a primary tool.

The following three sub-sections (6.3.1 to 6.3.3) illustrate: the similiarites and differences of lecturers' and students' uses of Facebook and their perceptions about the pros and cons of using Facebook for teaching and learning, as well as perceived outcomes and impacts of using Facebook in classroom education in Malaysian universities (shown in Figures 6.2, 6.3 and 6.4); the integration of the principles of U&G theory (Katz, Blumler, & Gurevitch, 1974), social constructivist theory (Vygotsky, 1978), and TAM (Davis, 1989) in the discussion on the uses and impacts of Facebook for teaching and learning in classroom education in Malaysian universities (shown in Figure 6.5); and the elements (in terms of Facebook advantages and lecturers' and students' perceived positive outcomes and impacts of Facebook use in classroom education) that are concerned with learning per se, and those elements that are concerned with the management of learning (shown in Figures 6.6 and 6.7).

6.3.1 Similarities and differences between lecturers' and students' perspectives and experiences

6.3.1.1 Uses of Facebook in classroom education

As shown in Figure 6.2, one of the contributions of my study is exploring the similarities and differences between the use of Facebook of the lecturers and students of Malaysian universities.

When comparing lecturers' use to the use of Facebook by the students, both lecturers and students have used Facebook as a platform of communication between lecturers and students and among students, making and receiving announcements, group discussion on assignment- and subject-related matters, online discussion as tutorial activity as well as sharing information and uploading files of lecture slides and additional material. In addition to that, the lecturers used Facebook as a platform for consultation with students (reported by L2) and as an assessed assignment (reported by L4). The student participants, on the other hand, have used Facebook for personal reasons such as viewing and checking newsfeeds, friends' activities and updates, videos and news, games and other Facebook pages which they followed, which fulfilled the gratifications of improved social knowledge. These uses are in accordance with Katz, Blumler and Gurevitch's (1974) U&G theory for social interaction, acquiring of information, and improved social knowledge.

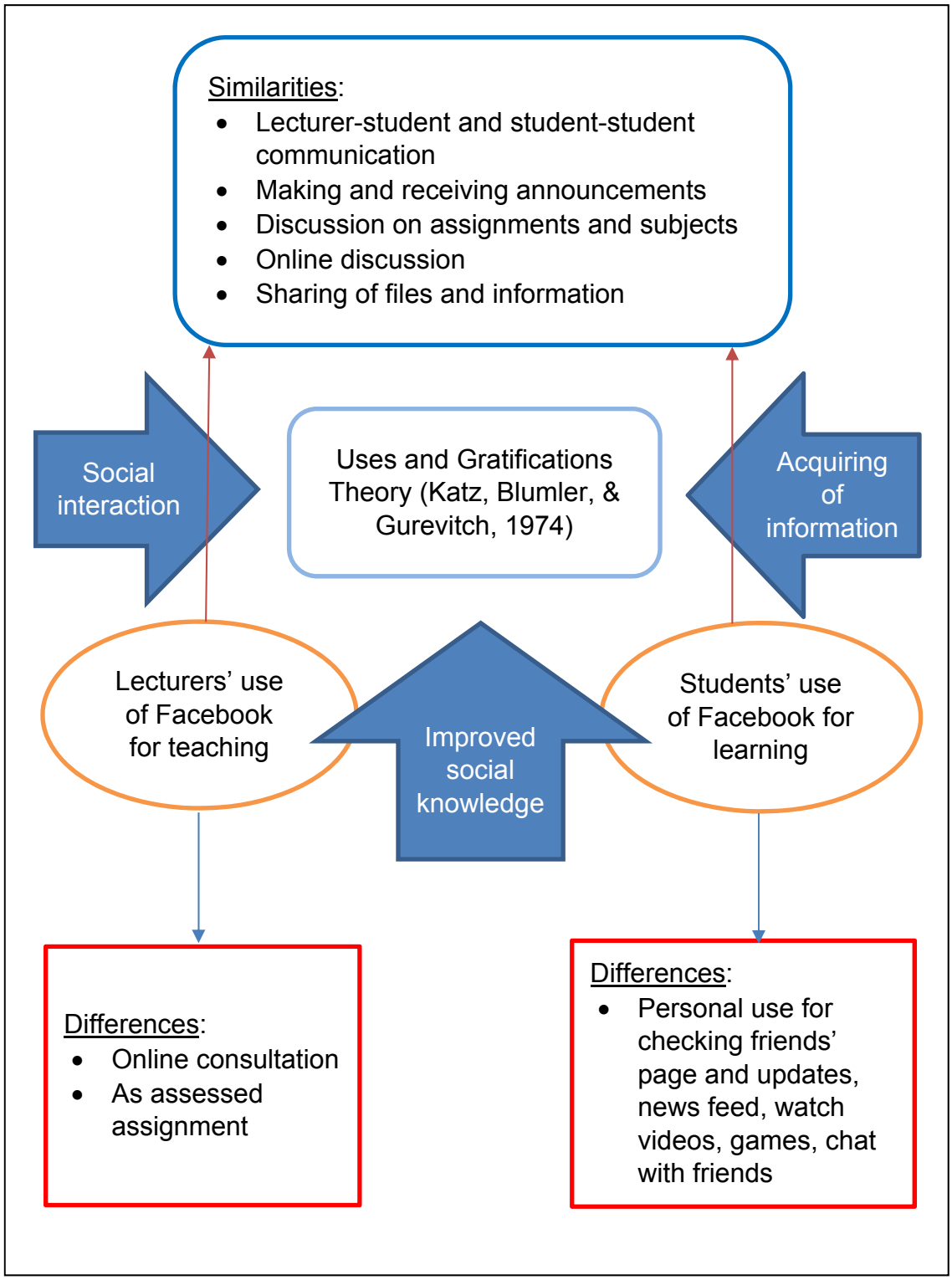

Figure 6.2 Comparing the uses of Facebook by lecturers and students for classroom teaching and learning.

My study extends the literature by examining the usage of Facebook by lecturers and students of Malaysian universities. Most existing research studies in the Malaysian context only examined students' perspectives (Almadhoun, Dominic, & Lai, 2011; Hamat, Embi, & Hassan, 2012; Alhazmi, & Abdul Rahman, 2013; Phua, & Wong, 2015; Moghavvemi et al., 2017), while my study has investigated both lecturers' and students' perspectives. The findings on students' Facebook usage differs from the studies by Hamat, Embi and Hassan (2012), Alhazmi and Abdul Rahman (2013), and Moghavvemi et al. (2017) which argued that the main reasons for Malaysian students to use Facebook were for personal and socialisation purposes such as keeping in touch with friends, letting 'friends' and others know what is happening in one's life, for passing time, relaxing/escaping, and for entertainment purposes. Although ten students disclosed during the interviews that they used Facebook for educational and personal reasons, they admitted that a Facebook group was frequently used for assignment discussion. Specifically, two students (S2 and S3) stated they only used Facebook for studying purposes.The students in my study had used Facebook closed-groups for supporting learning through discussion about assignments, and questions and answers about the subject. On the other hand, the students used Facebook closed-groups and Facebook Messenger for supporting the management of learning such as receiving course materials from lecturers, sharing of information related to the course and assignments, sharing of information about events and news in the university, communicating with the lecturers and peers, as well as receiving announcements from lecturers (see sub-section 6.3.3).

6.3.1.2 Pros and cons of using Facebook in classroom education

Figure 6.3 further illustrates the similarities and differences of lecturers' and students' perspectives about the pros and cons of using Facebook in classroom education. In terms of similarities, findings show that both lecturers and students agreed that Facebook benefits classroom teaching and learning because of the nature of interactivity support, ease of use, immediate response, global reach, convenience, and enhanced lecturer-student and student-student engagement. Nevertheless, both lecturers and students in this study were concerned about the disadvantages of Facebook, about distraction and the overloading of information.

During the interviews, the lecturers claimed that Facebook was user-friendly and flexible, useful in reaching out to students and assessing student learning, audiences were readily available, and it was a safe environment for student learning. On the other hand, the student participants stated that Facebook was useful for assignment discussion, the familiarity with its interesting features, it was comfortable to use, being able to share information and knowledge with peers, undertaking collaborative work and building critical thinking, as well as serving as a long-term storage.

In terms of Facebook disadvantages, the lecturers disclosed that Facebook is a public domain, which does not belong to the lecturers and/or the university, thus the content posted in Facebook could be lost or erased. One lecturer was concerned about the overwhelming numbers of student requests, while another lecturer felt that it was difficult to track and compile students' work in Facebook.

Two other concerns of the lecturers, which differ from the student participants, were risk of plagiarism and disturbance from advertisements. For disadvantages of Facebook, students raised the concerns of informality, lack of trustworthiness as well as lack of active participation, and proper guidance when using Facebook. They were also concerned about the privacy issue and the risk of misinterpretation due the absence of non-verbal cues.

My study adds to the literature as it highlights the confidence of the lecturers and students in this study in their perceptions of the potential of Facebook for teaching and learning, and communication in classrooms, which are attributed to the pros outweighing the cons.

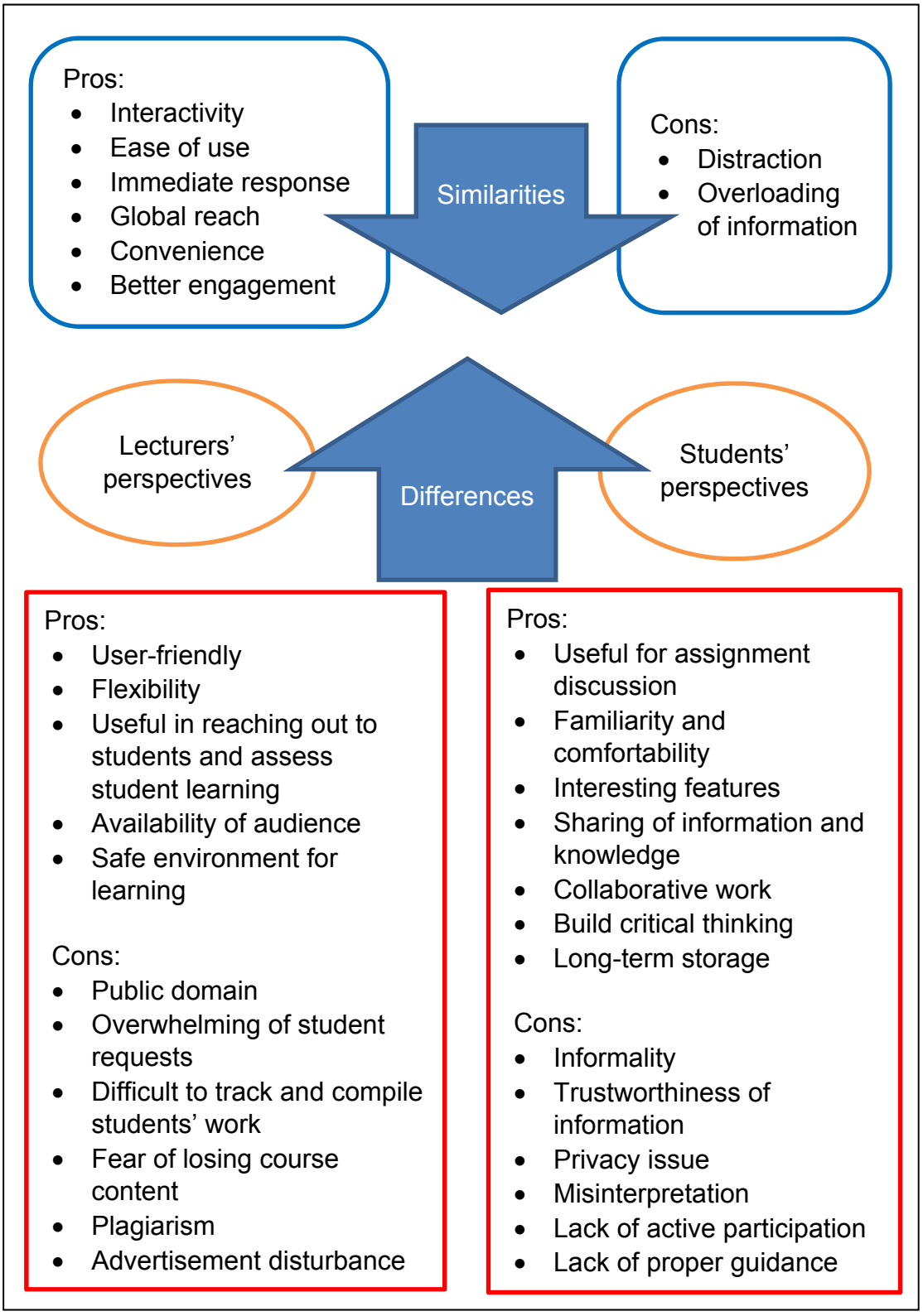

Figure 6.3 Comparing lecturers' and students' perspectives about the pros and cons of using Facebook for classroom teaching and learning.

6.3.1.3 Perceived outcomes and impacts of Facebook use in classroom education

This section portrays the similarities and differences of lecturers' and students' perceived outcomes and impacts of using Facebook for classroom education context. Figure 6.4 illustrates that both lecturers and students shared similar perspectives on three perceived outcomes and impacts when using Facebook in classroom education contexts in Malaysian universities – positive, neutral and negative.

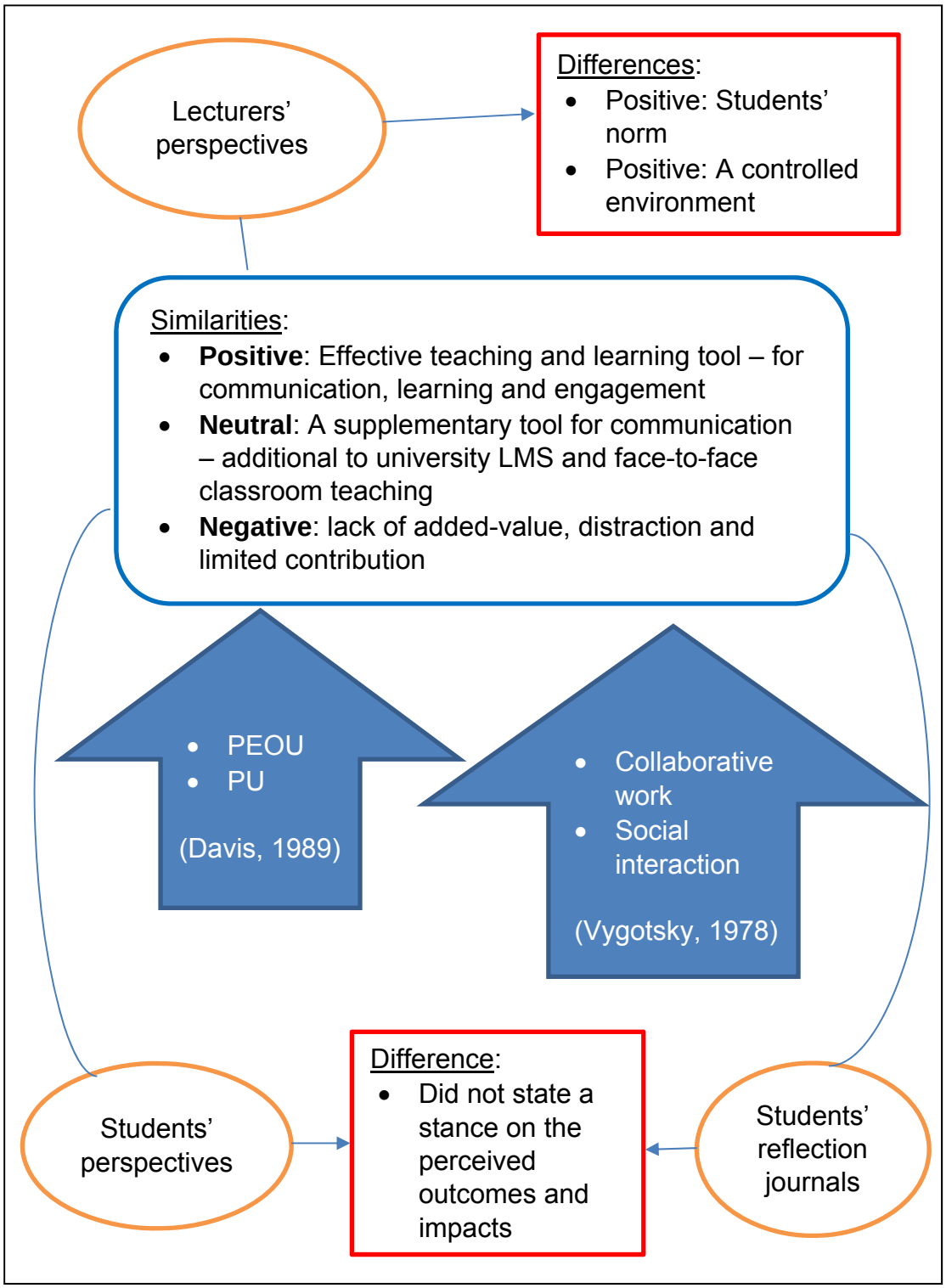

Figure 6.4 Comparing lecturers' and students' perceived outcomes and impacts of using Facebook for classroom education.

Throughout the interviews, six lecturers (L1, L2, L3, L4, L5 and L8) and two students (S4 and S12) perceived positively the impact of using Facebook for classroom education. Facebook was considered an effective teaching and learning tool, especially for communication, student learning and engagement between lecturer and students and among students. One lecturer (L6) and five students (S1, S2, S4, S9 and S10) maintained a neutral stance, claiming that Facebook served as a supplementary tool, an addition to the university LMS and face-to-face classroom teaching as a communication platform. By contrast, one lecturer (L7) and three students (S6, S7 and S8) negatively perceived using Facebook for teaching and learning. L7 queried the value-added of Facebook in higher education, while the students were concerned about the distractions and limited contribution from peers. Data from the reflection journals analysis also documented 18 reflection journals reporting positive impacts, eight journals reporting a neutral stance, and six journals reporting negative impacts (refer to sub-section 5.4.4 in Chapter Five for the identification of outcomes from reflection journals).

In terms of differences in comparison to students' perspectives, the lecturers claimed that Facebook had a positive impact on classroom teaching due to the students' norm practices of using Facebook; L1 and L5 stated that students will respond immediately when they have received announcements through Facebook in comparison to the university LMS and/or emails. In addition, L1 and L2 claimed that Facebook was a controlled learning environment, and therefore an instructor-initiated Facebook group positively impacted student learning and kept students on track when they were discussing online. On

another note, two students (S5 and S11) and six reflection journals (P20, P25, P28, P30, P31 and P33) did not clearly indicate a stance on the outcomes and impacts of using a Facebook group for classroom learning. The students discussed about the pros and cons of using Facebook for formal learning, but did not state whether or not Facebook impacted them positively or negatively.

In summary, the findings of this study make a contribution to the current literature, providing insights which I present through the experiences of lecturers and students for using Facebook in classroom education contexts and their perceived outcomes and impacts on teaching and learning practices. These have the potential to offer a new framework of practice within Malaysian higher education to support optimum use of social media tools, such as Facebook, to improve pedagogical practices as well as motivate students and facilitate learning communities.

6.3.2 The integration of theoretical frameworks related to the uses and impacts of Facebook for teaching and learning in classroom education

This section discusses the second contribution of my study, the presentation of the theoretical frameworks related to the uses and impacts of Facebook for teaching and learning in classroom education in Malaysian universities. The principles of U&G theory (Katz, Blumler, & Gurevitch, 1974), social constructivist theory (Vygotsky, 1978), and TAM (Davis, 1989) were integrated in the findings discussion of the uses and impacts of Facebook for teaching and learning in classroom education in Malaysian universities.

This study reveals from background literature that social technology is expected to play an increasing role in teaching and learning in formal learning environments such as higher education classrooms. From the presentation of lecturers' and students' points of view regarding Facebook uses, perceived outcomes and impacts and the challenges faced for classroom teaching and learning, this study further contributes to the conversation about Facebook use in Malaysian higher education as a formal teaching and learning tool, exploiting the principles of U&G theory (Katz, Blumler, & Gurevitch, 1974), social constructivist theory (Vygotsky, 1978), and TAM (Davis, 1989). Although the Conversational Framework (Laurillard, 1999) was discussed as a theoretical framework in Chapter Two, this Framework is not directly applied to the findings of my study due to the complexity of the Framework, but served as 'a theoretical and conceptual starting point for the design of a technology-enhanced, pedagogy-driven learning environment' (Grobler, & Smits, 2016, p. 8), and 'describes the conversation between teacher and learner' (Laurillard, 1999, p. 115). In order for the conversational form to be essential to learning, 'the structure of a learning conversation between two individuals, with the teacher acting as external agent, mediating what is to be learned… must take place also within the individual, as a conversation between the externally situated individual, and the internally persistent individual who is common to all experienced situations' (Laurillard, 1999, p. 115). The complexity of the processes in the Conversational Framework through the discursive, adaptive, interactive, and reflective aspects of learning are in contrast with the objectives of my study which focused on exploring the lecturers' and students' perceived outcomes and impacts of using Facebook for teaching and learning in

classroom education in Malaysian universities, rather than the development of practice in those contexts.

The elements in the theories and model I adopted as a framing for this study – U&G theory (Katz, Blumler, & Gurevitch, 1974), social constructivist theory (Vygotsky, 1978), and TAM (Davis, 1989) – were able to be applied to the findings of this study. Firstly, as discussed in Chapter Four and in the summary of findings and discussion of Chapter Six, the use of Facebook gratifies students' need for: (1) social interaction; and (2) acquiring of information and understanding of their social environment; to (3) improve social knowledge, which is consistent with the U&G theory (Katz, Blumler, & Gurevitch, 1974). In addition, the form of social interaction and collaboration of online discussion through the Facebook group as discussed in Chapters Four and Five of the case study, supports the concept of student learning arising in a way that relates to social constructivist theory, recognised as a highly effective method of teaching that all students can benefit from (Vygotsky, 1978). Lastly, the findings in Chapter Five and in the summary of findings of discussion of Chapter Six, the lecturers' and students' responses on the pros of using Facebook in higher education classroom – PEOU and PU – are in accordance with the TAM (Davis, 1989). Figure 6.5 illustrates the relationships of the theoretical frameworks for this study to lecturers' and students' uses and perceived outcomes and impacts of Facebook for classroom teaching and learning in Malaysian universities.

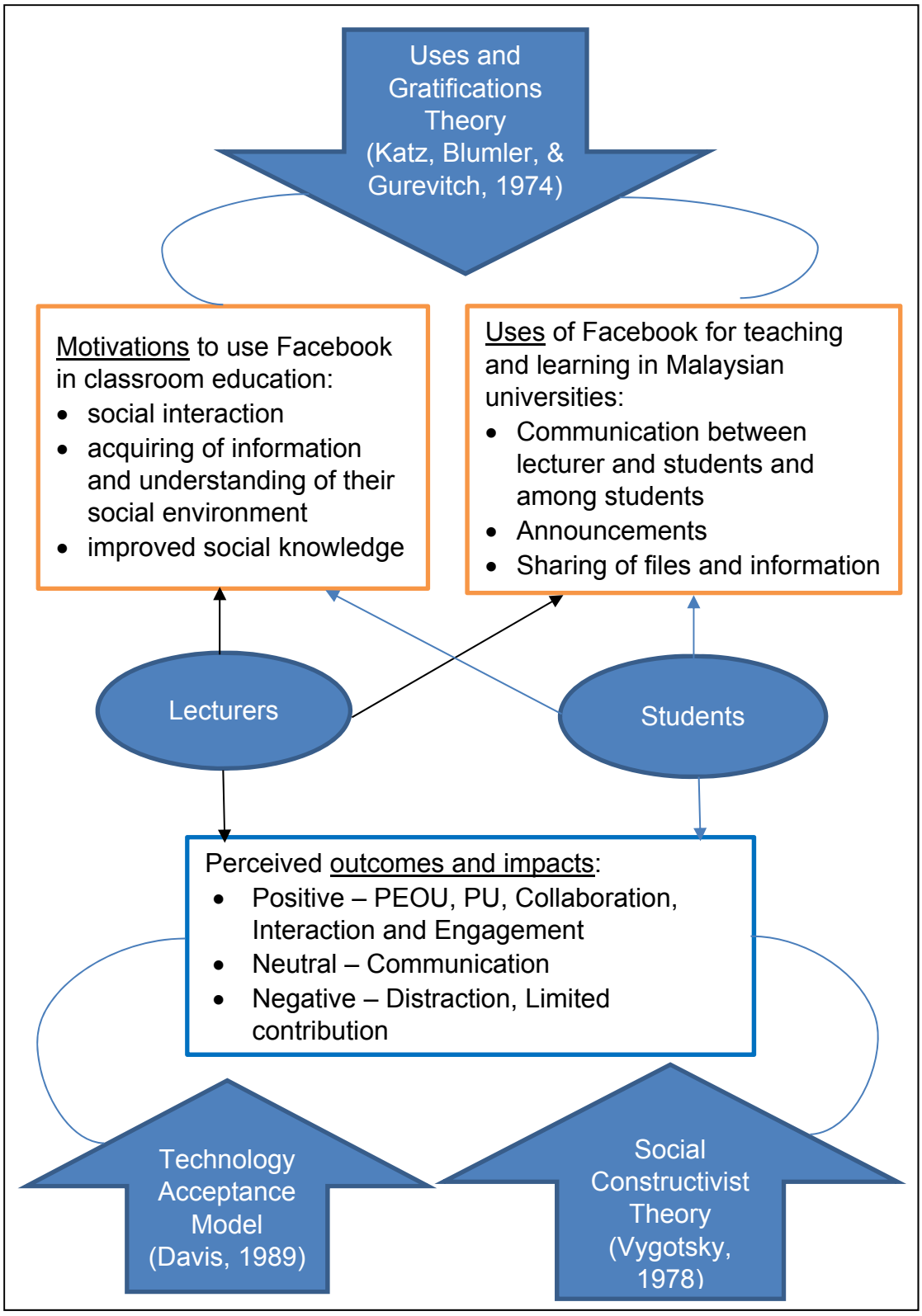

Figure 6.5 The visual presentation of the theoretical frameworks related to the uses and impacts of Facebook for teaching and learning in classroom education in Malaysian universities.

6.3.3 Elements supporting learning and the management of learning

This section explores Facebook features which support learning and the management of learning, drawn from aspects of Facebook identified as advantages, and from lecturers' and students' perceptions of positive outcomes and impacts from Facebook use in classroom education (shown in Figures 6.6 and 6.7).

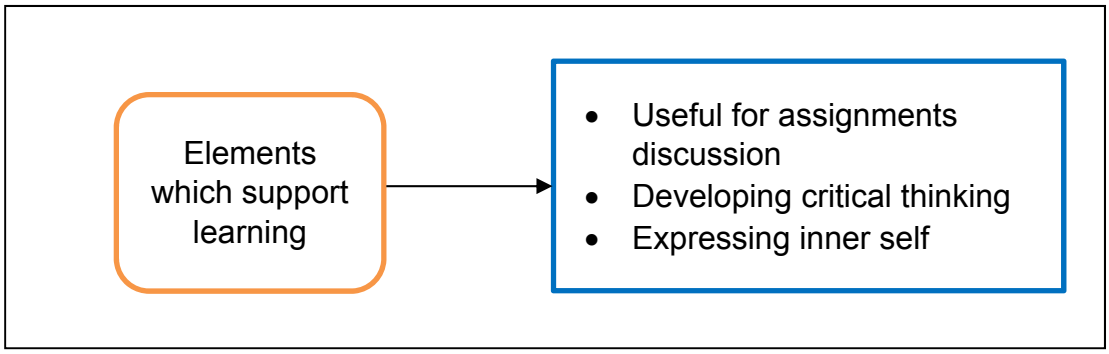

Figure 6.6 Elements for supporting learning.

Drawing from the discussion in Chapter Five (see Tables 5.1 and 5.2), Figure 6.6 illustrates the elements of Facebook features that are concerned with supporting learning per se. The lecturers and students expressed that Facebook is useful for assignment and group discussion, developing critical thinking and expressing inner self. For example, L2 discussed with her students about questions related to the subject content, while L6 and L8 posted topics for their students to comment on and discuss through tutorial discussion. Additionally, two students wrote in the reflection journal on the use of Facebook discussion forum: "*Facebook discussion forum enables student to interact more by commenting and replying posts. Facebook online discussion makes everyone share knowledge, opinions or points of view and I got more*

information and understanding on the topics from my peers" (P2) and "*it [Facebook online discussion] allows me some breathing time to research my answers and view other people's opinions at the same time. I am able to track the comments on the discussion thread and give my personal opinion and also comment on someone else's thread if I agree or disagree with their answers*" (P38). The involvement of students in posting and commenting in the Facebook groups for assignment and discussion promotes learning of subject matter.

The use of Facebook groups by lecturers and students could enhance students' learning and 'thinking capabilities in preparing the class assignments and projects… commit them to be intelligent and build their critical thinking' (Saifudin, Yacob, & Saad, 2016, p. 1263). Three students recorded in the reflection journals that: "*I find Facebook stimulates student's critical thinking by having online discussion, students may conduct research immediately*" (P6), "*Facebook online discussion allowed me to develop critical thinking skills*" (P12), and "*By using Facebook discussion, I have the opportunity to compare my answers with others, this helps me in my critical thinking*" (P15). In addition, in P20, the student claimed that the positive impact of using a Facebook group in classroom learning is able to express themselves well; "*it is easier to express our thoughts and opinions without feeling burdensome on Facebook. We can be ourselves freely and not trying to impress others or go with the majority. Knowing where your thoughts and opinion matters are very helpful in building your inner self up to be an outspoken person*" (P20). Drawing from these excerpts, the usefulness of Facebook closed-group for online discussion, development of critical thinking and expression of inner self supports student

learning through learning activities of ‘review and reflect’ (for online discussion), ‘think forward’ (for developing critical thinking), while ‘listen to my explanation’ (for expression of inner self) supports a range of learning elements such as ‘higher cognitive and metacognitive levels of learning’, ‘the transfer of learning’, and ‘active engagement and reflection’ (Passey, 2010, p. 69).

In terms of other benefits and effects, Figure 6.7 illustrates those elements of Facebook features which are concerned with the management of learning. The advantages of Facebook as a platform for sharing information and knowledge and obtaining worldwide views and feedback offers the opportunities to students for more access and interaction, increasing their chances of achieving better academic performance due to the usage of this technology for pedagogical purposes (Laskin, & Avena, 2015). Another major advantage of using Facebook in higher education is through facilitating course outline access and extending students’ learning experience beyond classrooms. Facebook provides students with the ease of use and flexibility to access course content at a time and place most convenient to them.

Through constant interactivity and two-way communication between lecturers and students and among students, Facebook acts as a supporting platform for teaching and learning practices as well as for building a stronger relationship between lecturers and students. The participants in my study praised the value of Facebook as a useful resource for education which could replace the institutional LMS, especially for facilitating collaborative and social learning within their learning community.

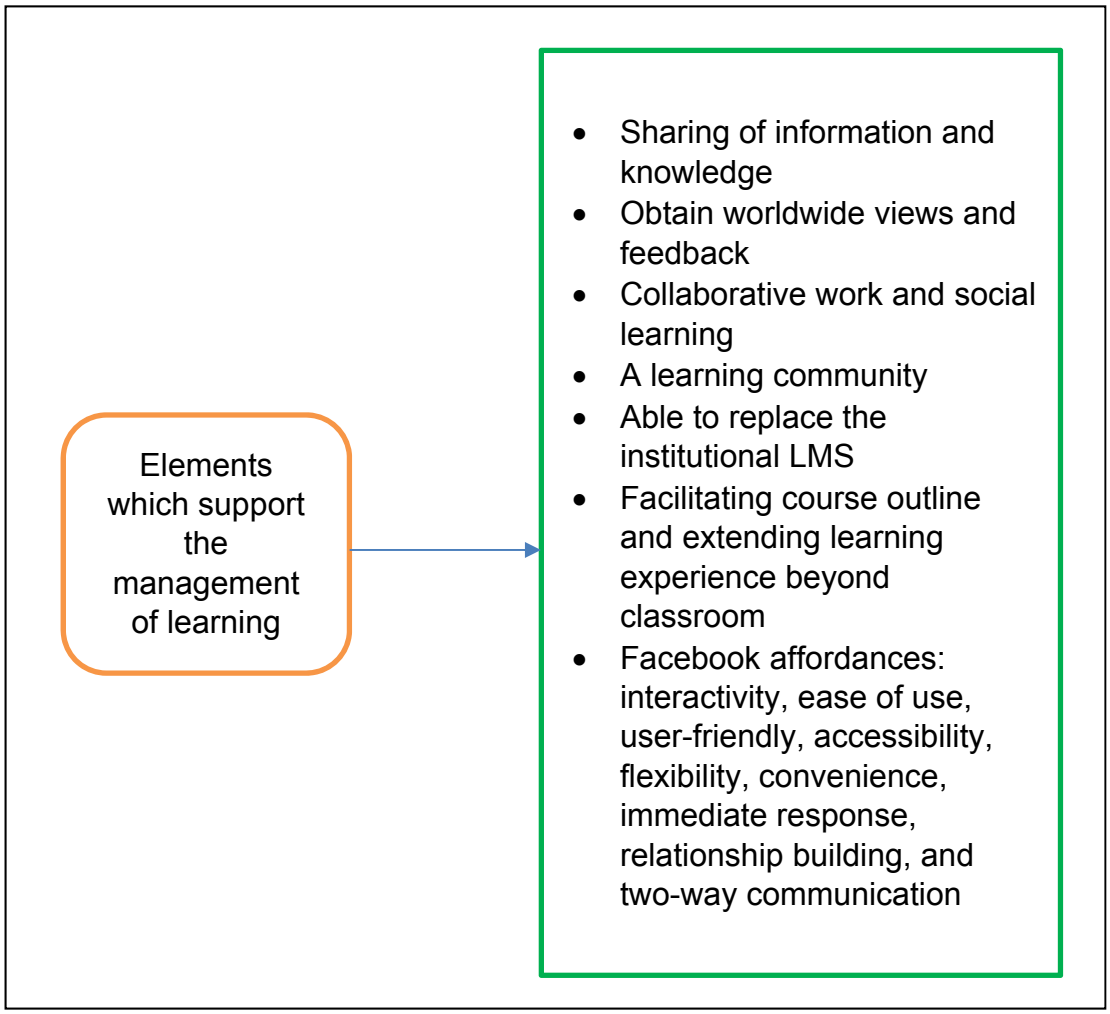

Figure 6.7 Elements for supporting the management of learning.

In summary, the lecturer and student participants discussed the advantages of using Facebook closed-groups for: online discussion to meet the learning goals of teaching a subject; the use of Facebook Messenger for communication and engagement between lecturers and students and among students; as well as for sharing of information and course-related materials to help improve the overall learning experience. In these cases, there is evidence that Facebook is supporting access and communication in a range of ways, but the evidence of learning per se is not clear from student or teacher responses.

Drawing from Figures 6.6 and 6.7, Facebook is supporting learning, but has a major role in supporting the management of learning activity through different elements. This finding contributes to research knowledge of how Facebook is affecting not only learning per se but also the management of learning. The outcomes arising from that distinction are original, as this aspect has not been discovered in prior literature discussed in Chapter Two.

6.4 Conclusion and implications of the study

Prior studies have called for more research to explore how and why Facebook is used and perceived by lecturers and students for teaching and learning in classroom education since its usage in higher education is still at an early stage of development and many issues are still unexamined (Rodríguez-hoyos, Salmón, & Fernández-díaz, 2015; Sarwar et al., 2018). Because of the rapid increase in use of Facebook in Malaysian educational contexts, exploring the perspectives of lecturers and students on the uses and impacts of Facebook for teaching and learning in classroom education could be of interest to educationists and social scientists, students as well as Malaysian university administrators and government officials from the MOHE Malaysia.

This study has examined how and why lecturers and students of Malaysian universities use Facebook for teaching and learning in a formal learning environment, and has assessed their perceived outcomes and impacts of Facebook use in classroom education. The participants in this study shared important information on how and why they used Facebook and provided what they perceived as positive impacts (as well as challenges and issues) for

classroom teaching and learning. It now appears that the use of Facebook by the selected Malaysian lecturers and students arises due to its affordances for teaching and learning in classroom education such as ease of use and usefulness for reaching out to students, supporting online discussions, and interactivity. However, some participants felt some disadvantages and challenges of using Facebook in formal learning environments.

Although the lecturer and student participants of this study have used Facebook for classroom education and have perceived positive outcomes for teaching and learning practices, Malaysian lecturers feel that they are motivated to use Facebook by their students. This is evident from the findings, in which three lecturers claimed that one of the motivations to use Facebook in formal learning environments was due to the norm of students using Facebook for educational purposes (as reported by L1, L5 and L7). In order to engage with the students, Malaysian lecturers of this study want to be where the students are and wish to use the tools which are frequently used and preferred by the students, such as Facebook. This presents a specific concern, and this drive arises from the cultural way that Malaysian lecturers and students consider adopting new resources such as Facebook for the purposes of supporting their higher education studies.

In addition, in the light of there being no institutional policies or guidelines about social media usage in the university, the lecturers need and are able to decide which pedagogical design is appropriate for themselves (as reported by the lecturers). Therefore, the responsibility of using Facebook for formal learning

environments is given to and taken up by the lecturer and students; in this way, the university is not taking any responsibility if things go wrong. It appears that there is no institutional policy on the use of Facebook in Malaysian higher education, as this is the way that evidence on this in reported by the lecturers in this study. While the aim of my study was not to look into the perspective of university administrators, it could be recommended for future studies to include inputs and evidence from university administrators.

From student and lecturer evidence, university administrators, faculty members and support staff could to be trained to use social media tools and to understand the pedagogy of integrating Facebook within the classroom. Curricula also could be reviewed to include strategies for how to use social media-based tools. Finally, Malaysian higher education institutions could use the findings of this study (referring to Figure 6.1) to enhance their understanding of what enables lecturers and students to adopt Facebook in the classroom for better lecturer-student engagement, teaching and learning practices, and academic performance.

6.5 Limitations of the study

There is a need to consider the implications of some limitations of this study in terms of whether they may affect the generalisation of the findings. The limitations revolved around issues of a single social media tool, methodological limitations, the selection of participants, and possible subjectivity and bias of the researcher, who at the same time is a practitioner.

Firstly, this study is limited to looking at uses of Facebook. As social media use, especially SNSs, is widespread in educational institutions, other web-based social media tools such as Instagram, LinkedIn, Twitter and WhatsApp are used, and therefore available for future research. Although studies have been initiated in this area, there is still room for expansion.

Secondly, this study employed a multiple-method study approach with data gathered by the use of semi-structured interviews, virtual participant observation and examination of students' reflection journals. A single approach to research methodology was utilised; quantitative data were not obtained that might provide a wider objectivity from a larger number of participants to ensure more generalisation to a greater population. Yet, through a qualitative approach, an in-depth understanding of individual participants' attitudes and perspectives towards the use of Facebook for classroom education has been gained.

Thirdly, the findings of this study are not able to represent the views of all educators and students from Malaysian universities. The selection of participations is restricted to lecturers and students in Peninsular Malaysia, of two states and one federal territory (Kedah, Selangor, and Kuala Lumpur) and limited to seven (four private, three public) universities drawn from the population of 64 universities in Malaysia (although snowball sampling for data collection was adopted). Thus, it is not possible to generalise to other educational institutions as the sample chosen for this study was from those lecturers and students using Facebook in classroom education – a formal use

of Facebook for classroom teaching and learning. Nevertheless, the goal of this study was to understand the perspectives, experiences and evaluations of those who have used Facebook for teaching and learning in formal classroom education. Certainly the findings and models developed could be considered by other institutions and populations, to see how relevant these might be within their own contexts.

Lastly, limitation in terms of bias of the researcher could arise in interpreting and analysing the data collected from a small, non-random sample and the supplementary component of the study of only a single private university. To avoid bias where possible, the students of University A were made aware that after their completion of use, the relationship with the University would not be adversely affected, and this would in no way affect their individual progress on the modules or participation on Facebook if they chose not to participate in the study. Due to time constraints and restrictions in terms of access to more detailed data in other higher education institutions in Malaysia, the case study provides useful indicative evidence that details the uses and outcomes to a greater extent.

6.6 Recommendation for future study

Drawing upon the limitations discussed in the previous section, future research could expand in the following ways. Firstly, social media technologies are increasingly transforming the Malaysian formal educational environments and significant numbers of studies are emerging to understand the use of social media technologies for classroom education. It would be beneficial for future

research to examine other web-based social media tools such as Instagram, LinkedIn, Twitter, YouTube and WhatsApp (for example, see Susilo, 2014; Al-Bahrani, & Patel, 2015; Chawinga, 2017; Moghavvemi et al., 2017; Phua, Jin, & Kim, 2017).

Secondly, future research design could employ a combination of both qualitative and quantitative research methods with a larger sample of lecturers and students randomly and more evenly distributed from across Malaysian universities. This could enable further generalisation of the findings to the population of lecturers and students of Malaysian higher education institutions (for example, see Demartini, & Dossena, 2016; Eid, & Al-Jabri, 2016; Al-Rahmi et al., 2018).

Lastly, to better understand the adoption of Facebook for classroom education in Malaysian universities, future research could include inputs from university administrators and support staff regarding their attitudes to the way social media tools could be integrated to teaching and learning practices in the classroom.

6.7 Chapter summary

This study has shed light on the perspectives of lecturers and students of seven Malaysian universities towards the use of Facebook for teaching and learning in higher education classrooms. The findings show that lecturers and students largely perceived Facebook as an important part of the teaching and learning experience in their university classroom education. Additionally, the study

revealed the educational uses of Facebook by lecturers and students and their perceived outcomes and impacts for teaching and learning practices.

References

Abdul Rahman, N. A., & Mohd Amin, N. (2014). Impact and capability of Facebook as a teaching aid in social science subject at UNITEN. *International Journal of Asian Social Science*, *4*(2), 326–333.

Adalberon, E., & Säljö, R. (2017). Informal use of social media in higher education: A case study of Facebook groups. *Nordic Journal of Digital Literacy*, *12*(4), 114–128. https://doi.org/10.18261/ISSN.1891-943X-2017-04-02

Aghili, M. (2014). Unifying informal and formal learning environments: Educational use of social network sites through implementing community of inquiry framework. *International Journal of E-Education, E-Business, E-Management and E-Learning, 4*(3), 191–196. https://doi.org/10.7763/IJEEEE.2014.V4.329

Ahern, L., Feller, J., & Nagle, T. (2016). Social media as a support for learning in universities: An empirical study of Facebook groups. *Journal of Decision Systems*, *25*(sup1), 35–49. https://doi.org/10.1080/12460125.2016.1187421

Al-Bahrani, A., & Patel, D. (2015). Incorporating Twitter, Instagram, and Facebook in economics classrooms. *Journal of Economic Education*, *46*(1), 56–67. https://doi.org/10.1080/00220485.2014.978922

Alexander, B. (2006). Web 2.0: A new wave of innovation for teaching and learning? *EDUCAUSE Review Magazine March/April 2006*, *41*(2), 33–44.

Alhazmi, A. K., & Abdul Rahman, A. (2013). Facebook in higher education: Students' use and perceptions. *Advances in Information Sciences and Service Sciences (AISS)*, *5*(15), 32–41.

Ali, M., Raja Yaacob, R. A. I. bin, Endut, M. N. A.-A. bin, & Langove, N. U. (2017). Strengthening the academic usage of social media: An exploratory study. *Journal of King Saud University - Computer and Information Sciences*, *29*(4), 553–561. https://doi.org/10.1016/j.jksuci.2016.10.002

Allen, B., Caple, H., Coleman, K., & Nguyen, T. (2012). Creativity in practice: Social media in higher education. In M. Brown, M. Hartnett & T. Stewart (Eds.), Future challenges, sustainable futures. In *Proceedings Ascillite Wellington 2012* (pp. 15–20).

Almadhoun, N. M., Dominic, P. D. D., & Lai, F. W. (2011). Social media as a promotional tool in higher education in Malaysia. In *2011 National Postgraduate Conference* (pp. 1–7). IEEE. https://doi.org/10.1109/NatPC.2011.6136267

Almadhoun, N. M., Lai, F.-W., & Dominic, P. D. D. (2012). An examination of social networking sites usage among the students in the Malaysian universities. In *International Conference on Management, Economics and Finance (ICMEF 2012) Proceedings* (pp. 900–908).

Al-Rahimi, W. M., Othman, M. S., & Musa, M. A. (2013). Using TAM model to measure the use of social media for collaborative learning. *International Journal of Engineering Trends and Technology*, *5*(2), 90–95.

Al-Rahmi, W. M., Alias, N., Othman, M. S., Marin, V. I., & Tur, G. (2018). A model of factors affecting learning performance through the use of social media in Malaysian higher education. *Computers & Education*, *121*(April 2017), 59–72. https://doi.org/10.1016/j.compedu.2018.02.010

Al-Rahmi, W. M., & Othman, M. S. (2013a). The impact of social media use on academic performance among university students: A pilot study. *Journal of Information Systems Research and Innovation*, 1–10.

Al-Rahmi, W. M., & Othman, M. S. (2013b). Evaluating student's satisfaction of using social media through collaborative learning in higher education. *International Journal of Advances in Engineering & Technology*, *6*(4), 1541–1551.

Al-Rahmi, W. M., Othman, M. S., & Musa, M. A. (2014). The improvement of students' academic performance by using social media through collaborative learning in Malaysian higher education. *Asian Social Science*, *10*(8), 210–221. https://doi.org/10.5539/ass.v10n8p210

Al-Rahmi, W. M., Othman, M. S., & Yusuf, L. M. (2015). The role of social media for collaborative learning to improve academic performance of students and researchers in Malaysian higher education. *The International Review of Research in Open & Distributed Learning*, *16*(4), 1–14.

Al-Sharqi, L., & Hashim, K. (2016). University students' perceptions of social media as a learning tool. *The Journal of Social Media in Society*, *5*(1), 65–88.

Al-Tarawneh, H. A. (2014). The influence of social networks on students' performance. *Journal of Emerging Trends in Computing and Information Sciences*, *5*(3), 200–205. https://doi.org/10.3916/C41-2013-19

Amineh, R. J., & Asl, H. D. (2015). Review of constructivism and social constructivism. *Journal of Social Sciences, Literature and Languages*, *1*(1), 9–16. Retrieved from http://blue-ap.org

Anderson, V. R. (2016). Introduction to mixed methods approach. In L. A. Jason, & D. S. Glenwick (Eds.), *Handbook of Methodological Approaches to Community-based Research: Qualitative, Quantitative, and Mixed Methods* (pp. 233-241). New York, NY: Oxford University Press.

Andersson, A., Hatakka, M., Grönlund, Å., & Wiklund, M. (2013). Reclaiming the students – coping with social media in 1:1 schools. *Learning, Media and Technology*, *39*(1), 37–52. https://doi.org/10.1080/17439884.2012.756518

Annamalai, N. (2016). Exploring the writing approaches in the Facebook enviornment. *Teaching English with Technology*, *16*(1), 71–87.

Arabacioglu, T., & Akar-Vural, R. (2014). Using Facebook as a LMS? *The Turkish Online Journal of Educational Technology*, *13*(2), 202–214.

Arteaga Sánchez, R., Cortijo, V., & Javed, U. (2014). Students' perceptions of Facebook for academic purposes. *Computers & Education*, *70*, 138–149. https://doi.org/10.1016/j.compedu.2013.08.012

Atan, H., Embi, M. A., & Hussin, S. (2011). e-Learning policy in Malaysian higher education institutions. In M. A. Embi (Ed.), *eLearning in Malaysian Higher Education Institutions: Status, trends & challenges* (pp. 5-18). Putrajaya, Malaysia: Department of Higher Education Ministry of Higher Education.

Balakrishnan, V. (2016). Learning via a social media enabled tool – Do learning styles make a difference? *International Journal of Information and Education Technology*, *6*(1), 35–38. https://doi.org/10.7763/IJIET.2016.V6.654

Balakrishnan, V. (2017). Social media and their use in learning: A comparative analysis between Australia and Malaysia from the learners ' perspectives. *Australasian Journal of Educational Technology*, *33*(1), 81–97.

Balcikanli, C. (2015). Prospective English language teachers' experiences in Facebook: Adoption, use and educational use in Turkish context. *International Journal of Education and Development Using Information and Communication Technology*, *11*(3), 82–99.

Baleghi-Zadeh, S., Mohd Ayub, A. F., Mahmud, R., & Mohd Daud, S. (2014). Learning management system utilization among Malaysian higher education students: A confirmatory factor analysis. *Journal of Education & Human Development Online) Journal of Education & Human Development*, *3*(31), 369–386. Retrieved from www.aripd.org/jehd

Baran, B. (2010). Facebook as a formal instructional environment. *British Journal of Educational Technology*, *41*(6), E146–E149. https://doi.org/10.1111/j.1467-8535.2010.01115.x

Barczyk, C. C., & Duncan, D. G. (2013). Facebook in higher education courses: An analysis of students' attitudes, community of practice, and classroom community. *International Business and Management*, *6*(1), 1–11. https://doi.org/10.3968/j.ibm.1923842820130601.1165

Barton, S. M. (2011). Case study of e-learning experts in Malaysia: Impact of social capital and social networks. *Asia-Pacific Collaborative Education Journal*, *7*(2), 1–16.

Berger, A. A. (2014). *Media and communication research methods: An introduction to qualitative and quantitative approaches*. United States of

America: Sage Publications Inc.

Bennett, S., Bishop, A., Dalgarno, B., Waycott, J., & Kennedy, G. (2012). Implementing Web 2.0 technologies in higher education: A collective case study. *Computers & Education*, *59*, 524–534. https://doi.org/10.1016/j.compedu.2011.12.022

Bonzo, J., & Parchoma, G. (2010). The paradox of social media and higher education institutions. In *The 7th International Conference on Networked Learning* (pp. 912–918).

Bosch, T. E. (2009). Using online social networking for teaching and learning: Facebook use at the University of Cape Town. *Communicatio*, *35*(2), 185–200. https://doi.org/10.1080/02500160903250648

Boulos, M. N. K., Maramba, I., & Wheeler, S. (2006). Wikis, blogs and podcasts: a new generation of Web-based tools for virtual collaborative clinical practice and education. *BMC Medical Education*, *6*, 41–48. https://doi.org/10.1186/1472-6920-6-41

Bowman, N. D., & Akcaoglu, M. (2014). “I see smart people!”: Using Facebook to supplement cognitive and affective learning in the university mass lecture. *Internet and Higher Education*, *23*, 1–8. https://doi.org/10.1016/j.iheduc.2014.05.003

Boyd, D. (2007). The significance of social software. In T. N. Burg, & J. Schmidt (Eds.), *BlogTalks reloaded: Social software research & cases* (pp. 15-30). Norderstedt, Germany: Books on Demand.

Brahmi, F. (2016). Can Facebook or wikis hook learners instead of the schoolbook? In *Innovative Language Teaching and Learning at University*

(pp. 65–72). Retrieved from http://dx.doi.org/10.14705/rpnet.2016.000406 65

Brodsky, A. E., Buckingham, S. L., Scheibler, J. E., & Mannarini, T. (2016). Introduction to quantitative approaches. In L. A. Jason, & D. S. Glenwick (Eds.), *Handbook of Methodological Approaches to Community-based Research: Qualitative, Quantitative, and Mixed Methods* (pp. 13-22). New York, NY: Oxford University Press.

Bryant, P., Coombs, A., & Pazio, M. (2014). Disruption, destruction, construction or transformation? The challenges of implementing a university wide strategic approach to connecting in an open world. In *2014 OCW Consortium Global Conference: Open Education for a Multicultural World*.

Buzzetto-More, N. (2012). Social networking in undergraduate education. *Interdisciplinary Journal of Information, Knowledge, and Management*, *7*, 63–90. Retrieved from http://www.ijikm.org/Volume7/IJIKMv7p063-090Buzzetto611.pdf

Cao, Y., Ajjan, H., & Hong, P. (2013). Using social media applications for educational outcomes in college teaching: A structural equation analysis. *British Journal of Educational Technology*, *44*(4), 581–593. https://doi.org/10.1111/bjet.12066

Chawinga, W. D. (2017). Taking social media to a university classroom: Teaching and learning using Twitter and blogs. *International Journal of Educational Technology in Higher Education*, *14*(1), 3. https://doi.org/10.1186/s41239-017-0041-6

Chen, B., & Bryer, T. (2012). Investigating instructional strategies for using social media in formal and informal learning. *The International Review of Research in Open and Distance Learning*, *13*(1), 87–104.

Chiu, C., & Huang, H. (2014). Examining the antecedents of user gratification and its effects on individuals' social network services usage: The moderating role of habit. *European Journal of Information Systems*, *24*(4), 411–430. https://doi.org/10.1057/ejis.2014.9

Chu, S. K. W., Zhang, Y., Chen, K., Chan, C. K., Lee, C. W. Y., Zou, E., & Lau, W. (2017). The effectiveness of wikis for project-based learning in different disciplines in higher education. *Internet and Higher Education*, *33*, 49–60. https://doi.org/10.1016/j.iheduc.2017.01.005

Chugh, R., & Ruhi, U. (2018). Social media in higher education: A literature review of Facebook. *Education and Information Technologies*, *23*, 605–616. https://doi.org/10.1007/s10639-017-9621-2

Churcher, K. M. A., Downs, E., & Tewksbury, D. (2014). "Friending" Vygotsky: A social constructivist pedagogy of knowledge building through classroom social media use. *The Journal of Effective Teaching*, *14*(1), 33–50.

Clements, J. C. (2015). Using Facebook to enhance independent student engagement: A case study of first-year undergraduates. *Studies in Higher Education*, *5*(4), 131–146. https://doi.org/10.5539/hes.v5n4p131

Cloete, S., de Villiers, C., & Roodt, S. (2009). Facebook as an academic tool for ICT lecturers. In *Proceedings of SACLA 2009: 16-22. ACM International Conference Proceedings Series* (pp. 16–22).

Comai, G. (2017). Quantitative analysis of web content in support of qualitative research. Examples from the study of post-Soviet de facto states. *Studies of Transition States and Societies*, *9*(1), 14-34.

Connell, C. M. (2016). Introduction to quantitative methods. In L. A. Jason, & D. S. Glenwick (Eds.), *Handbook of Methodological Approaches to Community-based Research: Qualitative, Quantitative, and Mixed Methods* (pp. 121-131). New York, NY: Oxford University Press.

Cooke, S. (2017). Social teaching: Student perspectives on the inclusion of social media in higher education. *Education and Information Technologies*, *22*(1), 255–269. https://doi.org/10.1007/s10639-015-9444-y

Cormode, G., & Krishnamurthy, B. (2008). Key differences between Web 1.0 and Web 2.0. *First Monday*, *13*(6), 1-10. Retrieved from https://firstmonday.org/article/view/2125/1972

Creswell, J. (2007). *Qualitative inquiry and research design: Choosing among five approaches (2nd Ed.)*. United States of America: Sage Publications Inc.

Danciu, E., & Grosseck, G. (2011). Social aspects of web 2.0 technologies: Teaching or teachers' challenges? In *Procedia - Social and Behavioral Sciences*, *15*, 3768–3773. https://doi.org/10.1016/j.sbspro.2011.04.371

Darmi, R., & Albion, P. (2013). English language in Malaysian education system: Its existence and implication. In *Proceedings of 3rd Malaysian Postgraduate Conference (MPC2013)*, 3-4 July, Sydney, Australia.

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information. *MIS Quarterly*, *13*(3), 319–340. https://doi.org/10.2307/249008

de Villiers, M. R. R. (2010). Academic use of a group on Facebook: Initial findings and perceptions. In *Proceedings of Informing Science & IT Education Conference (InSITE)*.

Deandrea, D. C., Ellison, N. B., Larose, R., Stein, C., & Fiore, A. (2012). Serious social media: On the use of social media for improving students ' adjustment to college. *Internet and Higher Education*, *15*, 15–23. https://doi.org/10.1016/j.iheduc.2011.05.009

Demartini, C., & Dossena, C. (2016). Antecedents and consequences of the use of Facebook in learning contexts: A proposed framework. *Technology, Innovation and Education*, *2*, 8–24. https://doi.org/10.1186/s40660-016-0012-6

Deng, L., & Tavares, N. J. (2013). From Moodle to Facebook: Exploring students' motivation and experiences in online communities. *Computers & Education*, *68*, 167–176. https://doi.org/10.1016/j.compedu.2013.04.028

Deng, L., & Tavares, N. J. (2015). Exploring university students' use of technologies beyond the formal learning context: A tale of two online platforms. *Australasian Journal of Educational Technology*, *31*(3), 313–327.

Dermentzi, E., Papagiannidis, S., Osorio Toro, C., & Yannopoulou, N. (2016). Academic engagement: Differences between intention to adopt social

networking sites and other online technologies. *Computers in Human Behavior*, *61*, 321–332. https://doi.org/10.1016/j.chb.2016.03.019

DeWitt, D., Naimie, Z., & Siraj, S. (2013). Technology applications used by first year undergraduates in a Malaysian public university. In *13th International Educational Technology Conference* (Vol. 103, pp. 937–945). Elsevier B.V. https://doi.org/10.1016/j.sbspro.2013.10.416

Dhir, A., Khalil, A., Lonka, K., & Tsai, C.-C. (2017). Do educational affordances and gratifications drive intensive Facebook use among adolescents? *Computers in Human Behavior*, *68*, 40–50. https://doi.org/10.1016/j.chb.2016.11.014

Din, N., Yahya, S., & Haron, S. (2012). Information retrieval and academic performance among Facebook users. In *AicE-Bs 2012 Cairo ASIA Pacific International Conference on Environment-Behaviour Studies* (Vol. 68, pp. 258–268). Elsevier B.V. https://doi.org/10.1016/j.sbspro.2012.12.225

Dogoriti, E., Pange, J., & Anderson, G. S. (2014). The use of social networking and learning management systems in English language teaching in higher education. *Campus-Wide Information Systems*, *31*(4), 254–263. https://doi.org/10.1108/CWIS-11-2013-0062

Dolan, R., Conduit, J., Fahy, J., & Goodman, S. (2015). Social media engagement behaviour: A uses and gratifications perspective. *Journal of Strategic Marketing*, *online*(May), 1–17. https://doi.org/10.1080/0965254X.2015.1095222

Dumpit, D. Z., & Fernandez, C. J. (2017). Analysis of the use of social media in Higher Education Institutions (HEIs) using the Technology Acceptance

Model. *International Journal of Educational Technology in Higher Education*, *14*(1), 1–16. https://doi.org/10.1186/s41239-017-0045-2

Duncan, D. G., & Barczyk, C. C. (2015). The Facebook effect in university classrooms: A study of attitudes and sense of community using an independent measures control group design. *American Journal of Management*, *15*(3), 11–22.

Dzakiria, H., Don, M. S., & Abdul Rahman, H. D. (2012). Blended learning (BL) as pedagogical alterantive to teach Business Communication Course: Case study of UUM Executive Diploma Program. *Turkish Online Journal of Distance Education*, *13*(3), 297–315.

Eger, L. (2015). Is Facebook a similar learning tool for university students as LMS? In *Procedia - Social and Behavioral Sciences*, *203*, 233–238. https://doi.org/10.1016/j.sbspro.2015.08.287

Eid, M. I. M., & Al-Jabri, I. M. (2016). Social networking, knowledge sharing, and student learning: The case of university students. *Computers & Education*, *99*, 14–27. https://doi.org/10.1016/j.compedu.2016.04.007

Ekoc, A. (2014). Facebook groups as a supporting tool for language classrooms. *Turkish Online Journal of Distance Education (TOJDE)*, *15*(3), 18–26.

Embi, M. A. (2011). *eLearning in Malaysian Higher Education Institutions: Status, trends & challenges*. Department of Higher Education Ministry of Higher Education. https://doi.org/10.1017/CBO9781107415324.004

Erkollar, A., & Oberer, B. (2013). Putting Google+ to the test: Assessing outcomes for student collaboration, engagement and success in higher

education. In *Procedia - Social and Behavioral Sciences 83 WCETR2012*, *83*, 185–189. https://doi.org/10.1016/j.sbspro.2013.06.036

Esteves, K. K. (2012). Exploring Facebook to enhance learning and student engagement: A case from the University of Philippines (UP) Open University. *Malaysian Journal of Distance Education*, *14*(1), 1–15.

Evans, J., & Benefield, P. (2001). Systematic reviews of educational research: Does the medical model fit? *British Educational Research Journal*, *27*(5), 527-541.

Faryadi, Q. (2017). Effectiveness of Facebook in English language learning: A case study. *Open Access Library Journal*, *4*(e4017), 1–11. https://doi.org/10.4236/oalib.1104017

Fewkes, A. M., & McCabe, M. (2012). Facebook: Learning tool or distraction? *Journal of Digital Learning in Teacher Education*, *28*(3), 92–98. https://doi.org/10.1080/21532974.2012.10784686

Fotouhi-Ghazvini, F., Earnshaw, R., Robison, D., Moeini, A., & Excell, P. (2011). Using a conversational Framework in mobile game based learning - assessment and evaluation. In Kwan, R., McNaught, C., Tsang, P., Wang, F. L., & Li, K. C. (Eds.), *Enhancing Learning Through Technology*, ICT 2011, CCIS 177 (pp. 200-213) 2011 https://doi.org/10.4018/978-1-59140-971-7

Freeman, W. (2014). Taming social media in higher education classrooms. In *Proceedings of the 9th International Conference on Networked Learning 2014* (pp. 359–363).

Froget, J. R. L., Baghestan, A. G., & Asfaranjan, Y. S. (2013). A uses and gratifications perspective on social media usage and online marketing.

Middle-East Journal of Scientific Research, *15*(1), 134–145. https://doi.org/10.5829/idosi.mejsr.2013.15.1.2127

Fuchs, C. (2010). *Critique of the political economy of Web 2.0 surveillance*. The Internet & Surveillance - Research Paper Series, Department of Informatics and Media Studies, Uppsala University, Sweden.

Gan, C., & Balakrishnan, V. (2016). An empirical study of factors affecting mobile wireless technology adoption for promoting interactive lectures in higher education. *The International Review of Research in Open and Distributed Learning*, *17*(1), 1–14. Retrieved from http://www.irrodl.org/index.php/irrodl/article/view/2111

Garcia, A. C., Standlee, A. I., Bechkoff, J., & Cui, Y. (2009). Ethnographic approaches to the Internet and computer-mediated communication. *Journal of Contemporary Ethnographic*, *38*(1), 52-84.

Ghani, M. B. A. (2015). Using Facebook in teaching and learning English. In *The International Conference on Language, Literature, Culture and Education* (pp. 97–102).

Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: Strategies for qualitative research*. Chicago, IL: Aldine.

Graham, M. (2014). Social media as a tool for increased student participation and engagement outside the classroom in higher education. *Journal of Perspectives in Applied Academic Practice*, *2*(3), 16–24. Retrieved from http://jpaap.napier.ac.uk/index.php/JPAAP/article/view/113

Grapragasem, S., Krishnan, A., & Mansor, A. N. (2014). Current trends in Malaysian higher education and the effect on education policy and

practice: An overview. *International Journal of Higher Education*, *3*(1), 85–93. https://doi.org/10.5430/ijhe.v3n1p85

Gray, K., Annabell, L., & Kennedy, G. (2010). Medical students' use of Facebook to support learning: Insights from four case studies. *Medical Teacher*, *32*, 971–976. https://doi.org/10.3109/0142159X.2010.497826

Greenhow, C., & Askari, E. (2017). Learning and teaching with social network sites: A decade of research in K-12 related education. *Education and Information Technologies*, *22*(2), 623–645. https://doi.org/10.1007/s10639-015-9446-9

Greenhow, C., & Lewin, C. (2015). Social media and education: Reconceptualizing the boundaries of formal and informal learning. *Learning, Media and Technology*, 1–25. https://doi.org/10.1080/17439884.2015.1064954

Grobler, C., & Smits, T. F. H. (2016). Designing a digital pedagogical pattern for improving foreign language learners' oral proficiency. *Journal of Literary Criticism, Comparative Linguistics and Literary Studies*, *37*(2), 1–9. https://doi.org/http:// dx.doi.org/10.4102/lit. v37i2.1273

Grosseck, G. (2009). To use or not to use web 2.0 in higher education? In *Procedia - Social and Behavioral Sciences*, *1*(1), 478–482. https://doi.org/10.1016/j.sbspro.2009.01.087

Grosseck, G., & Holotescu, C. (2008). Can we use Twitter for educational activities? In *The 4th International Scientific Conference of eLearning and Software for Education*, 1–8. Retrieved from http://www.cblt.soton.ac.uk/multimedia/PDFsMM09/Can we use twitter for educational activities.pdf

Gruzd, A., Staves, K., & Wilk, A. (2012). Connected scholars: Examining the role of social media in research practices of faculty using the UTAUT model. *Computers in Human Behavior*, *28*(6), 2340–2350. https://doi.org/10.1016/j.chb.2012.07.004

Gülbahar, Y. (2014). Current state of usage of social media for education: Case of Turkey. *Journal of Social Media Studies*, *1*(1), 53–69. https://doi.org/10.15340/2147336611763

Gupta, N., & Irwin, J. D. (2014). In-class distractions: The role of Facebook and the primary learning task. *Computers in Human Behavior*, *55*, 1165–1178. https://doi.org/10.1016/j.chb.2014.10.022

Hamat, A., Embi, M. A., & Hassan, H. A. (2012). The use of social networking sites among Malaysian university students. *International Education Studies*, *5*(3), 56–66. https://doi.org/10.5539/ies.v5n3p56

Hamid, S., Waycott, J., Chang, S., & Kurnia, S. (2011). Appropriating online social networking (OSN) activities for higher education: Two Malaysian cases. In *Ascilite 2011 Hobart Tasmania Australia* (pp. 526–538).

Hamid, S., Waycott, J., Kurnia, S., & Chang, S. (2014). An empirical study of lecturers' appropriation of social technologies for higher education. *Australasian Journal of Educational Technology*, *30*(3), 295–311. https://doi.org/10.14742/ajet.v30i3.690

Hamid, S., Waycott, J., Kurnia, S., & Chang, S. (2015). Understanding students' perceptions of the benefits of online social networking use for teaching and learning. *The Internet and Higher Education*, *26*, 1–9. https://doi.org/10.1016/j.iheduc.2015.02.004

Hamsan, H. H., Kumar, M. N., & Shahrimin, M. I. (2013). Social capital and its relationship with Universiti Putra Malaysia undergraduates' Facebook usages. *Pertanika Journal of Social Science & Humanities*, *21*(2), 421–434.

Haque, A., Sarwar, A., & Ahmad, K. (2015). Using Facebook as an alternative learning tool in Malaysian higher learning institutions: A structural equation modeling approach. *World Academy of Science, Engineering and Technology, International Journal of Social, Behavioral, Educational, Economic, Business and Industrial Engineering*, *9*(5), 1625–1632.

Harris, C. W. (2012). The uses of Facebook© technologies in Hospitality curriculum on an experiential learning platform for a new generation of students. *Asia Pacific Journal of Marketing and Logistics*, *24*(5), 805–825. https://doi.org/10.1108/13555851211278385

Hashim, K. F., Zamani, M. A., Othman, M. F., Othman, Z., & Azhar, A. (2015). Social media adoption in higher education: A case study of Universiti Utara Malaysia. *Jurnal Teknologi*, *77*(4), 33–39.

Hassan, I. S. (2014). Facebook as a tool for teaching and learning (pp. 1–9). Retrieved from https://www.researchgate.net/publication/282251534_FACEBOOK_AS_A_TOOL_FOR_TEACHING_AND_LEARNING

Helou, A. M., & Ab. Rahim, N. (2014). The influence of social networking sites on students' academic performance in Malaysia. *International Journal of Electronic Commerce Studies*, *5*(2), 247–254. https://doi.org/10.7903/ijecs.1114

Helou, A. M., Ab. Rahim, Z. Z., & Oye, N. D. (2012). Students' perceptions on social networking sites influence on academic performance. *International Journal of Social Networking and Virtual Communities*, *1*(1), 7–15.

Hemmi, A., Bayne, S., & Land, R. (2009). The appropriation and repurposing of social technologies in higher education. *Journal of Computer Assisted Learning*, *25*, 19–30. https://doi.org/10.1111/j.1365-2729.2008.00306.x

Herrera Batista, M. A., Tamez, M. A., & de Velasco y Arellano, E. M. (2015). Educational use of social media: A teaching experience based on the higher education students' perception. *Journal of Advances in Information Technology*, *6*(3), 155–160. https://doi.org/10.12720/jait.6.3.155-160

Hope, A. (2016). Educational heterotopia and students' use of Facebook. *Australasian Journal of Educational Technology*, *32*(1), 47–58. https://doi.org/10.14742/ajet.v0i0.2209

Hung, H., & Yuen, S. C. (2010). Educational use of social networking technology in higher education. *Teaching in Higher Education*, *15*(6), 703–714. https://doi.org/10.1080/13562517.2010.507307

Hurt, N. E., Moss, G. S., Bradley, C. L., Larson, L. R., & Lovelace, M. (2012). The "Facebook" effect: College students' perceptions of online discussions in the age of social networking. *International Journal for the Scholarship of Teaching and Learning*, *6*(2), 1–24.

Hussin, H., Bunyarit, F., & Hussein, R. (2009). Instructional design and elearning: Examining learners' perspective in Malaysian institutions of higher learning. *Campus-Wide Information Systems*, *26*(1), 4–19.

Ifinedo, P. (2016). Applying uses and gratifications theory and social influence processes to understand students' pervasive adoption of social

networking sites: Perspectives from the Americas. *International Journal of Information Management*, *36*(2), 192–206. https://doi.org/10.1016/j.ijinfomgt.2015.11.007

Irwin, C., Ball, L., Desbrow, B., & Leveritt, M. (2012). Students' perceptions of using Facebook as an interactive learning resource at university. *Australasian Journal of Educational Technology*, *28*(7), 1221–1232.

Ismael, S. M., & Al-Badi, A. H. (2014). Technology for enhancing the learning and teaching experience in higher education. *International Journal of Social, Management, Economics and Business Engineering*, *8*(8), 2424–2432.

Ismail, M., Embi, M. A., & Nordin, N. M. (2011). Integration of e-Learning in teaching & learning in Malaysian higher education institutions. In M. A. Embi (Ed.), *eLearning in Malaysian Higher Education Institutions: Status, trends & challenges* (pp. 99-106). Putrajaya, Malaysia: Department of Higher Education Ministry of Higher Education.

İşman, A., & Ucun, K. (2012). Objectives of the students use general and vocational education students to Facebook. In *International Conference on New Horizons in Education INTE 2012* (Vol. 55, pp. 1–10). https://doi.org/10.1016/j.sbspro.2012.09.470

Jala, J., Sistla, K., & Mathews, N. M. (2016). Classroom management lessons from Facebook. *International Journal of Current Research and Review*, *8*(5), 37–41.

Junco, R., Elavsky, C. M., & Heiberger, G. (2012). Putting Twitter to the test: Assessing outcomes for student collaboration, engagement and success.

British Journal of Education, Society & Behavioural Science, 1–15. https://doi.org/10.1111/j.1467-8535.2012.01284.x

Kabilan, M. K., Ahmad, N., & Zainol Abidin, J. M. (2010). Facebook: An online environment for learning of English in institutions of higher education? *The Internet and Higher Education*, *13*(4), 179–187. https://doi.org/10.1016/j.iheduc.2010.07.003

Kaplan, A. M., & Haenlein, M. (2010). Users of the world, unite! The challenges and opportunities of social media. *Business Horizons*, *53*(1), 59–68. https://doi.org/10.1016/j.bushor.2009.09.003

Katz, E., Blumler, J. G., & Gurevitch, M. (1974). *Utilization of mass communication by the individual*. In J. Blumler, & E. Katz (Eds.), The uses of mass communications: current perspectives on gratifications research (pp. 19–32). Beverly Hills, CA: Sage.

Kaya, T., & Bicen, H. (2016). The effects of social media on students' behaviors; Facebook as a case study. *Computers in Human Behavior*, *59*, 374–379. https://doi.org/10.1016/j.chb.2016.02.036

Kayri, M., & Cakir, O. (2010). An applied study on educational use of Facebook as a Web 2.0 tool: The sample lesson of computer networks and communication. *International Journal of Computer Science & Information*, *2*(4), 48–58.

Kazi, M. M., Saxena, R., & Vinay, V. (2016). Use of Facebook as teaching method in learning microbiology for second year BDS students. *National Journal of Integrated Research in Medicine*, *7*(3), 97–100.

Keles, E. (2018). Use of Facebook for the community services practices course: Community of inquiry as a theoretical framework. *Computers and Education*, *116*, 203–224. https://doi.org/10.1016/j.compedu.2017.09.003

Kent, M. (2013). Changing the conversation: Facebook as a venue for online class discussion in higher education. *MERLOT Journal of Online Learning and Teaching*, *9*(4), 546–565.

Khan, S., & Bakhsh, S. T. (2015). A study on the role of Facebook in E-Learning. *International Journal of Education and Management Engineering*, *5*(October), 1–11. https://doi.org/10.5815/ijeme.2015.05.01

Kim, H.-Y., Lee, J. Y., Mun, J. M., & Johnson, K. K. P. (2016). Consumer adoption of smart in-store technology: Assessing the predictive value of attitude versus beliefs in the technology acceptance model. *International Journal of Fashion Design, Technology and Education*, (April), 1–11. https://doi.org/10.1080/17543266.2016.1177737

Kurtz, G. (2014). Students' perceptions of using Facebook group and a course website as interactive and active learning spaces. In *Proceedings of the 9th Chais Conference for the Study of Innovation and Learning Technologies: Learning in the Technological Era* (pp. 65–73). https://doi.org/10.1080/08923647.2014.957952

Lackovic, N., Kerry, R., Lowe, R., & Lowe, T. (2017). Being knowledge, power and profession subordinates: Students' perceptions of Twitter for learning. *Internet and Higher Education*, *33*, 41–48. https://doi.org/10.1016/j.iheduc.2016.12.002

Lahiri, M., & Moseley, J. L. (2015). Learning by going social: Do we really learn from social media? *International Journal of Learning, Teaching and Educational Research*, *11*(2), 14–25.

Lambić, D. (2016). Correlation between Facebook use for educational purposes and academic performance of students. *Computers in Human Behavior*, *61*, 313–320. https://doi.org/10.1016/j.chb.2016.03.052

Laskin, A. V, & Avena, J. (2015). Introduction of mobile media into formal classroom learning environments. *Journalism & Mass Communication Educator*, *70*(3), 276–285. https://doi.org/10.1177/1077695815601170

Lau, A. (2010). Web 2.0 as a catalyst for rethinking teaching and learning in tertiary education: A case study of KDU College (Malaysia). In *Proceedings of the 5th International Conference on E-Learning* (pp. 197–206).

Lau, W. W. F. (2017). Effects of social media usage and social media multitasking on the academic performance of university students. *Computers in Human Behavior*, *68*, 286–291. https://doi.org/10.1016/j.chb.2016.11.043

Laurillard, D. (1999). A conversational framework for individual learning applied to the “learning organisation”and the “learning society.” *Systems Research and Behavioral Science*, *16*(2), 113–122. https://doi.org/10.1002/(SICI)1099-1743(199903/04)16:2<113::AID-SRES279>3.0.CO;2-C

Laurillard, D. (2002). *Rethinking university teaching: A conversational framework for the effective use of learning technologies (2nd Ed.)*. London: RoutledgeFalmer

Laurillard, D. (2009). The pedagogical challenges to collaborative technologies. *International Journal of Computer-Supported Collaborative Learning*, *4*(1), 5–20. https://doi.org/10.1007/s11412-008-9056-2

Lee, C. E. & Chong, A. Y. W. (2017). Students' adoption of Facebook in higher education: A gender-based comparison. In SHS Web of Conferences 33, 00010 (2017) *International Conference on Communication and Media (i-COME'16).* doi:10.1051/shsconf/20173300010

Lee, C. E. & Teh, P. L. (2016). Educational use of Facebook by undergraduate students in Malaysia higher education: A case study of a private university. *Social Media and Technology*, 1:1 (2016) 41, 1-8. https://doi.org/10.20897/lectito.201541

Lee, C. E., Sangaran Kutty, S. V. & Wong, S. P. (2015). Exploring the use of Facebook in the classroom: A Malaysia case study. In the *Proceedings for 2nd European Conference on Social Media ECSM 2015*, Porto, Portugal, July 9–10, 2015

Lee, L. F., Kaur Sidhu, G., & Chan, Y. F. (2014). Exploring 21st Century skills among postgraduates in Malaysia. In *Procedia - Social and Behavioral Sciences 123 (2014) 369 – 379 TTLC 2013*, *123*, 130–138. https://doi.org/10.1016/j.sbspro.2014.01.1406

Lee, M., Sirat, M., & Wan, C. D. (2017). The development of Malaysian universities. *Higher Education Evaluation and Development*, *11*(1), 25–37. https://doi.org/10.1108/HEED-08-2017-004

Leelathakul, N., & Chaipah, K. (2013). Quantitative effects of using Facebook as a learning tool on students' performance. In *The 2013 10th*

International Joint Conference on Computer Science and Software Engineering (JCSSE) (pp. 87–92). IEEE. https://doi.org/10.1109/JCSSE.2013.6567325

Lewis, B., & Rush, D. (2013). Experience of developing Twitter-based communities of practice in higher education. *Research in Learning Technology*, *21*. https://doi.org/10.3402/rlt.v21i0.18598

Lewis, J., & West, A. (2009). “Friendling”: London-based undergraduates’ experience of Facebook. *New Media & Society*, *11*(7), 1209–1229. https://doi.org/10.1177/1461444809342058

Lewis, K., Kaufman, J., Gonzalez, M., Wimmer, A., & Christakis, N. (2008). Tastes, ties, and time: A new social network dataset using Facebook.com. *Social Networks*, *30*, 330–342. https://doi.org/10.1016/j.socnet.2008.07.002

Lim, J. S. Y., Agostinho, S., Harper, B., & Chicharo, J. (2014). The engagement of social media technologies by undergraduate informatics students for academic purpose in Malaysia. *Journal of Information, Communication and Ethics in Society*, *13*(3), 177–194. https://doi.org/10.1108/JICES-07-2013-0021

Lim, J. S. Y., Harper, B., & Chicharo, J. F. (2014). Academic use of social media technologies as an integral element of Informatics program delivery in Malaysia. In *International Conference on Educational Technologies 2014 and Sustainability, Technology and Education 2014* (pp. 186–190).

Lim, T. (2010). The use of Facebook for online discussions among distance learners. *Turkish Online Journal of Distance Education*, *11*(October), 72–81.

Lin, G. (2016). Effects that Facebook-based online peer assessment with micro-teaching videos can have on attitudes toward peer assessment and perceived learning from peer assessment. *Eurasia Journal of Mathematics, Science & Technology Education*, *12*(9), 2295–2307. https://doi.org/10.12973/eurasia.2016.1280a

Lin, G. Y. (2018). Anonymous versus identified peer assessment via a Facebook-based learning application: Effects on quality of peer feedback, perceived learning, perceived fairness, and attitude toward the system. *Computers and Education*, *116*, 81–92. https://doi.org/10.1016/j.compedu.2017.08.010

Lin, M.-F. G., Hoffman, E. S., & Borengasser, C. (2013). Is social media too social for class? A case study of Twitter use. *TechTrends*, *57*(2), 39–45. https://doi.org/10.1080/13562517.2010.507307

Lin, V., Kang, Y. C., Liu, G. Z., & Lin, W. (2016). Participants' experiences and interactions on Facebook group in an EFL course in Taiwan. *Asia-Pacific Education Researcher*, *25*(1), 99–109. https://doi.org/10.1007/s40299-015-0239-0

Liu, Y. (2010). Social media tools as a learning resource. *Journal of Educational Technology Development and Exchange*, *3*(1), 101–114. Retrieved from http://www.sicet.org/journals/jetde/jetde10/8-Liu.pdf

Lupton, D. (2014). *'Feeling better connected': Academics' use of social media*. News & Media Research Centre, University of Canberra, 1-36.

Magro, M. J., Ryan, S. D., & Prybutok, V. R. (2013). The social network application post-adoptive use model (SNAPUM): A model examining social capital and other critical factors affecting the post-adoptive use of Facebook. *Informing Science: The International Journal of an Emerging Transdiscipline*, *16*, 37–69.

Mahmud, M. M. (2014). Social media: A boon or a bane? In *9th Global Conference on Cybercultures: Exploring critical issues, Wednesday 14th May – Friday 16th May 2014, Lisbon Portugal* (pp. 1–18).

Mali, A. S. M., & Syed Hassan, S. S. (2013). Students' acceptance using Facebook as a learning tool: A case study. *International Journal of Asian Social Science*, *3*(9), 2019–2025.

Manasijevic, D., Zivkovic, D., Arsic, S., & Milosevic, I. (2016). Exploring students' purposes of usage and educational usage of Facebook. *Computers in Human Behavior*, *60*, 441–450. https://doi.org/10.1016/j.chb.2016.02.087

Manca, S., & Ranieri, M. (2013). Is it a tool suitable for learning? A critical review of the literature on Facebook as a technology-enhanced learning environment. *Journal of Computer Assisted Learning*, *29*(6), 487–504. https://doi.org/10.1111/jcal.12007

Manca, S., & Ranieri, M. (2016a). "Yes for sharing, no for teaching!": Social media in academic practices. *Internet and Higher Education*, *29*, 63–74. https://doi.org/10.1016/j.iheduc.2015.12.004

Manca, S., & Ranieri, M. (2016b). Facebook and the others. Potentials and obstacles of social media for teaching in higher education. *Computers and Education*, 95, 216-230. doi:10.1016/j.compedu.2016.01.012

Manca, S., & Ranieri, M. (2016c). Is Facebook still a suitable technology-enhanced learning environment? An updated critical review of the literature from 2012 to 2015. *Journal of Computer Assisted Learning*, (June), 1–26. https://doi.org/10.1111/jcal.12154

Manca, S., & Ranieri, M. (2017). Implications of social network sites for teaching and learning. Where we are and where we want to go. *Education and Information Technologies*, *22*(2), 605–622. https://doi.org/10.1007/s10639-015-9429-x

Mazer, J. P., Murphy, R. E., & Simonds, C. J. (2007). I'll see you on "Facebook": The effects of computer-mediated teacher self-disclosure on student motivation, affective learning, and classroom climate. *Communication Education*, *56*(1), 1–17. https://doi.org/10.1080/03634520601009710

McCarthy, J. (2010). Blended learning environments: Using social networking sites to enhance the first year experience. *Australasian Journal of Educational Technology*, *26*(6), 729–740.

Mcloughlin, C., & Lee, M. J. W. (2007). Social software and participatory learning: Pedagogical choices with technology affordances in the Web 2.0 era. In *Ascilite Singapore 2007* (pp. 664–675).

McLoughlin, C., & Lee, M. J. W. (2010). Personalised and self regulated learning in the Web 2.0 era: International exemplars of innovative pedagogy using social software. *Australasian Journal of Educational Technology*, *26*(1), 28–43. https://doi.org/10.1523/JNEUROSCI.4255-09.2010

MellOw, G. O., Woolis, D. D., & Laurillard, D. (2011). In search of a new developmental-education pedagogy. *Change: The Magazine of Higher Learning*, *43*(3), 50–59. https://doi.org/10.1080/00091383.2011.569264

Miles, M. B., & Huberman, M. A. (1994). *Qualitative data analysis: A sourcebook of new method*s *(2nd Ed.)*. Newbury Park, CA: Sage.

Mnkandla, E., & Minnaar, A. (2017). The use of social media in E-Learning: A metasynthesis. *International Review of Research in Open and Distance Learning*, *18*(5), 1–12. https://doi.org/10.19173/irrodl.v18i5.3014

Moghavvemi, S., Aziz, A. A., Sulaiman, A., & Phoong, S. W. (2017). The impact of Facebook usage on academic performance. In *2017 International Conference on Research and Innovation in Information Systems (ICRIIS)*. https://doi.org/10.31031/RMES.2018.05.000607

Moghavvemi, S., Sulaiman, A., Jaafar, N. I., & Kasem, N. (2018). Social media as a complementary learning tool for teaching and learning: The case of Youtube. *International Journal of Management Education*, *16*(1), 37–42. https://doi.org/10.1016/j.ijme.2017.12.001

Mohd Zaki, M. Z., & Khan, A. (2016). Intention to use Facebook for learning support: The case of college students. *Journal of Information and Knowledge Management*, *6*(2), 1–14.

MOHE (2016). *Directory of public and private universities*. Retrieved from http://jpt.mohe.gov.my/

MOHE (2018). *List of public and private universities*. Retrieved from http://jpt.mohe.gov.my/index.php

Mok, J. C. H. (2012). Facebook and learning: Student's perspective on a course. *Journal of the NUS Teaching Academy*, *2*(3), 131–143.

Moyer, J. (2011). *Employee / Organizational Communications*. Retrieved from http://www.instituteforpr.org/employee-organizational-communications/

Muñoz, C. L., & Towner, T. L. (2009). Opening Facebook: How to use Facebook in the college classroom. In *2009 Society for Information Technology and Teacher Education, Charleston, South Carolina* (pp. 1–13).

Munoz, C. L., & Towner, T. (2011). Back to the “wall”: Facebook in the college classroom. *First Monday*, *16*(12), 1–12.

Mustaffa, N., Ibrahim, F., Wan Mahmud, W. A., Ahmad, F., Chang, P. K., & Mahbob, M. H. (2011). Diffusion of innovations: The adoption of Facebook among youth in Malaysia. *The Innovation Journal: The Public Sector Innovation Journal*, *16*(3), 1–15.

Naghdipour, B., & Eldridge, N. H. (2016). Incorporating social networking sites into traditional pedagogy: A case of Facebook. *TechTrends*, *60*(6), 591–597. https://doi.org/10.1007/s11528-016-0118-4

Neier, S., & Zayer, L. T. (2015). Students’ perceptions and experiences of social media in higher education. *Journal of Marketing Education*, *37*(3), 133–143. https://doi.org/10.1177/0273475315583748

Ng, S. P., & Maniam, M. (2015). The effectiveness of Facebook group discussions on writing performance: A study in matriculation college. *International Journal of Evaluation and Research in Education*, *4*(1), 30–37.

Ngonidzashe, Z. (2013). Challenges and perceptions towards use of social media in higher education in Zimbabwe: A learners’ perspective.

International Journal of Scientific & Engineering Research, *4*(5), 242–249. Retrieved from http://www.ijser.org

Nkhoma, M., Richardson, J., & El-den, J. (2015). Facebook as a tool for learning purposes: Analysis of the determinants leading to improved students' learning. *Active Learning in Higher Education*, *16*(2), 87–101. https://doi.org/10.1177/1469787415574180

Noh, N. M., Abd Razak, S. H., Alias, N., Siraj, S., Mohd Jamil, M. R., & Hussin, Z. (2013). Usage of Facebook: The future impact of curriculum implementation on students in Malaysia. In *Procedia - Social and Behavioral Sciences*, *103*, 1261–1270. https://doi.org/10.1016/j.sbspro.2013.10.455

Nordin, N. M., Embi, M. A., & Wahab, Z. A. (2011). Integration of e-Learning in teaching & learning in Malaysian higher education institutions. In M. A. Embi (Ed.), *eLearning in Malaysian Higher Education Institutions: Status, trends & challenges* (pp. 81-98). Putrajaya, Malaysia: Department of Higher Education Ministry of Higher Education.

Oberer, B., & Erkollar, A. (2012). Social media integration in higher education. Cross-course google plus integration shown in the example of a master's degree course in management. In *Procedia - Social and Behavioral Sciences*, *47*(1), 1888–1893. https://doi.org/10.1016/j.sbspro.2012.06.918

Odom, S. F., Jarvis, H. D., Sandlin, M. R., & Peek, C. (2013). Social media tools in the leadership classroom: Students' perceptions of use. *Journal of Leadership Education*, *12*(1), 34–53.

Omar, H., Embi, M. A., & Md Yunus, M. (2012). ESL learners' interaction in an online discussion via Facebook. *Asian Social Science*, *8*(11), 67–74. https://doi.org/10.5539/ass.v8n11p67

Ophus, J. D., & Abbitt, J. T. (2009). Exploring the potential perceptions of social networking systems in university course. *MERLOT Journal of Online Learning and Teaching*, *5*(4), 639–648.

Öztürk, E. (2014). Facebook as a new community of inquiry environment: An investigation in terms of academic achievement and motivation. *Journal of Baltic Science Education*, *14*(1), 20–33.

Papacharissi, Z., & Mendelson, A. (2011). Toward a new(er) sociability: Uses, gratifications, and social capital on Facebook. In *S. Papathanassopoulos, (Eds.), Media Perspectives for the 21st Century. Routledge, 2011*.

Pasek, J., More, E., & Hargittai, E. (2009). Facebook and academic performance: Reconciling a media sensation with data. *First Monday*, *14*(5), 1–23. https://doi.org/10.5210/fm.v14i5.2498

Passey, D. (2010). Mobile learning in school contexts: Can teachers alone make it happen? *IEEE Transactions on Learning Technologies, 3*(1), 68–81. https://doi.org/10.1109/tlt.2009.47

Passey, D., Laferrière, T., Ahmad, M.Y.A., Bhowmik, M., Gross, D., Price, J., Resta, P., & Shonfeld, M. (2016). Educational digital technologies in developing countries challenge third party providers. *Educational Technology and Society*, *19*(3), 121–133.

Patton, M.Q. (1990). *Qualitative evaluation and research methods (2nd Ed.)*. CA: Sage.

Pektas, S. T. (2012). The blended design studio: An appraisal of new delivery modes in design education. In *Procedia - Social and Behavioral Sciences 51 ARTSEDU 2012* (Vol. 51, pp. 692–697). Elsevier B.V. https://doi.org/10.1016/j.sbspro.2012.08.226

Peruta, A., & Shields, A. B. (2017). Social media in higher education: Understanding how colleges and universities use Facebook. *Journal of Marketing for Higher Education*, *27*(1), 131–143. https://doi.org/10.1080/08841241.2016.1212451

Phua, J., Jin, S. V., & Kim, J. (Jay). (2017). Uses and gratifications of social networking sites for bridging and bonding social capital: A comparison of Facebook, Twitter, Instagram, and Snapchat. *Computers in Human Behavior*, *72*, 115–122. https://doi.org/10.1016/j.chb.2017.02.041

Phua, S., & Wong, S. L. (2015). Internet and Facebook use among university students. *Pertanika Journal of Scholarly Research Reviews*, *1*(1), 1–7.

Poellhuber, B., & Anderson, T. (2011). Distance students' readiness for social media and collaboration. *International Review of Research in Open and Distance Learning*, *12*, 102–125.

Ponnudurai, P., & Jacob, T. T. (2014). Facebook: A shift from social to academia. In *Procedia - Social and Behavioral Sciences 123 TTLC 2013* (Vol. 123, pp. 122–129). Elsevier B.V. https://doi.org/10.1016/j.sbspro.2014.01.1405

Potter, J., & Banaji, S. (2012). Social media and self-curatorship: Reflections on identity and pedagogy through blogging on a masters module. *Comunicar*, *19*(38), 83–91. https://doi.org/10.3916/C38-2012-02-09

Powell, K. C., & Kalina, C. J. (2009). Cognitive and social constructivism: Developing tools for an effective classroom. *Education*, *130*(2), 241–250. https://doi.org/10.1037/0022-0663.93.3.571

Prescott, J. (2014). Teaching style and attitudes towards Facebook as an educational tool. *Active Learning in Higher Education*, *15*(2), 117–128. https://doi.org/10.1177/1469787414527392

Quan-Haase, A., & Young, A. L. (2010). Uses and gratifications of social media: A comparison of Facebook and instant messaging. *Bulletin of Science, Technology & Society*, *30*(5), 350–361. https://doi.org/10.1177/0270467610380009

Raja Hussain, R. M. (2004). eLearning in Higher Education Institutions in Malaysia. *E-Mentor*, *5*(7), 72–75.

Raman, A., Mohd Sani, R., & Kaur, P. (2014). Facebook as a collaborative and communication tool: A study of secondary school students in Malaysia. In *The International Conference on Communication and Media 2014 (i-COME'14)* (Vol. 155, pp. 141–146). Elsevier B.V. https://doi.org/10.1016/j.sbspro.2014.10.270

Rambe, P. (2012). Constructive disruptions for effective collaborative learning: Navigating the affordances of social media for meaningful engagement. *Electronic Journal of E-Learning*, *10*(1), 132–146.

Rambe, P. (2013). Converged social media: Identity management and engagement on Facebook Mobile and blogs. *Australasian Journal of Educational Technology*, *29*(3), 315–336. https://doi.org/10.1234/ajet.v29i3.117

Ranieri, M., Manca, S., & Fini, A. (2012). Why (and how) do teachers engage in social networks? An exploratory study of professional use of Facebook and its implications for lifelong learning. *British Journal of Educational Technology*, *43*(5), 754–769. https://doi.org/10.1111/j.1467-8535.2012.01356.x

Rap, S., & Blonder, R. (2017). Thou shall not try to speak in the Facebook language: Students' perspectives regarding using Facebook for chemistry learning. *Computers and Education*, *114*, 69–78. https://doi.org/10.1016/j.compedu.2017.06.014

Rasiah, R. R. V. (2014). Transformative higher education teaching and learning: Using social media in a team-based learning environment. In *Procedia - Social and Behavioral Sciences 123 (2014) 369 – 379 TTLC 2013*, *123*(2012), 369–379. https://doi.org/10.1016/j.sbspro.2014.01.1435

Reuben, R. (2008). *The use of social media in higher education for marketing and communications: A guide for professionals in higher education*. https://doi.org/10.1108/S2044-9968(2012)0000005018

Rheingold, H. (2008). Using social media to teach social media. *The New England Journal of Higher Education*, *23*, 25–26.

Ricoy, M., & Feliz, T. (2016). Twitter as a learning community in higher education. *Educational Technology and Society*, *19*(1), 237–248.

Robertson, I. (2008). Learners' attitudes to wiki technology in problem based, blended learning for vocational teacher. *Australasian Journal of Educational Technology*, *24*(4), 425–441.

Roblyer, M. D., McDaniel, M., Webb, M., Herman, J., & Witty, J. V. (2010). Findings on Facebook in higher education: A comparison of college

faculty and student uses and perceptions of social networking sites. *The Internet and Higher Education*, *13*(3), 134–140. https://doi.org/10.1016/j.iheduc.2010.03.002

Rodríguez-hoyos, C., Salmón, I. H., & Fernández-díaz, E. (2015). Research on SNS and education: The state of the art and its challenges research methods. *Australasian Journal of Educational Technology*, *31*(1), 100–111.

Rubrico, J. G. U., & Hashim, F. (2014). Facebook-photovoice interface: Empowering non-native pre-service English language teachers. *Language Learning & Technology*, *18*(3), 16–34.

Saaty, A. A. (2015). Utilizing Facebook in language classroom: Social constructivist and affective filter approaches. *Arab World English Journal*, *6*(4), 113–127.

Said, M. N. H. M., & Tahir, L. M. (2013). Towards identification of students' holistic learning process through Facebook in higher education. In *Procedia - Social and Behavioral Sciences*, *97*, 307–313. https://doi.org/10.1016/j.sbspro.2013.10.238

Said, M. N. H. M., Tahir, L. M., & Ali, M. F. (2014). Facebook as a tool: Exploring the use of Facebook in teaching and learning. In *2014 International Conference on Teaching and Learning in Computing and Engineering*, 120–124. https://doi.org/10.1109/LaTiCE.2014.29

Saifudin, A., Yacob, A., & Saad, R. (2016). The Facebook-in-action: Challenging, harnessing and enhancing students class assignment and projects. *Universal Journal of Educational Research*, *4*(6), 1259–1265. https://doi.org/10.13189/ujer.2016.040602

Salmona, M., & Kaczynski, D. (2016). Don't blame the software: Using qualitative data analysis software successfully in doctoral research. *Forum: Qualitative Social Research*, *17*(3), 1-15.

Sarapin, S. H., & Morris, P. L. (2015). Faculty and Facebook friending: Instructor-student online social communication from the professor's perspective. *Internet and Higher Education*, *27*, 14–23. https://doi.org/10.1016/j.iheduc.2015.04.001

Sarwar, B., Zulfiqar, S., Aziz, S., & Ejaz Chandia, K. (2018). Usage of social media tools for follaborative learning: The effect on learning success with the moderating role of cyberbullying. *Journal of Educational Computing Research*, 1–34. https://doi.org/10.1177/0735633117748415

Schroeder, A., Minocha, S., & Schneidert, C. (2010). The strengths, weaknesses, opportunities and threats of using social software in higher and further education teaching and learning. *Journal of Computer Assisted Learning*, *26*, 159–174. https://doi.org/10.1111/j.1365-2729.2010.00347.x

Schroeder, R., & Ling, R. (2014). Durkheim and Weber on the social implications of new information and communication technologies. *New Media & Society*, *16*(5), 789–805. https://doi.org/10.1177/1461444813495157

Seaman, J., & Tinti-Kane, H. (2013). *Social media for teaching and learning*. Pearson Learning Solutions. Retrieved from http://www.onlinelearningsurvey.com.

Selwyn, N. (2010). Looking beyond learning: Notes towards the critical study of educational technology. *Journal of Computer Assisted Learning*, *26*(1), 65–73. https://doi.org/10.1111/j.1365-2729.2009.00338.x

Selwyn, N. (2012). Social media in higher education. In *The Europa World of Learning* (pp. 1–10).

Shaltry, C., Henriksen, D., Wu, M. L., & Dickson, W. P. (2013). Situated learning with online portfolios, classroom websites and Facebook. *TechTrends*, *57*(3), 20–25. https://doi.org/10.1007/s11528-013-0658-9

Sharma, S. K., Joshi, A., & Sharma, H. (2016). A multi-analytical approach to predict the Facebook usage in higher education. *Computers in Human Behavior*, *55*, 340–353. https://doi.org/10.1016/j.chb.2015.09.020

Shaw, C. M. (2017). Using Facebook as an educational resource in the classroom. In *Oxford Research Encyclopedia of International Studies* (Vol. 1, pp. 1–14). https://doi.org/10.1093/acrefore/9780190846626.013.114

Shih, R. C. (2011). Can Web 2.0 technology assist college students in learning English writing? Integrating Facebook and peer assessment with blended learning. *Australasian Journal of Educational Technology*, *27*, 829–845.

Siddike, M. A. K., Islam, M. S., & Banna, H. (2015). Use of social networking sites: Facebook group as a learning management system. *Knowledge Management & E-Learning*, *7*(2), 232–249.

Silius, K., Kailanto, M., & Tervakari, A.-M. (2011). Evaluating the quality of social media in an educational context. In *2011 IEEE Global Engineering*

Education Conference (EDUCON), 505–510. https://doi.org/10.1109/EDUCON.2011.5773183

Sim, T. Y., Naidu, D., & Apparasamy, D. (2014). Improving students engagement through social media: A case study of a private university in Malaysia using Facebook. *International Journal of E-Education, E-Business, E-Management and E-Learning*, *4*(6), 396–409.

Sin, S. (2017). Considerations of quality in phenomenographic research. *International Journal of Qualitative Methods*, *9*(4), 305-319.

Šliogerienė, J., & Valūnaitė Oleškevičienė, G. (2014). Confronting social media in higher education. *Societal Studies*, *6*(2), 390–402. https://doi.org/10.13165/SMS-14-6-2-10

Smith, E. E. (2016). “A real double-edged sword:” Undergraduate perceptions of social media in their learning. *Computers & Education*, *103*, 44–58. https://doi.org/10.1016/j.compedu.2016.09.009

Staines, Z., & Lauchs, M. (2013). Students’ engagement with Facebook in a university undergraduate policing unit. *Australasian Journal of Educational Technology*, *29*(6), 792–805.

StudyMalaysia.com (14 March 2015). *The Malaysian Higher Education System - An Overview*. Retrieved from https://www.studymalaysia.com/education/higher-education-in-malaysia/the-malaysian-higher-education-system-an-overview

Suebsom, K. (2015). Measuring knowledge transfer through Facebook of higher education classroom. *International Journal of Information and Education Technology*, *5*(6), 437–441. https://doi.org/10.7763/IJIET.2015.V5.545

Susilo, A. (2014). Exploring Facebook and Whatsapp as supporting social network applications for English learning in higher education. In *Teaching and Learning in the 21st Century : Challenges for Lecturers and Teachers* (pp. 10–24).

Tananuraksakul, N. (2015). An investigation into the impact of Facebook group usage on students' affect in language learning in a Thai context. *International Journal of Teaching and Learning in Higher Education*, *27*(2), 235–246. Retrieved from http://www.isetl.org/ijtlhe/

Tanta, I., Mihovilović, M., & Sablić, Z. (2014). Uses and gratification theory – Why adolescents use Facebook ? *Medijska Istraživanja*, *20*(2), 85–110.

Tarantino, K., Mcdonough, J., & Hua, M. (2013). Effects of student engagement with social media on student learning: A review of literature. *The Journal of Technology in Student Affairs*, 1–13. Retrieved from http://studentaffairs.com/ejournal/Summer_2013/EffectsOfStudentEngagementWithSocialMedia.html

Tarhini, A., Hone, K., Liu, X., & Tarhini, T. (2017). Examining the moderating effect of individual-level cultural values on users' acceptance of E-learning in developing countries: A structural equation modeling of an extended technology acceptance model. *Interactive Learning Environments*, *25*(3), 306–328. https://doi.org/10.1080/10494820.2015.1122635

Taylor, R., King, D. F., & Nelson, D. G. (2012). Student learning through social media. *Journal of Sociological Research*, *3*(2), 29–35. https://doi.org/10.5296/jsr.v3i2.2136

Terrell, J., Richardson, J., & Hamilton, M. (2011). Using Web 2.0 to teach Web 2.0: A case study in aligning teaching, learning and assessment with professional practice. *Australasian Journal of Educational Technology*, *27*(5), 846–862.

Tess, P. A. (2013). The role of social media in higher education classes (real and virtual) – A literature review. *Computers in Human Behavior*, *29*, A60–A68. https://doi.org/10.1016/j.chb.2012.12.032

The Star Online (6 May 2018). *Redesigning Malaysia's higher education system*. Retrieved from https://www.thestar.com.my/news/education/2018/05/06/redesigning-malaysias-higher-education-system/

Tiryakioglu, F., & Erzurum, F. (2011). Use of social networks as an education tool. *Contemporary Education Technology*, *2*(2), 135–150.

University Guide Online (n. d.). *Types of higher education institutions in Malaysia*. Retrieved from https://www.universityguideonline.org/en/internationalpathways/higher-education-institutions-in-malaysia

Usher, W. (2013). Utilising Web 2.0 technologies in an Australian higher educational setting: A case analysis of Griffith University, Gold Coast, Australia. *Information and Knowledge Management*, *3*(8), 1–12.

Uzun, K., & Aydin, C. H. (2012). The use of virtual ethnography in distance education research. *Turkish Online Journal of Distance Education (TOJDE)*, *13*(2), 212–226. Retrieved from http://ezproxy.lib.ucalgary.ca/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=ehh&AN=75067510&site=ehost-live

Väljataga, T., & Fiedler, S. (2009). Supporting students to self-direct intentional learning projects with social media. *Educational Technology and Society*, *12*(3), 58–69.

Veletsianos, G., & Navarrete, C. C. (2012). Online social networks as formal learning environments: Learner experiences and activities. *The International Review of Research in Open and Distributed Learning*, *13*(1), 144–166.

Vivian, R., Barnes, A., Geer, R., & Wood, D. (2014). The academic journey of university students on Facebook: An analysis of informal academic-related activity over a semester. *Research in Learning Technology*, *22*, 1–16. https://doi.org/10.3402/rlt.v22.24681

Vygotsky, L. (1978). *Mind in Society*. London: Harvard University Press.

Wahab, Z. A., Embi, M. A., & Nordin, N. M. (2011). e-Learning governance in Malaysian higher education institutions. In M. A. Embi (Ed.), *eLearning in Malaysian Higher Education Institutions: Status, trends & challenges* (pp. 19-27). Putrajaya, Malaysia: Department of Higher Education Ministry of Higher Education.

Wakefield, J. S., Warren, S. J., Alsobrook, M., & Knight, K. A. (2013). What do they really think? Higher education students' perceptions of using Facebook and Twitter in formal higher education learning. *International Journal of Social Media and Interactive Learning Environments*, *1*(4), 330–354.

Wan, C. D. (2007). Public and private higher education institutions in Malaysia: Competing, complementary or crossbreeds as education providers. *Kajian Malaysia*, *27*(1), 1–14.

Wan, C. D., Chapman, D. W., Zain, A. N. M., Hutcheson, S., Lee, M., & Austin, A. E. (2015). Academic culture in Malaysia: Sources of satisfaction and frustration. *Asia Pacific Education Review*, *16*, 517-526. https://doi.org/10.1007/s12564-015- 9398-1

Wan, C. D., Sirat, M., & Abdul Razak, D. (2015). The idea of a university: Rethinking the Malaysian context. *Humanities*, *4*(3), 266–282. https://doi.org/10.3390/h4030266

Wang, J. (2013). What higher educational professionals need to know about today's students: Online social networks. *Turkish Online Journal of Educational Technology*, *12*(3), 180–193.

Wang, Q., Woo, H. L., & Quek, C. L. (2012). Exploring the affordances of Facebook for teaching and learning. *International Review of Contemporary Learning Research*, *1*(1), 23–31. https://doi.org/10.12785/irclr/010103

Wang, Q., Woo, H. L., Quek, C. L., Yang, Y., & Liu, M. (2012). Using the Facebook group as a learning management system: An exploratory study. *British Journal of Educational Technology*, *43*(3), 428–438. https://doi.org/10.1111/j.1467-8535.2011.01195.x

Wang, R., Scown, P., Urquhart, C., & Hardman, J. (2014). Tapping the educational potential of Facebook: Guidelines for use in higher education. *Education and Information Technologies*, *19*(1), 21–39. https://doi.org/10.1007/s10639-012-9206-z

Wang, Z., Tchernev, J. M., & Solloway, T. (2012). A dynamic longitudinal examination of social media use, needs, and gratifications among college

students. *Computers in Human Behavior*, *28*, 1829–1839. https://doi.org/10.1016/j.chb.2012.05.001

Waycott, J., Thompson, C., Sheard, J., & Clerehan, R. (2017). A virtual panopticon in the community of practice: Students' experiences of being visible on social media. *Internet and Higher Education*, *35*(July), 12–20. https://doi.org/10.1016/j.iheduc.2017.07.001

Willems, J., & Bateman, D. (2011). The potentials and pitfalls of social networking sites such as Facebook in higher education contexts. In *Ascilite 2011 Hobart Tasmania Australia* (pp. 1322–1324).

Wimmer, R. D., & Dominick, J. R. (2014). *Mass media research: An introduction (10th Ed.).* United States of America: Wadsworth Cengage Learning.

Woerner, J. S. (2015). *A qualitative case study of Facebook and its perceived impact on social connectivity*. Unpublished doctoral dissertation, Walden University. Retrieved from http://scholarworks.waldenu.edu/dissertations/1867/

Yin, R. F. (2009). *Case study research design and methods* [Kindle Reader Edition]. Retrieved from http://www.amazon.com

Young, O.J., & Chae, K.J. (2015). The development of interview techniques in Language Studies: Facilitating the researchers' views on interactive encounters. *English Language Teaching*, 8(7), 30-39.

Zain, N. M., Aspah, V., Mohmud, N. A., Abdullah, N., & Ebrahimi, M. (2017). Challenges and evolution of higher education in Malaysia. *International Journal of Islamic and Civilization Studies*, *4*(1), 78–87. https://doi.org/10.11113/UMRAN2017.4N1-1.207

Zakaria, M. H. (2013). *E-Learning 2.0 experiences within higher education: Theorising students' and teachers' experiences in Web 2.0 learning*. Unpublished PhD thesis, Queensland University of Technology

Zamawe, F. C. (2015). The implication of using NVivo software in qualitative data analysis: Evidence-based reflections. *Malawi Medical Journal*, *27*(1), 13-15.

Appendix One

List of public universities in Malaysia

No.	University Name	Address and contact	Remark
1.	Universiti Malaya (UM)	Lembah Pantai, 50603 Kuala Lumpur Tel: 03-79677022, Fax: 03-79560027, website: www.um.edu.my	Public University
2.	Universiti Sains Malaysia (USM)	11800 Minden, Pulau Pinang Tel: 04-6533888, Fax: 04-6589666, website: www.usm.edu.my	Public University
3.	Universiti Kebangsaan Malaysia (UKM)	43600 Bangi, Selangor Tel: 03-89215555, Fax: 03-89214242, website: www.ukm.edu.my	Public University
4.	Universiti Putra Malaysia (UPM)	43400 Serdang, Selangor Tel: 03-89466000, Fax: 03-89487273, website: www.upm.edu.my	Public University
5.	Universiti Teknologi Malaysia (UTM)	81310 Sekudai, Johor Tel: 07-5575960, Fax: 07-5579376, website: www.utm.my	Public University
6.	Universiti Islam Antarabangsa Malaysia (UIAM)	Jalan Gombak, 53100 Gombak, Selangor Tel: 03-61964000, Fax: 03-61964053, website: www.iium.edu.my	Public University
7.	Universiti Utara Malaysia (UUM)	06010 Sintok, Kedah Tel: 04-9284000, Fax: 04-9283016, website: www.uum.edu.my	Public University
8.	Universiti Malaysia Sarawak (UNIMAS)	Kota Samarahan, 93400 Kuching, Sarawak Tel: 082-581000, Fax: 082-655088, website: www.unimas.my	Public University

No.	University Name	Address and contact	Remark
9.	Universiti Malaysia Sabah (UMS)	Beg Berkunci 2073,88899 Kota Kinabalu, Sabah Tel: 088-320000, Fax: 088-320223, website: www.ums.edu.my	Public University
10.	Universiti Pendidikan Sultan Idris (UPSI)	Jalan Slim, 35900 Tanjung Malim, Perak Tel: 05-4596200, Fax: 05-4582773, website: www.upsi.edu.my	Public University
11.	Universiti Sains Islam Malaysia (USIM)	Bandar Baru Nilai, 71800 Nilai, Negeri Sembilan Tel: 06-7988000, Fax: 06-7988204, website: www.usim.edu.my	Public University
12.	Universiti Teknologi MARA (UiTM)	40450 Shah Alam, Selangor Tel: 03-55442000, Fax: 03-55443020, website: www.uitm.edu.my	Public University
13.	Universiti Malaysia Terengganu (UMT)	21030 Mengabang Telipot, Kuala Terengganu, Terengganu Tel: 09-6693102, Fax: 09-6697418, website: www.umt.edu.my	Public University
14.	Universiti Tun Hussein Onn Malaysia (UTHM)	Beg Berkunci 101, 86400 Parit Raja, Batu Pahat, Johor Tel: 07-4537000, Fax: 07-4536337, website: www.uthm.edu.my	Public University
15.	Universiti Teknikal Malaysia Melaka (UTeM)	Hang Tuah Jaya, 76100 Durian Tunggal, Melaka Tel: 06-5552000, Fax: 06-3316247, website: www.utem.edu.my	Public University
16.	Universiti Malaysia Pahang (UMP)	Beg Berkunci 12, 25500 Kuantan, Pahang Tel: 09-5492501, Fax: 09-5493199, website: www.ump.edu.my	Public University
17.	Universiti Malaysia Perlis (UniMAP)	Tkt. 11, Bangunan KWSP, Jalan Bukit Lagi, 01000 Kangar, Perlis Tel: 04-9798008, Fax: 04-9778011, website: www.unimap.edu.my	Public University

No.	University Name	Address and contact	Remark
18.	Universiti Sultan Zainal Adibin (UNISZA)	Kampus Gong Badak, 21300 Kuala Nerus, Terengganu Tel: 09-6688888, Fax: 09-6662566, website: www.unisza.edu.my	Public University
19.	Universiti Malaysia Kelantan (UMK)	Karung Berkunci 36, Pengkalan Chepa, 16100 Kelantan Tel: 09-7717700, Fax: 09-7717020, website: www.umk.edu.my	Public University
20.	Universiti Pertahanan Nasional Malaysia (UPNM)	Kem Sungai Besi, 57000 Kuala Lumpur Tel: 03-90513400, website: www.upnm.edu.my	Public University

(Adopted from Ministry of Higher Education Malaysia, 2016)

List of private universities in Malaysia

No.	University Name	Address and contact	Remark
1.	Multimedia University (MMU)	Cyberjaya Campus, Jalan Multimedia, 63100 Cyberjaya, Selangor Tel: 03-83125012, Fax: 03-83125115, website: www.mmu.edu.my	Private University
2.	Universiti Tenaga Nasional (UNITEN)	Putrajaya Campus, Jalan IKRAM-UNITEN, 43000 Kajang, Selangor Tel: 03-89212020, Fax: 03-89263504, website: www.uniten.edu.my	Private University
3.	Universiti Teknologi Petronas (UTP)	Bandar Seri Iskandar, 31750 Tronoh, Perak Tel: 05-3688000, Fax: 05-3654075, website: www.utp.edu.my	Private University
4.	UNITAR International University	Tierra Crest, Jalan SS6/3 Kelana Jaya, 47300 Petaling Jaya, Selangor Tel: 03-76277200, Fax: 03-76277446, website: www.unitar.my	Private University
5.	Universiti Tun Abdul Razak (UNIRAZAK)	Bangunan Bank Rakyat, Jalan Tangsi, 50480 Kuala Lumpur Tel: 03-27307000, Fax: 03-27307070, website: www.unirazak.edu.my	Private University
6.	International Medical University (IMU)	No. 126, Jalan Jalil Perkasa 19, Bukit Jalil, 57000 Kuala Lumpur Tel: 03-86567228, Fax: 03-86566229, website: www.imu.edu.my	Private University

No.	University Name	Address and contact	Remark
7.	Universiti Selangor (UNISEL)	Shah Alam Campus, Jalan Zikron 1A/A, Seksyen 7, Off Persiaran Masjid, 40000 Shah Alam, Selangor Tel: 03-55127957, Fax: 03-55137959, website: www.unisel.edu.my	Private University
8.	Malaysia University of Science and Technology (MUST)	Unit GL33, Ground Floor, Block C, Dataran Usahawan Kelana, Jalan SS7/26, 47301 Kelana Jaya, Selangor Tel: 03-78801777, Fax: 03-78801762, website: www.must.edu.my	Private University
9.	Open University Malaysia (OUM)	Block B, Jalan Tun Ismail, 50480 Kuala Lumpur Tel: 03-27732002, Fax: 03-26978820, website: www.oum.edu.my	Private University
10.	AIMST University	Batu 3 ½, Bukit Air Nasi, Jalan Bedong-Semeling, 08100 Bedong, Kedah Tel: 04-4298100, Fax: 04-4298102, website: aimst.edu.my	Private University
11.	Universiti Kuala Lumpur (UniKL)	Lot 1, Jalan Teknologi 3/5, Taman Sains Selangor 1, Kota Damansara, 47810 Petaling Jaya, Selangor Tel: 03-21754000, Fax: 03-21754001, website: www.unikl.edu.my	Private University

No.	University Name	Address and contact	Remark
12.	Universiti Tunku Abdul Rahman (UTAR)	Sungai Long Campus, Lot PT 21144, Jalan Sg. Long, Bandar Sg. Long, Cheras 43000 Kajang, Selangor Tel: 03-90194722, Fax: 03-90197062, website: www.utar.edu.my	Private University
13.	Wawasan Open University (WOU)	54, Jalan Sultan Ahmad Shah, 10050 Pulau Pinang Tel: 04-2289323, Fax: 04-2269323, website: www.wou.edu.my	Private University
14.	AlBukhary International University (AIU)	Kompleks Al Bukhary, Jalan Langgar, 05460 Alor Setar, Kedah Tel: 04-7304777, Fax: 04-7305777, website: www.aiu.edu.my	Private University
15.	Universiti Teknologi Kreatif Limkokwing (LUCT)	Innovasi 1, Jalan Teknokrat, Off Jalan APEC, 63000 Cyberjaya, Selangor Tel: 03-83178888, Fax: 03-83178988, website: www.limkokwing.edu.my	Private University
16.	Asia e University (AeU)	Tingkat Bawah 6, Blok Utama, Dataran Kewangan Darul Takaful, No. 4, Jalan Sultan Sulaiman, 50000 Kuala Lumpur Tel: 03-27850000, Fax: 03-27850001, website: www.aeu.edu.my	Private University
17.	Al-Madinah International University (MEDIU)	Tingkat 11, Plaza Masalam, No. 2, Jalan Tengku Ampuan Zabedah E/9E, Seksyen 9, 40100 Shah Alam, Selangor Tel: 03-55113939, Fax: 03-55113940, website: www.mediu.edu.my	Private University

No.	University Name	Address and contact	Remark
18.	International Centre for Education in Islamic Finance (INCEIF)	Lorong Universiti A, 59100 Kuala Lumpur Tel: 03-76514000, Fax: 03-76514094, Website: www.inceif.edu.my	Private University
19.	Management and Science University (MSU)	No. 4, Persiaran Olahraga, Seksyen 13m, 40000 Shah Alam, Selangor Tel: 03-55106868, Fax: 03-55108668, website: www.msu.edu.my	Private University
20.	UCSI University	No. 1, Jalan Menara Gading, UCSI Heights, 56000 Cheras, Kuala Lumpur Tel: 03-91018880, Fax: 03-91023606, website: www.ucsi.edu.my	Private University
21.	Quest International University Perak (QIUP)	No. 227, Plaza Teh Teng Seng, Housing Trust, 30250 Ipoh, Perak Tel: 05-2411124, Fax: 05-2414124, website: www.qiup.edu.my	Private University
22.	Inti International University	Persiaran Perdana BBN, Putera Nilai, 71800 Nilai, Negeri Sembilan Tel: 06-7982000, Fax: 06-7997531, website: www.newinti.edu.my	Private University
23.	Taylor's University	Taylor's Lakeside Campus, No. 1, Jalan Taylor's, 47500 Subang Jaya, Selangor Tel: 03-56295000, Fax: 03-56295001, website: www.taylors.edu.my	Private University

No.	University Name	Address and contact	Remark
24.	Manipal International University (MIU)	No. 1, Persiaran MIU, 71800 Putra Nilai, Negeri Sembilan Tel: 06-7989200, Fax: 06-7989300, website: www.miu.edu.my	Private University
25.	Sunway University	No. 5, Jalan Universiti, Bandar Sunway, 47500 Selangor Tel: 03-74918622, Fax: 03-55358633, website: www.sunway.edu.my	Private University
26.	Perdana University	Blok B & D1, Bangunan MAEPS, Jalan Maeps Perdana, 43400 Serdang, Selangor Tel: 03-27183721, Fax: 03-27183741, website: www.perdanauniversity.edu.my	Private University
27.	Malaysian Institute For Supply Chain Innovation (MISI)	Sime Darby Pavilion, 2A, Persiaran Tebar Layar, Seksyen U8, 40150 Shah Alam, Selangor Tel: 03-78327782, Fax: 03-78421987, website: www.misi.edu.my	Private University
28.	Universiti HELP	BZ-2, 50490 Pusat Bandar Damansara, Kuala Lumpur Tel: 03-20942000, Fax: 03-20931830, website: www.help.edu.my	Private University
29.	Raffles University Iskandar	Menara Kota Raya, Aras 9, Jalan Trus, 80000 Johor Bahru, Johor Tel: 07-2278868, Fax: 07-2278878, website: www.raffles-university.edu.my	Private University

No.	University Name	Address and contact	Remark
30.	Asia Pacific University of Technology & Innovation (Asia Pasific UTI)	Lot 6, Taman Teknologi Malaysia, Bukit Jalil, 57000 Kuala Lumpur Tel: 03-89961000, Fax: 03-89961101, website: www.apu.edu.my	Private University
31.	Universiti SEGi	No. 9, Jalan Teknologi, Taman Sains Selangor, Kota Damansara PJU 5, 47810 Petaling Jaya, Selangor Tel: 03-61451777, Fax: 03-61452616, website: www.segi.edu.my	Private University
32.	Universiti Nilai	No. 1, Persiaran Universiti, Putera Nilai 71800, Nilai, Negeri Sembilan Tel: 06-8502338, Fax: 06-8502339, website: www.nilai.edu.my	Private University
33.	Binary University of Management & Entrepreneurship (BUME)	No.1, IOI Business Park, Persiaran Puchong Jaya Selatan, 47100 Puchong, Selangor Tel: 03-80706590, Fax: 03-80706594, website: www.binary.edu.my	Private University
34.	GlobalNxt University	Level 10-1, Mercu UEM, Jalan Stesen Sentral 5, Kuala Lumpur Sentral, 50470 Kuala Lumpur Tel: 03-27870700, Fax: 03-27870799	Private University
35.	Universiti Infrastruktur Kuala Lumpur (IUKL)	Unipark Suria,Jalan Ikram-Uniten, 43000 Kajang, Selangor Tel: 03-87373320, Fax: 03-89221134, website: www.iukl.edu.my	Private University

No.	University Name	Address and contact	Remark
36.	Putra Business School Graduate School of Management	Universiti Putra Malaysia, 43400 UPM Serdang, Selangor Tel: 03-89483118, Fax: 03-86560350, website: www.putrabusinessschool.edu.my	Private University
37.	Asia Metropolitan University	G-8, Jalan Kemacahaya 11, Taman Kemacahaya, Batu 9, 43200 Cheras, Selangor Tel: 603-90805888, Fax: 603-90801995, website: www.masterskill.edu.my	Private University
38.	Universiti MAHSA (MAHSA University)	Jalan SP2, Bandar Saujana Putra, 42610 Jenjarom Kuala Langat, Selangor Tel: 03-79652627, Fax: 03-79652608, website: www.mahsa.edu.my	Private University
39.	International University of Malaya Wales (IUMW)	Block A & Block C, Kampus Kota, Jalan Tun Ismail, 50480 Kuala Lumpur Tel: 03-26173198, Fax: 03-26173203, website: www.iumw.edu.my	Private University
40.	University Malaysia of Computer Science & Engineering	Menara Z10, Ground Floor & Mezzanine Floor, Jalan Alamanda 2, Presint 1, 62000 Putrajaya Tel: 03-88005000, Fax: 03-88005011, website: www.unimy.edu.my	Private University
41.	Universiti Islam Malaysia (UIM)	Blok I, Bangunan MKN Embassy Technzone, Jalan Teknorat 2, 63000 Cyberjaya, Selangor Tel: 03-83186848, Fax: 03-83186846, website: www.uim.edu.my	Private University

No.	University Name	Address and contact	Remark
42.	DRB-HICOM University Of Automotive Malaysia	Kompleks Automotif DRB-HICOM Pekan, Lot 1449, PT 2204, Kawasan Perindustrian Peramu Jaya, 26607 Pekan, Pahang Tel: 09-4242400, Fax: 09-4424500, website: www.icam.edu.my	Private University
43.	Asia School Of Business (ASB)	Sasana Kijang, 2, Jalan Dato` Onn, 50480 Kuala Lumpur Tel: 03-91794115, Fax: 03-91794107, website: www.asb.edu.my	Private University
44.	Meritus University	No. 49-8, The Boulevard, Mid Valley City, Lingkaran Syed Putra, 59200 Kuala Lumpur Tel: 03-22871000, Fax: 03-27305050, website: www.meritus.edu.my	Private University

(Adopted from Ministry of Higher Education Malaysia, 2016)

Appendix Two

Email of Invitation to Participate in Research Interview

Dear Sir/Madam,

I am a PhD student in the Department of Educational Research at Lancaster University and I would like to invite you to take part in my research about your use of Facebook and its impacts for teaching and learning in classroom education.

As a lecturer/student of a Malaysian university who uses Facebook for educational purposes, you are in an ideal position to give me valuable information from your own perspective. I would very much like to ask you some questions about your experiences. An interview would take around 45 to 90 minutes. If you are willing to do this, I can assure you that your responses to the questions will be kept anonymous.

There is no compensation for participating in this study. However, your participation will be a valuable addition to my research and findings could lead to better understandings of Facebook as an educational tool, enabling a new framework within Malaysian higher education to be designed to allow optimum use and support of social media tools to improve pedagogical practices as well as to motivate learners and facilitate learning communities. I have enclosed the participant information sheet with this letter to explain more about the study. If you are willing to participate, please suggest a day and time that suits you and I'll do my best to be available. If you have any questions, please do not hesitate to ask.

Thank you and looking forward to your favourable response.

Cheers,
Catherine Lee

Appendix Three

Participant Information Sheet

Name of Study:
Assessing the uses and impacts of Facebook for teaching and learning in classroom education in Malaysian universities

Researcher:
Cheng Ean (Catherine) Lee

Dear Sir/Madam

I am a PhD student in the Department of Educational Research at Lancaster University and I would like to invite you to take part in my research by answering questions in an interview about your use of Facebook and its impacts for teaching and learning in classroom education. Before you decide, I would like to tell you why the research is being done and what it would involve for you. Please take time to read the following information carefully. Ask me if there is anything that is not clear or if you would like more information. Do take time to decide whether or not you wish to take part.

What is the purpose of the study?
This study aims to examine the use of the social networking site Facebook by lecturers and students in Malaysian higher education and to evaluate impacts on teaching and learning practices in classroom education.

Why have I been invited?
You have been approached because the study requires information from people who use Facebook in Malaysian higher education. As a user, I would be very grateful if you would agree to take part in this study.

Do I have to take part?
No. It's completely up to you to decide whether or not you take part. Your participation is voluntary and you can withdraw from the study at any time before or during the interview and up to two weeks following the interview. If you do

not wish to take part following the interview, I will exclude the analysis of your interview transcript.

What will I be asked to do if I take part?

If you decide you would like to take part, you would be asked to read and sign a consent form and participate in the interview. The interview will be audio recorded and will be transcribed by the researcher.

Will my data be identifiable?

The data collected for this study will be stored securely and only the researcher conducting this study will have access to this data.

- The audio recordings will be transferred directly from the digital recorder to a password protected computer. The digital recorder cannot be encrypted but I can confirm that any identifiable data including recordings of your voice will be deleted from the recorder as quickly as possible after transferring the data to a secure device which are an encrypted USB drive and password protected computer. In the meantime, the digital recorder will be stored securely. Hard copies of the transcription will be kept in a locked filing cabinet on University premises.
- Audio recordings of the interview sessions will be destroyed and/or deleted once the study has been submitted for examination and publication. All data relating to the study will be securely destroyed 10 years after the study has been completed.
- The typed version of your interview will be made anonymous by removing any identifying information including your name. Anonymised direct quotations from your interview may be used in the reports or publications from the study, but your name will not be attached to them.
- Any identifiable data will be removed to ensure anonymity, and that identifiable data will be kept confidential.
- Any information given will remain strictly confidential and anonymous unless it is thought that this might pose a risk of harm to you or others, in which case I may need to share this information with my research supervisor.

What will happen to the results?

The results will be summarised and reported and will be submitted for the PhD thesis as well as publication in conference proceedings and academic journals.

What are the possible benefits from taking part?
Taking part in this study will allow you to share your experiences of using Facebook in Malaysian higher education. Your insights will contribute to our understanding of the uses and impacts of Facebook on teaching and learning in classroom education in Malaysian higher education.

Are there any risks?
There are no risks anticipated with participating in this study. **If you have any queries, or if you are unhappy with anything that happens concerning your participation in the study, please contact me** at c.lee18@lancaster.ac.uk. If you have any concerns about this study, you can contact my supervisor, Professor Don Passey at d.passey@lancaster.ac.uk.

If you have any concerns or complaints that you wish to discuss with a person who is not directly involved in the research, you can also contact the Head of Department, Professor Paul Ashwin (paul.ashwin@lancaster.ac.uk) or the Department of Educational Research, Lancaster University, by telephone: +44(0)1524 593572 or email: kathryn.doherty@lancaster.ac.uk.

Who has reviewed the study?
This study has been reviewed and approved by the Faculty of Arts and Social Sciences and Lancaster Management School's Research Ethics Committee.

Thank you for considering your participation in this project.

Cheng Ean (Catherine) Lee
(c.lee18@lancaster.ac.uk)

Appendix Four

Participant Identification Number:

CONSENT FORM FOR INTERVIEW
'Assessing the uses and impacts of Facebook for teaching and learning in classroom education in Malaysian universities'

Name of Researcher: Cheng Ean (Catherine) Lee

		Please tick
1.	I confirm that I have read and understand the information for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.	
2.	I understand that my participation is voluntary and that I am free to withdraw at any time before or during the interview and up to two weeks following the interview. Upon withdrawal from the study, analysis of my interview transcript will not be undertaken.	
3.	I understand that any information given by me may be used in future reports, articles or presentations by the researcher.	
4.	I understand that my interview will be recorded and transcribed by the researcher and only the researcher will know my identity.	
5.	I understand that the audio recording and transcription or interview notes and any electronic files will be protected on encrypted devices and stored on a password protected computer. No one other than the researcher will be able to access data collected for this study. All data will be kept according to University guidelines and will be securely destroyed 10 years after the study has been completed.	

6. I understand that my name will not appear in any reports, articles or presentations.	
7. I understand that any information given will remain strictly anonymous unless it is thought that there is a risk of harm to me or others, in which case the researcher may need to share this information with the supervisor.	
8. I agree to take part in the above study.	
9. I agree to my interview being audio-recorded.	

_____ _____ _____

Name of Participant Date Signature

I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

Signature of Researcher / person taking the consent _____

Date _____ Day/month/year

One copy of this form will be given to the participant and the original kept in the files of the researcher at Lancaster University

Appendix Five

Interview Questions

General:

- Gender
- Ethnicity
- Age
- Educational level/background
- Working experience (if any)

Main Questions:

1. What are the tools and technologies you have used for teaching/learning in classroom education?
2. To what extent are uses of the above tools and technologies effective? (effective pedagogical approach / effective learning experience)
3. What do you think are the main factors affecting teaching/learning practices in classroom education in Malaysian higher education?
4. To what extent do you use Facebook in classroom education? Why are you using Facebook?
5. How effective is Facebook for teaching/learning in classroom education in Malaysian higher education? (effective pedagogical approach / effective learning experience)
6. What is your comment on the use of Facebook as a formal teaching/learning tool in classroom education in Malaysian higher education?
7. What are the pros and cons of using Facebook for teaching/learning in classroom education?
8. What are the perceived challenges and supports needed for using Facebook in classroom education in Malaysian higher education?
9. To what extent does the use of Facebook enhance your teaching/learning practices in comparison to other methods and technologies such as LMS and other social media technologies?
10. To what extent does Facebook improve teaching/learning, communication and engagement for classroom education? How does this bring impact to Malaysian higher education institutions? (the elements that educators should consider when implementing Facebook in the classroom)

Appendix Six

Participant Information Sheet

Name of Study:
Assessing the uses and impacts of Facebook for teaching and learning in classroom education in Malaysian universities

Researcher:
Cheng Ean (Catherine) Lee

Dear Sir/Madam

I am a PhD student in the Department of Educational Research at Lancaster University and I would like to invite you to take part in my research by allowing your participation in the Facebook group page for a 12-week semester and your writing of a reflective journal on your experience of participation in the Facebook group discussion to be analysed. Before you decide, you need to understand why the research is being done and what it would involve for you. Please take time to read the following information carefully. Ask me if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part.

What is the purpose of the study?
This study aims to examine the use of the social networking site Facebook by lecturers and students in Malaysian higher education and to evaluate impacts on teaching and learning practices in classroom education.

Why have I been invited?
You have been approached because the study requires information from students who use Facebook as part of classroom education and you have enrolled in the Bachelor of Arts (Hons) in Communication at Sunway University, Malaysia, which uses Facebook in one of the modules. As a user, I would be very grateful if you would agree to take part in this study.

Do I have to take part?
The participation in the Facebook group discussion and writing the reflection journal are parts of the course requirement; however, it's completely up to you

to decide whether or not you take part in this PhD study by allowing these to be analysed. The participation in discussion or analysis concerned with the study is voluntary and you can withdraw from the study at any stage and up to three weeks after the commencement of the module. You are under no obligation to participate. If you do not agree to be involved in this study, you can still participate in the course-required Facebook group discussion and be involved in writing the reflection journal, but I will exclude analysis of your Facebook group page content and reflective journal content. Your relationship with me as the researcher/lecturer and the University will not be adversely affected, and this will in no way affect your individual progress on the modules or participation on Facebook if you choose not to participate in the study.

What will I be asked to do if I take part?

If you decide you would like to take part, you would be asked to read and sign a consent form and allow analysis of the Facebook group discussion for a 12-week semester, and, by the end of the semester, analysis of a reflective journal on your experience of participation in the Facebook group discussion.

Will my data be identifiable?

The data collected for this study will be stored securely and only the researcher conducting this study will have access to this data.

- The electronic data from the Facebook group page content and the reflective journal content will be transferred and stored on a password protected computer. The hard copies of the reflective journal will be kept in a locked filing cabinet on University premises.
- Any identifiable data will be removed to ensure anonymity, and that identifiable data will be kept confidential.
- All data relating to the study will be securely destroyed 10 years after the study has been completed.
- Any information given will remain strictly confidential and anonymous unless it is thought that there is a risk of harm to you or others, in which case I may need to share this information with my research supervisor.

What will happen to the results?

The results will be summarised and reported and will be submitted for the PhD thesis as well as publication in conference proceedings and academic journals.

What are the possible benefits from taking part?

Taking part in this study will allow you to share your experiences of using Facebook in higher education. Your insights will contribute to our understanding of the uses and impacts of Facebook on teaching and learning in classroom education in Malaysian higher education.

Are there any risks?

There are no major risks anticipated with participating in this study. One potential risk is that you may feel that you should participate in the analysis of the Facebook group discussion and writing the reflection journal because writing both of these is a part of the course requirement. However, it is completely up to you to decide whether or not to take part in this PhD study. If you do not agree to the analysis in this study, you will still need to participate in the Facebook group discussion and be involved in writing the reflection journal, but the analysis of the Facebook group page content and reflective journal content will not be undertaken. The relationship with me as the researcher/lecturer and the University will not be adversely affected, and this will in no way affect your individual progress on the modules or assessment if you choose not to participate in the study.

If you have any queries, or if you are unhappy with anything that happens concerning your participation in the study, please contact me at c.lee18@lancaster.ac.uk. If you have any concerns about this study, you can contact my supervisor, Professor Don Passey at d.passey@lancaster.ac.uk.

If you have any concerns or complaints that you wish to discuss with a person who is not directly involved in the research, you can also contact the Head of Department, Professor Paul Ashwin (paul.ashwin@lancaster.ac.uk) or the Department of Educational Research, Lancaster University, by telephone: +44(0)1524 593572 or email: kathryn.doherty@lancaster.ac.uk.

Who has reviewed the study?

This study has been reviewed and approved by the Faculty of Arts and Social Sciences and Lancaster Management School's Research Ethics Committee.

Thank you for considering your participation in this project.

Cheng Ean (Catherine) Lee
(c.lee18@lancaster.ac.uk)

Appendix Seven

Participant Identification Number:

CONSENT FORM FOR CONTENT ANALYSIS
'Assessing the uses and impacts of Facebook for teaching and learning in classroom education in Malaysian universities'

Name of Researcher: Cheng Ean (Catherine) Lee

		Please tick
1.	I confirm that I have read and understand the information for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.	
2.	I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason. If I do not agree to be involved in the study, I will still need to participate in the Facebook group discussion and be involved in writing the reflection journal, but the analysis of the Facebook group page content and reflective journal content will not be undertaken.	
3.	I understand that any information given by me may be used in future reports, articles or presentations by the researcher.	
4.	I understand that my participation in the Facebook group and reflective journal will be made anonymous by removing any identifying information.	
5.	I understand that the data will be encrypted and stored on a password protected computer. No one other than the researcher will be able to access data collected for this study. All data will be kept according to University guidelines and will be securely destroyed 10 years after the study has been completed.	

6.	I understand that my name will not appear in any reports, articles or presentations.	
7.	I understand that any information given will remain strictly anonymous unless it is thought that there is a risk of harm to me or others, in which case the researcher may need to share this information with the supervisor.	
8.	I understand that my relationship with you as the researcher/lecturer and the University will not be adversely affected if I choose not to participate in the study.	
9.	I agree to take part in the above study.	

_____ _____ _____

Name of Participant Date Signature

I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

Signature of Researcher / person taking the consent _____

Date _____ Day/month/year

One copy of this form will be given to the participant and the original kept in the files of the researcher at Lancaster University

Appendix Eight

Interview Schedule

Participants	Date	Duration	Location
Lecturer 1 (L1)	11/1/2017	53.8 minutes	Academic office, University A
Student 1 (S1)	11/1/2017	47.2 minutes	Meeting room, University A
Lecturer 2 (L2)	14/1/2017	40.7 minutes	Meeting room, University B
Student 2 (S2)	4/2/2017	38 minutes	Academic office, University A
Student 3 (S3)	5/2/2017	30.7 minutes	Public café
Lecturer 3 (L3)	6/2/2017	69.2 minutes	Skype video conferencing
Lecturer 4 (L4)	9/2/2017	46.3 minutes	Public café
Student 4 (S4)	21/2/2017	36.3 minutes	Academic office, University A
Lecturer 5 (L5)	7/3/2017	55.8 minutes	Academic office, University D
Lecturer 6 (L6)	8/3/2017	48.7 minutes	Academic office, University A
Student 5 (S5)	11/3/2017	30.4 minutes	Meeting room, University B
Student 6 (S6)	11/3/2017	32.3 minutes	Meeting room, University B
Student 7 (S7)	11/3/2017	32.3 minutes	Meeting room, University B
Lecturer 7 (L7)	16/3/2017	71.4 minutes	Meeting room, University A
Lecturer 8 (L8)	24/3/2017	50.4 minutes	Public café
Student 8 (S8)	30/5/2017	62.1 minutes	Academic office, University A
Student 9 (S9)	30/5/2017	33 minutes	Academic office, University A
Student 10 (S10)	2/6/2017	30.1 minutes	Academic office, University A
Student 11 (S11)	5/6/2017	39.3 minutes	Meeting room, University D
Student 12 (S12)	9/6/2017	30.4 minutes	Meeting room, University G

Appendix Nine

Interviewees' Profiles

Participants	University	Gender	Age/Race	Course
Lecturer 1 (L1)	Private Uni A	Male	51/Chinese	Accounting and Finance
Lecturer 2 (L2)	Private Uni B	Female	55/Chinese	English
Lecturer 3 (L3)	Private Lecturer/Teacher	Female	44/Malay	English
Lecturer 4 (L4)	Private Uni C	Female	30/Chinese	Occupational Therapy
Lecturer 5 (L5)	Private Uni D	Female	35/Indian	Graphic Design
Lecturer 6 (L6)	Private Uni A	Male	40/Chinese	Information System
Lecturer 7 (L7)	Private Uni A	Male	42/Chinese	Business Administration
Lecturer 8 (L8)	Public Uni E	Male	50/Malay	Logistics
Student 1 (S1)	Private Uni A	Female	22/Chinese	Accounting and Finance
Student 2 (S2)	Public Uni E	Male	21/Chinese	Development Management
Student 3 (S3)	Public Uni E	Male	22/Chinese	Logistics
Student 4 (S4)	Public Uni F	Female	27/Indian	Integrated Marketing Communication
Student 5 (S5)	Private Uni B	Female	19/Chinese	Communication
Student 6 (S6)	Private Uni B	Male	19/Chinese	Communication
Student 7 (S7)	Private Uni B	Female	19/Chinese	Communication
Student 8 (S8)	Private Uni A	Male	21/Vietnam	Advertising Design

Participants	University	Gender	Age/Race	Course
Student 9 (S9)	Private Uni A	Female	21/Kazakhstan	Public Relations
Student 10 (S10)	Private Uni A	Female	22/Vietnam	Corporate Communication
Student 11 (S11)	Private Uni D	Male	21/Indian	Broadcasting
Student 12 (S12)	Public Uni G	Female	21/Malay	Education

Appendix Ten

GROUP 1 - March 2017 (Total members = 30 Students + 2 Lecturers) created on 15/3/2017, from 27/3/2017 - 23/6/2017 (27 postings)

Date	Posted by	Total View	Content	Format	Comments
15/3/2017	L - CL	30	Created a secret group and add all students (30) in the group		
15/3/2017	L - CL	31	Add Lecturer into the group and make as admin		
29/3/2017	L - CL	9	Add file - subject outline	File (PDF)	
3/4/2017	L - SL	20	Add file - Lesson 1 slides	File (PDF)	
5/4/2017	L - CL	31	Provide TurnItIn class ID and password for assignment	Text	
10/4/2017	L - SL	17	Add file - Lesson 2 slides	File (PDF)	
12/4/2017	L - SL	11	Add file - Lesson 3 slides	File (PDF)	
19/4/2017	L - SL	8	Add file - Lesson 4 slides	File (PDF)	
19/4/2017	L - SL	10	Add file - Lesson 5 slides	File (PDF)	
26/4/2017	L - SL	17	Add file - Lesson 6 slides	File (PDF)	

Date	Posted by	Total View	Content	Format	Comments
27/4/2017	L - SL	31	Announcement about the postpone of online tutorial discussion at Facebook group from 8/5/2017 to 29/5/201	Text	
8/5/2017	L - SL	18	Add file - Lesson 7 slides	File (PDF)	
22/5/2017	L - SL	12	Add file - Lesson 8 slides	File (PDF)	
22/5/2017	L - SL	15	Add file - Lesson 9 slides	File (PDF)	
29/5/2017	L - CL	30	Reminder to do discussion instead of only posting answers of online tutorial topics	Text	1 student replied to lecturer's post
29/5/2017	S – JM	30	Post answers for Q1 of online tutorial discussion	Text	10 students replied to the post; 1 ‘like’ on 2 students' responses
29/5/2017	S – JM	30	Post answers for Q2 of online tutorial discussion	Text	8 students replied to the post; 1 ‘like’ on 2 students' responses; 2 ‘likes’ on 1 student's response; 1 emoji on 1 student's reply

Date	Posted by	Total View	Content	Format	Comments
29/5/2017	L - CL	29	Reminding students on 10 minutes left for online discussion and announcement for activity on the following tutorial class	Text	
29/5/2017	S – JM	30	Post answers for Q3 of online tutorial discussion	Text	17 students and 1 lecturer replied to the post; 1 ‘like’ on 2 students’ and 1 lecturer's responses; 1 ‘like’ on 12 students' additional replies and 1 lecturer's additional reply to a response; 3 ‘likes’ on 2 students' responses; 2 ‘likes’ on 2 students’ responses; 2 ‘likes’ on 2 students' additional responses

Date	Posted by	Total View	Content	Format	Comments
					and 1 link; 2 links provided as additional response to the reply; 2 emojis on 1 student's additional reply
29/5/2017	L - CL	30	Posting of online tutorial topics	Text	1 ‘like’ on 3 students' reply to the post; 6 additional replies by students
31/5/2017	L - CL	30	Posting on the references to use for assignment	Text	
1/6/2017	L - CL	30	Add file - brief for reflection essay & reminder on submission date	Text + File (PDF)	
5/6/2017	L - CL	30	Posting a link of a journal article on the effects of crisis	File (PDF)	
6/6/2017	L - CL	30	Announcement about changes made for TurnItIn	Text	

Date	Posted by	Total View	Content	Format	Comments
6/6/2017	S – SR	30	Request to create the assignment submission box for TurnItIn and attach a screen shot, tagging the lecturer	Text + Image + Tag	1 Lecturer (CL) responded to the request
7/6/2017	L - CL	30	Posting of questions for tutorial	Text	
7/6/2017	L - CL	30	Add file - marking rubrics for reflection essay	Text + File (PDF)	
9/6/2017	L - CL	30	Announcement about student evaluation of subject and teaching, reminder for students to participate in the evaluation and stating the current responses received for the subject.	Text	
14/6/2017	L - CL	30	Announcement about attending a forum, provide details of the event and reminder given about attendance for the event	Text	
28/6/2017	L - CL	24	Announcement of Individual assignment 15% and add pdf file of the marks.	Text + File (PDF)	

Items:	By Lecturer	By Students	Total	Students	Total
Total Posts	23	4	27	0	4
Total Posts which generated comments	2	4	6	1	2
Total Comments	43	38	81	3	5
Total Posts which generated likes	1	3	4	0	12
Total Likes	7	11	18	0	2
Text only	13	3	16	0	2
Text with image + tag	1	0	1	0	0
Text with pdf file	3	0	3		
File	11	0	11		

GROUP 2 - March 2017 (Total members = 8 Students + 1 Lecturer) created on 27/3/2017, from 27/3/2017 - 23/6/2017 (68 postings)

Date	Posted by	Total View	Content	Format	Comments
27/3/2017	L - CL	7	Created a secret group and add all students (8) in the group		
27/3/2017	L - CL	3	Add file - subject outline	File (PDF)	
27/3/2017	L - CL	3	Add file - assignment brief for position paper	File (PDF)	
27/3/2017	L - CL	3	Add file - marking rubric for assignment for position paper	File (PDF)	
27/3/2017	L - CL	5	Add file - assignment brief for reflection	File (PDF)	
27/3/2017	L - CL	5	Add file - marking rubric for assignment for reflection paper	File (PDF)	
27/3/2017	L - CL	8	Provide TurnItIn class ID and password for assignment	Text	
27/3/2017	S - HC	8	Add a file on topic for assignment	File (PDF)	

Date	Posted by	Total View	Content	Format	Comments
27/3/2017	L - CL	8	Announcement on downloading icheckin app to mobile phone for taking attendance	Text	2 replies (1 lecturer, 1 student) on lecturer's response
27/3/2017	S - MS	8	Post position paper topic, industry, issue, client, and provide 3 links of articles	Text + Links	Comment about writing position paper topic, industry and issue
27/3/2017	S - SH	8	Post position paper topic	Text	8 replies on 1 student's response; links provided in the student's reply to student's comment about position paper topic, industry and issue; 1 ‘like’ on student's reply

Date	Posted by	Total View	Content	Format	Comments
28/3/2017	S - AK	8	Post position paper topic	Text	Add 2 links of articles as comment; 1 emoticon on student's response on position paper topic, industry and issue
30/3/2017	S - HC	7	Add file on topic and post on position paper assignment	Text + File (PDF)	1 ‘like’ on lecturer's response
30/3/2017	S - SH	7	Add file on topic and post on position paper assignment	Text + File (PDF)	1 ‘like’ on lecturer's response
30/3/2017	S - JC	8	Post on writing portfolio topics and provide 3 links of articles	Text + Links	
30/3/2017	S - RW	8	Post position paper topic	Text	Add 2 links of articles on position paper topic, industry and issue as comment

Date	Posted by	Total View	Content	Format	Comments
3/4/2017	S - MS	6	Add file - press release exercise for Tutorial 1	Text + File (MS Words)	
3/4/2017	L - CL	7	Add file - Lesson 1 slides	File (PDF)	
3/4/2017	S - RW	5	Add file - press release exercise for Tutorial 1	Text + File (MS Words)	
3/4/2017	S - RW	7	Add file - press release exercise for Tutorial 1	Text + File (MS Words)	Tag 1 student
3/4/2017	S - MS	7	Add file - press release exercise for Tutorial 1	Text + File (MS Words)	Tag 1 student
3/4/2017	L - CL	8	Post information about an event for press release exercise in class	Text	
4/4/2017	S - JY	8	Post writing portfolio topic, position paper topic, issue, client and 1 link of article	Text + Link	
5/4/2017	S – MS	2	Add file - press release exercise on event	Text + File (MS Words)	
5/4/2017	S – HC	5	Add file - press release exercise on event	Text + File (MS Words)	
5/4/2017	S – AK	6	Add file - press release exercise on event	Text + File (MS Words)	

Date	Posted by	Total View	Content	Format	Comments
5/4/2017	S – JC	4	Add file - press release exercise on event	Text + File (MS Words)	
5/4/2017	S – AK	8	Post information about writing portfolio topic	Text	
5/4/2017	S – SH	6	Add file - press release exercise on event	Text + File (MS Words)	
10/4/2017	L - CL	6	Add file - Lesson 2 slides	File (PDF)	
10/4/2017	S – MK	7	Post information about writing portfolio topic	Text	
10/4/2017	S – MK	8	Post position paper industry	Text	
12/4/2017	S – HC	8	Share article via link for writing portfolio assignment	Text + Link	Add link as comment on new drink
16/4/2017	L - CL	5	Add file - Lesson 3 slides	File (PDF)	
19/4/2017	S – JY	6	Add file - writing article on F&B outlet for checking	Text + File (MS Words)	
24/4/2017	L - CL	6	Add file - Lesson 4 slides	File (PDF)	
24/4/2017	S – JC	7	Add file - interview questions for position paper	Text + File (MS Words)	Comment about interview questions
26/4/2017	L - CL	4	Add file - Lesson 4 slides	File (PDF)	

Date	Posted by	Total View	Content	Format	Comments
1/5/2017	S – JY	5	Add file - writing article 3 for submission	Text + File (MS Words)	
1/5/2017	S – JY	7	Add file - writing article 1 for submission	Text + File (MS Words)	
1/5/2017	S – JY	6	Add file - writing article 2 for submission	Text + File (MS Words)	
1/5/2017	S – JY	8	Post about assignment submission - did not know how to submit all the files together	Text	Acknowled gement of the post
1/5/2017	S – AK	6	Add file - writing portfolio for checking with a tag of the lecturer	Text + File (MS Words) + Tag	Lecturer reply to add comment (text) with a tag of 1 student; student reply with a smiley on Lecturer's post
2/5/2017	L - CL	8	Announcement on submission guidelines	Text	Query about time for assignment submission deadline; 1 ‘like’ on lecturer's response; 1 emoji on 1

Date	Posted by	Total View	Content	Format	Comments
					student's response
2/5/2017	S – RW	8	Add file - writing portfolio for checking with a smiley	Text + File (MS Words) + Emoticon	Lecturer commented about the assignment for checking
3/5/2017	L - CL	8	Query about assignment + tag student	Text + Tag	Response by student
5/5/2017	L - CL	8	Query about assignment + tag student	Text + Tag	
5/5/2017	L - CL	8	Announcement about online tutorial discussion and reminder about assignment preparation	Text	2 ‘likes’ on 1 student's response + tag 2 students
8/5/2017	S – AK	8	Answers for online tutorial questions	Text	
8/5/2017	S – SH	8	Add file of MSWord for answers of online tutorial questions	Text + File (MS Words)	1 ‘like’ on lecturer's response
8/5/2017	L - CL	8	Posting of online tutorial questions for discussion	Text	1 ‘like’ on 2 students' response; 1 ‘like’ on additional 5 students' comment;

Date	Posted by	Total View	Content	Format	Comments
					1 ‘like’ on lecturer's additional comment; 3 ‘likes’ on additional 1 student's response; 1 link on 2 additional students' comment
8/5/2017	S – JY	6	Add file of MSWord for answers of online tutorial questions	Text + File (MS Words)	
8/5/2017	S – MK	6	Add file of MSWord for answers of online tutorial questions	Text + File (MS Words)	
8/5/2017	S – HC	7	Add file of MSWord for answers of online tutorial questions	Text + File (MS Words)	
9/5/2017	L - CL	8	Seeking feedback of students on online tutorial discussion by answering 6 questions	Text	

Date	Posted by	Total View	Content	Format	Comments
22/5/2017	L - CL	8	Add file - Lesson 5 slides	File (PDF)	
22/5/2017	L - CL	8	Request students to do online evaluation of the subject and teaching for the March 2017 semester	Text	
23/5/2017	L - CL	8	Announcement about disclosing the marks for first assignment via PM to each students by end of the week	Text	
23/5/2017	L - CL	8	Shows the marking rubrics for first assignment - writing portfolio	Text	Telling students all marks have been disclosed via private message
24/5/2017	L - CL	8	Provide a sample of article on F&B outlet by senior	Text + File (PDF)	
29/5/2017	L - CL	8	Add file - Lesson 6 slides	File (PDF)	
29/5/2017	L - CL	8	Add file - Lesson 7 slides	File (PDF)	

Date	Posted by	Total View	Content	Format	Comments
1/6/2017	L - CL	8	Add file - brief for reflection essay & reminder on submission date	Text + File (PDF)	
5/6/2017	L - CL	8	Posting of online tutorial questions for discussion	Text	3 students responded giving answers to the tutorial questions; 1 ‘like’ on 7 students' replies with 1 ‘like’ on 1 link; 3 ‘likes’ on 1 student's response; 2 links posted by 1 student as response
6/6/2017	L - CL	8	Announcement about changes made for TurnItIn	Text	
7/6/2017	L - CL	8	Add file - marking rubrics for reflection essay & reminder on submission date	Text + File (PDF)	

Date	Posted by	Total View	Content	Format	Comments
9/6/2017	L - CL	8	Announcement about student evaluation of subject and teaching, reminder for students to participate in the evaluation and stating the current responses received for the subject.	Text	
12/6/2017	L - CL	8	Add file - marking rubrics for reflection essay (re-upload)	Text + File (PDF)	
14/6/2017	L - CL	8	Announcement about attending a forum, provide details of the event and reminder given about attendance for the event	Text	

Items:	By Lecturer	By Students	Total
Total Posts	34	34	7
Total Posts which generated comments	7	14	4
Total Comments	31	29	15
Total Posts which generated likes	7	1	38
Total Likes	23	1	1
Text only	13	8	2
Text with pdf/MSW file	4	12	
Text with tag	2	1	
Pdf files	13	5	
Text + Links	0	1	

Appendix Eleven

Reflection Journals - March 2017 (n=38) – Usage, Pros and Cons

No.	Usage	Pros	Cons
P1	Online discussion twice; update lecturer about assignment; lecturer to provide useful feedback on assignment; download academic materials; lecturer posts updates & latest information of subject, assignment brief & reminder of submission.	Convenient & easily accessible because we are constantly on Facebook; interactive, interact with each other; receive instant feedback; download material easily & quickly; discussion well-organised with 'file' and 'like' button.	Facebook meant for personal used, trespass my personal space.
P2	Online discussion	Interactive to exchange ideas among students; chance to comment on posts; forms engagement for students to interact more; connected students to participate in discussion; more engaging & more actively participating; shared knowledge; able to surf Internet & lecture slides before answering questions.	Redundant & dominant posts; discussion did not involve everyone; just posted the answers on the discussion topic, not participate in discussion; did not provide an accurate direction for students; students may get off track; students did not realised the mistake done; limitations of instant reply from lecturer.

No.	Usage	Pros	Cons
P3	Online discussion	Interaction within classmates is stronger; able to exchange information; build the engagement within classmates; friendly & lessen students' stress during discussion; to learn from others; sharing additional knowledge; see other's perspectives; think outside the box; better understanding of the topic; lecturer could monitor & provide immediate feedback; provide a collaborative learning environment not constraint by time & place; convenience; relationship with peers could be improved, to know our classmates better; learn from each other.	Hard to express what we want to convey; students would not utilise their knowledge well by looking at others' answers; misuse the platform & mismatch the main purposes of this type of discussion; Facebook group remained as social platform rather than academically engaging platform; some students did not participate in the discussion, unfair to those who actively participate in the discussion; did not gain any extra knowledge from them.
P4	Online discussion	Save a lot of time; easy access to information regarding the subject; an avenue for students to easily contact each another or help on	Face-to-face learning more efficient because of immediate feedback; face-to-face instructions help me understand the

No.	Usage	Pros	Cons
		assignment; access to lecture notes whenever I needed; ask questions which stickled in my mind; encourage more participation; easier to participate in online discussion; Facebook group is a good method because Facebook is within our fingertips; quick & easy way to get information & keep up-to-date; useful for communication for lecturer & students.	course concepts better; face-to-face instruction was a better way for me to learn the content material; face-to-face course was a good method for us to ask the details about the topic that we did not understand.
P5	Information dissemination & discussion; lecturer posted weekly lecture slides, subject references; I posted weekly tutorial work, feedback on discussion & sharing useful examples for other classmates to refer; a closed-group chat for pair work assignment; updates on our latest assignment progress; two online discussions;	Facebook can be a very conducive educational platform to reach out to students for information dissemination & to ensure two-way communication flow; able to keep track of posts by classmates; able to leave comments under weekly lecture slides posts; questions posted can be viewed by everyone in the group & can always	Easily distracted during online discussion to check irrelevant newsfeed & notifications might pop-up when the discussions are on-going; unavoidable technology errors.

No.	Usage	Pros	Cons
	post questions about how to do online discussion.	help other than just relying on lecturer to reply; allow students to tackle & discuss specific issues; features such as likes, share, tag, seen notifications & polls enhance effective two-way communication among students & the lecturer; convenience for access through different devices.	
P6	Online discussion; tutorial activities; assignment submission; lecture slides & notes uploaded.	Able to access fully the subject materials at all times with laptop & mobile phone; materials, updates & reminders are posted instantly in the private group allows students to have a better grip of time management; convenient & resourceful; students able to access & participate anytime & anywhere; allow students to maximise the learning time; gives students extra time to prepare; students also	Take Facebook for granted if students do not manage their time well (lack of proper planning/ management of priorities).

No.	Usage	Pros	Cons
		multitask; online discussion was a great activity & efficient, notifications were sent, information are up-to-date; students given opportunity to fully utilise new media for class; using Facebook for learning provided a free, reliable & convenient platform for students & lecturer to access; instant reply.	
P7	Online discussion; announcements; share online topics; tutorial activities.	Convenient way of communication; able to connect with my peers & lecturer; access at every hour of the day; a good two-way communication process for informing & sharing; to bring lecturer & students closer; easily access at the edge of our fingertips; immediate notifications on announcement & discussion; able to comment/respond at anywhere & anytime of the day; a good opportunity to learn	No immediate feedback; lack of communication compared to in-class learning experience; lack of response by members of the group; reduces the collaboration between peers & the lecturer; high chance of misinterpretation on the postings by lecturer; Facebook in e-learning process is a poor platform as many did not know how to utilise the benefits of Facebook group as a learning platform opportunity

No.	Usage	Pros	Cons
		more about my peers.	but instead being use as a group to convey announcements & answer questions asked by lecturer at designated time force by lecturer to respond.
P8	Online discussion	Can access Facebook to join in the discussion at any given time with an element of convenience present I welcomed graciously; it freed up our time & allow us to do other activities & personal duties without fear of needing to be near college; would refer to Internet to access & gain further knowledge; biggest advantage of using Facebook as the main platform for academic group discussion is the accessibility of the platform with our mobile devices to access Facebook & answer at our leisure.	Discussion on Facebook wasn't quite appropriate for an academical setting; dislike using social media platforms due to personal privacy suspicions; communication had some delays due to typed answers compared to instantaneous response from face-to-face communication; answers given by one or two people; dissuades other people to share answers; wouldn't be appropriate as Facebook is known for casual sharing of daily life; future discussions wouldn't be fitting to the seriousness of

No.	Usage	Pros	Cons
			academical activities; many students wouldn't take it seriously.
P9	Help facilitate communication between lecturers & students; lecture slides & questions readily available; online discussion; lecturers shared current news.	Easy to log on & join the discussion; access of the flow of discussion; easy access to all with notifications; availability of the notes at any given time without complications to carry laptop around; anytime information would be passed; possibility of immediate response; beneficial of getting information from lecturers; easy to access classmates; having discussions during our own time outside class; share opinion to get different views; shared current news beneficial to our learning interests; easy to operate; easily change the setting according to preference; Facebook has long-term storage.	Distracting for students to work & receive other messages thus creating a diversion of attention; Facebook not really a formal platform when prefer their life to be private.

No.	Usage	Pros	Cons
P10	Online discussion	Definitely motivated us to think intellectually; able to see others students' opinions; students & lecturers are already familiar with the usage of Facebook as Facebook is considered to be part of our daily lifestyle & we already knew how to use it; online discussion can be informal & we can comfortably sharing our ideas & opinions with others.	Online discussion seemed to be disorganised; discussion is scattered everywhere & made us confused as how we will be evaluated.
P11	Online discussion	Motivated us to think; material uploaded & is easily accessible; have access to important course material; serves as a timely reminder for us; receive notifications on mobile phone; response times are fairly quick.	The major flaw would be lack of organisation, posting, commenting & replying can get very messy when several people doing it concurrently; might get lost in translation or misinterpreted; the lack of non-verbal cues like intonation, facial expressions & hand gestures that normally help guide listener; not everyone enjoys the method of online discussion because of their

No.	Usage	Pros	Cons
			personal preference towards speaking, some slow in typing, slow to respond & might not able to contribute effectively.
P12	Discussion of group assignment; lecturer posting announcement & send out reminders about test, due dates & classroom news; online discussion.	Convenience for us; a great platform for everyone to share last minute updates; easily search about related articles & information; would not miss out any answers commented by classmates; allow students to freely express their ideas & views without restrictions; could read through each & everyone's answer, reply their comment; significance of 'likes' to agree with someone; easily share links related to topic & share case studies & articles; opportunity for brainstorming even though not sitting face-to-face; a better way to learn due to its efficiency & existing conveniences.	A disadvantage for those who rarely use social media & do not have a Facebook account to keep update for new announcement; too many comments below the posts & have to keep update it frequently to make sure I do not miss out any comment/post; unrestricted to the number of postings per student per answer; inadequate number of responses by some classmates cause spamming of post; poor Internet connection affecting online discussion; have to multitask.

No.	Usage	Pros	Cons
P13	Posting of weekly lecture slides, a few announcements & tutorial discussions.	Facebook in formal learning can be beneficial for us as students because it helps create a learning community; Facebook is effective in conveying information because it is a reservoir of data; an opportunity to approach learning in a cooperative perspective; concerns, comments & discussions can be shared by all members of the Facebook group; nice to have courses available online & accessible from Facebook; ability to give students to exchange between themselves & with the teacher in a different setting; Facebook group for formal learning can be very beneficial because it allows us to formulate our questions & answers as asynchronous exchanges offer more time to compose.	The online discussion was a little cluttered & too hasty as it didn't allow me to reflect on other members' answers; members would not always feel obliged to participate in discussions; possibility to ignore posts; Facebook is undeniably part of the private sphere & the protection of personal information is always a concern; privacy of students & lecturers, if intruding into this personal space carries risks; can be very distractive because of the availability of instant chats & videos.

No.	Usage	Pros	Cons
P14	Online communication; online discussion.	Facebook is an extremely convenient platform for online communication; gives us the opportunity to communicate with a number of people simultaneously.	Students weren't communicating with each other in the form of discussion, rather they were simply posting their answers under the comment section of each question posted; the point of a 'discussion' was lost; the post was flooding with comments, notifications after notifications with some comments were extremely long which make it even harder to read & respond.
P15	Facebook as LMS; lecturers uploaded lecture slides; online tutorial class; sent useful links for our assignment in the group.	Facebook is definitely more easy to access; we can attend the discussion in everywhere outside the classroom; help me in my critical thinking; increase my interaction with lecturer & classmates; since I'm very quiet in class but I’m able to exchange opinion & answer with classmates whom I never talked to in the class using	Overloaded comments with everyone busy posting their own answer & some of the important comment are overlooked; lack of discussion & interaction with the issue will not be deep & much.

No.	Usage	Pros	Cons
		Facebook discussion; provides us the greatest opportunity for learning & gaining knowledge; Facebook Messenger provide the convenience for us to discuss our topic; can reach each other easily with Facebook Messenger; students more easy to get announcements with Facebook notifications; students spend most of their time on Facebook so they are more likely to view content & notes posted in Facebook group; its interface is also simple & more intuitive.	
P16	Lecturer posted course material; create online discussion.	Others comment & learn something new & different; Facebook group facilitate my learning process; I know others' opinion & helps us to clarify the thinking; we share & co-create all the information online; make connections across	If I open Facebook, I can't really concentrate on discussing a topic & I will just attract by other things; no time to coordinate, will miss out some important information provided in the group; sometimes can't receive notifications

No.	Usage	Pros	Cons
		multiple sources through a virtual community; give opportunities for student networking; allow us to interact & collaborate with others; share resources that really useful & interesting; good interaction; integrate & update course content to us easily; instant way for spreading & improve course-related knowledge outside the limit of the usual classroom.	of the group, don’t know whether it's app problems.
P17	Exchange our opinion & answer during online discussion.	Faster, convenience, simple & able in everywhere; a great way for us to communicate with the lecturer outside of the classroom; will read everyone's opinion to improve my critical thinking skill; more interaction with my classmates & lecturer; avoid awkward; can reach each other easily with Facebook messenger anytime & anywhere; easy & convenient to	People might be overlooking important information; information overload; technical problem such as Internet speed or server crashes.

No.	Usage	Pros	Cons
		receive to receive notifications; easy to find content & files; receive notifications immediately for any urgent information; effective way to deliver message.	
P18	Receive notifications of latest lecture slides, tutorial questions & coursework material; online discussion.	Facebook group for formal learning has been very convenient without going through any hassle of logging into eLearn for slides & other material; this method is helpful as everyone gets to share their answers & we all get to learn a thing or two from each other; easy access to material, everyone should be able to receive them; easier for students to interact with the lecturer.	Internet on campus is not working at a particular time; students could easily ignore notifications of posts.
P19	Online discussion	Students could easily get information in the group as these days most of the students are using their social media every day; save their time meeting up with one another; easier to get in touch with the	Miscommunication caused by different opinion & do not understand each other well.

No.	Usage	Pros	Cons
		lecturer; people get updated information easily; get connected easily & many things could be done efficiently & effectively.	
P20	For information & course material sharing; online discussion; announcement; receive notifications.	Getting hold of information easily; peers can ask & share information through Facebook group anytime they want; receive announcement instantly; will be more aware on the subjects & know what is going on without leaving anything behind; lecturers able to realise any problem or issues raised by students, helping them & giving out suggestions to solve the problems; easier to express our thoughts & opinions without feeling burdensome on Facebook; be ourselves freely & not trying to impress others or go with majority; helpful in building your inner	Difficulty to discuss fully through online discussion; time management is crucial; procrastination might occur; distraction with their initial focus will be taken away due to pop advertisement.

No.	Usage	Pros	Cons
		self; less embarrassing when vent through their anger through Facebook group.	
P21	Lecturer uploaded lecture slides; as the formal CMS; online discussion; official platform for interaction for students & lecturers; post questions or doubts.	Facebook is convenient to use; get quick response from our lecturers; collaboration among students made easier through Facebook group; share information; convenience of using Facebook; features of Facebook such as name tagging, share folders/pictures/links; stay online 24/7 on Facebook; does not require us to log out from our account; get first-hand notifications on any updates of the subject; reach our lecturers faster than emails by just tag their names.	Hard for students to trace back information posted; materials posted not organised systematically as students must scroll all the way down to get the material.
P22	Lecturer posted important topic, lecture notes & announcements.	Documents easily uploaded; replies were made really quickly as notifications were sent immediately to the recipients;	Lack of non-verbal cues (simple signals, gestures, facial expressions & body language), often cause misinterpretation;

No.	Usage	Pros	Cons
		knowledge sharing, share ideas & knowledge through discussion, enabling us to learn from one another; a good platform for brainstorming better & faster than emails; Facebook enables us to share information & ideas easily; pictures/videos/documents can be conveniently uploaded; very easy for lecturers to monitor & mentor online; enable lecturers to keep track & monitor the progress of students' discussion; enable lecturers to mentor their students by commenting & even supporting them by giving them a 'like' on their answers; Facebook groups is very engaging, easy to interact & communicate with one another through online as most of us visit Facebook more than emails.	explanation could be unclear, therefore misunderstood; get easily distracted, not focusing on the discussion.

No.	Usage	Pros	Cons
P23	Online discussion; online tutorial questions.	Easier to contact our lecturer via Facebook instant message or on the wall of Facebook group; location was flexible; most effective way for students to get in touch with their lecturers; lecturers go through our discussion process & let us know when something is going a little off track with our discussion; allow students to search for additional information from the Internet which makes the discussion even more interesting, we could learn additional information; easier to voice out our opinion in social media; flexibility in having Facebook discussion.	The struggle to convey the message & idea via Facebook when you put ideas into words, people might even more confused on what you are trying to say; causes us to escape from reality; unavoidable distraction.
P24	To check updates & announcements made by lecturers; I acquire lecture notes for assignments & studies & other important information; online discussion; provide our feedback.	Convenience as most university students would be constantly using Facebook on a daily basis; a lot more convenience to access all the reading materials whenever we need it;	Lack of interpersonal communication between lecturers & peers as certain context of information might be lost without certain verbal or non-verbal messages; lead students not fully

No.	Usage	Pros	Cons
		convenience in facilitating learning process such as the ability to upload videos, slides & pictures to aid in the understanding of a subject; use Facebook Messenger to quickly communicate with lecturers or peers; help some students with anxiety or who are too shy to ask questions in class to have a safe online environment on Facebook to discuss questions.	grasping the knowledge presented; really distracting constantly, divert the attention of students.
P25	The main platform for communication between within me & my peers; online discussion.	Speed of information & knowledge transfer; new posts & comments get updated in real time; ease of use & knowledge transfer.	Risk of someone stepping out of line & being passive aggressive on social media without realising it; few peers dominating the entire narrative making it harder for students who are less vocal to be left behind; caused discussion to have a more skewed opinion when groupthink comes into play & some students just followed

No.	Usage	Pros	Cons
			along with the with the answers & opinions of the dominant conversation leaders.
P26	Available of course materials & announcements; online discussion; communication channel between lecturers & classmates.	Immediately receive notification when new content is available.	Was a bit troublesome to scroll quite a lot to find a certain set of slides & for discussions & updates posted on the group; online discussion to be quite troublesome, quite difficult to filter through the large numbers of comments in the discussion, further complicated the online discussion; easily distracted by other happenings on Facebook which is a social media site, hence making me lose my concentration.
P27	As a substitute for Blackboard; post weekly lecture slides, class updates & announcements by lecturer; online discussion.	Information retrieval more organised coming from one source; able to respond within seconds; lecturers able to respond efficiently as Facebook alerts its	Distracting because Facebook is mainly used for self-entertaining purposes; students can get diverted looking at advertisements which disrupt the group

No.	Usage	Pros	Cons
		users incoming messages; communication process with my lecturers much easier; in a relaxed online portal, I did not feel the pressure to be so formal with the way I enquire certain things from my lecturers; allow us to share our findings instantaneously; our work less cluttered; info is easily accessible in the group; an effective & fast medium to communicate; provides notifications when news post is uploaded; keep students always in the loop & I never miss out on any information.	discussion; difficult to have a proper discussion with classmates as we were all typing & giving our inputs at the same time & I had to refresh the page every time as there were too many people commenting; many repetitive answers; time consuming to read through everyone's answer.
P28	As a CMS for weekly lecture slides, assignment briefs & marking rubrics; online discussion.	Course material were uploaded right after lessons & it was much convenient to access & immediately download them; very helpful as it notifies me when new announcement made; everyone had the	Distraction of notifications popping out; even more anxious to read others' status.

No.	Usage	Pros	Cons
		chance to view & correct each other; able to tag sources & refer to particular friend by tagging him/her some of the links directly; convenience; easier to connect my smartphone with Facebook application; able to receive instant notifications about all new messages & activities related to my course; Facebook's notification system allow everyone to keep track of anything new; content uploaded will be available 24/7 permanently; able to correct & re-upload; get immediate feedback; save time effectively by minimising classroom time.	
P29	Online discussion	Obvious capacity as a space for students to socialise; students able to learn about their peers & adjust to being at university;	Perceived negative impact for multitasking (open several tabs) & pretend they are

No.	Usage	Pros	Cons
		Facebook facilitate valuable social interactions for students; social integration enhanced likelihood that students engaged in their study programme; increase student engagement; students permanently signed in & can more easily keep up to date with our academic information; students more likely to be aware of what is going on in their course; offer rich opportunities for students to collaborate on creative projects.	using Facebook for learning purposes.
P30	Course material available for download; receive announcements; help lecturer connect with students; online discussion.	Facebook is a convenient platform to download all lecture notes easily; able to get the updated notice immediately by receiving Facebook notifications; able to express my own opinion regarding topic of discussion; foster collaboration &	Students not discussing about the topic during discussion which leads to a lot of repetitive answers, unless for online discussion; students get distracted, not paying attention to educational content.

No.	Usage	Pros	Cons
		discussion, exchange ideas & boost student interaction; effective ways to increase student engagement & build better communication skills; student feel more comfortable expressing themselves on Facebook.	
P31	Access academic material posted by lecturers; for communicating, getting updates & announcements from the class; to comment & discuss online discussion.	Freedom to comment & ask questions on each other's posts has facilitate my knowledge towards the subject; the variation of answers/viewpoints enriched my knowledge & opened up my horizon; to contact lecturers through a more informal tool makes me feel more comfortable to ask questions & engaging with lecturers; make these responses & facilitates discussion faster; sharing of educational materials easy; improved one's language & writing skills; discover new	Lack of structure that made it hard to locate important information & find materials & tasks during learning; distraction by taking advantage of being able to access social media in the classroom & use it for personal interactions instead of for classroom related activities; students easily be side-tracked from the tutorial discussion; students get tempted to use the other Facebook features & end up spending their time reading news, watching videos; wasted their time.

No.	Usage	Pros	Cons
		sentences or writing structures by reading comments & posts from other classmates; sharing in the group make students to learn a lot from others' writing; helps them to practice their writing skills.	
P32	Online discussion	Effective to work with all classmates & equal participation.	There is no assigned leader to control or lead the discussion; no any discussion going on during online discussion as everyone just minding their own business & posting their answers; it was such as mess, there was no clear direction of discussion, so many answers & most of them were repetitive; the flow of information is scattered, no indication on which point to start discussing from; troublesome to know which point to start from; I have unpleasant experience in how

No.	Usage	Pros	Cons
			in-depth the question is being discussed, most of the answers are very general, does not go in-depth on the answers; no intense discussion & strict monitoring.
P33	Online discussion	We can attend one of the classes wherever we are; flexibility are granted; a platform for us to socialise, to spend our free time on; we usually only expect entertainment on the platform; with Facebook app on the phones, they can access to the resources they want in just a few taps; easy access; benefits of searching whatever we don't know online at a click of a button.	Weren't not much discussions going on; allows students to be distracted easily because there are tons of ads & may be affected by their surroundings that can attract their attention more; it requires some self-discipline to control themselves; no teamwork; students take advantage of the trust our lecturers give us, not submitting the best of work, just want to complete the task fast.
P34	As a communication platform for lecturers to upload learning materials, make announcements, post up tutorial questions; online discussion.	Facebook often been used as a platform for academic purposes due to its accessibility & ease of use; efficient in sharing of files; quick & straightforward;	Facebook is a networking & entertainment platform, can be a distraction for students during learning; some ideas might be lost in

No.	Usage	Pros	Cons
		facilitates the learning process as information posted online can be easily obtained at any time & anywhere; function on Facebook post (comment) allow for interaction with the lecturers & other classmates; helpful to those who are less spoken in nature; give all an opportunity to express their thoughts as the demand for an immediate response is lower online; typing the answers encourage discipline for students to think through & organise their thoughts & ideas before posting them; equipped with a high auto refresh rate, a reply & reply to comment function would document & structure the discussions.	translation; leave room for ambiguity & misunderstanding due to the lack of physical communication such as body language & tone of speech; might be challenging to fully understand what others are conveying if ideas are not presented clearly; a time lag in communicating an idea in comparison to face-to-face learning due to internet connection or Facebook interface because other students are constantly 'talking' at the same time; overwhelming & causes information overload.
P35	Online discussion	Highly interactive discussion compared to face-to-face tutorial; makes us	Uneven engagement; students lose motivation to participate,

No.	Usage	Pros	Cons
		feel more comfortable to ask & answer questions; more time to formulate responses & opinions, flexibility to add our input; notifications allow students' comment can be read & validated fairly quickly.	might think online discussion on Facebook is not formal, don't see it as important matter & rarely participate; advertising clutter may distract students from learning environment.
P36	Online discussion	It is effective in the sense that once the information is given, all students receive it instantly; important message can be delivered faster.	Group discussion is difficult to catch up; too many notifications & it discourages me to check the notifications because Facebook is a very informal medium; I felt very uncomfortable because I do not understand where the content was going on with too many responses; discussion get out of topic; notifications are distracting for answering the questions; I don't check Facebook frequently, I end up losing my study materials.

No.	Usage	Pros	Cons
P37	Online discussion	Increased my collaboration learning opportunity; enhanced my engagement; improved my faculty contact; get instant feedbacks; a comfortable way to participate in class & for students who are shy to voice out in class; interaction with the lecturers became more instant; increased communication amongst ourselves; increased our informal learning, outside of classroom; learned more about this subject; give me easy access to download using my smartphone; got closer to my classmates who I did not talk to before; communicated more & share more information with each other; Facebook's networking & social communication capabilities improve the learning	Get distracted easily; limiting face-to-face communication.

No.	Usage	Pros	Cons
		knowledge of both the lecturers & us by taking advantage of a more prominent number of learning styles; giving recommended relief from traditional lecture; bring the whole class closer by interacting more via Facebook; makes us do our research thoroughly; Facebook discussion is efficient & fast; access for review; feel way comfortable to comment & give answers; provide opportunity for a better sharing of information & having a better working relationship; encourage classmates' connections, get to know each other more personally, more required in the learning knowledge & brainstorming, to add our thoughts to the group for different ideas from everyone in the group,	

No.	Usage	Pros	Cons
		does not make anyone feel left out.	
P38	Communicate & receive feedback/information regarding the course; online discussion; share tips, assignment briefs & educational materials; received notifications immediately.	Facebook is very easy to use, facilitates group discussion very well; allow us to communicate as a group without being interrupted so often; exercise very interesting, allow me some breathing time to research my answers & view other people's opinions at the same time; everyone is on Facebook nowadays, social media plays a crucial role in our everyday lives & has become a part of our daily routine; serves as a convenient platform; very user-friendly; learning the ropes was quick; allow an entire classroom to be connected without physically being next to each other; allow students to connect with their lecturers & communication is only a click away;	Internet connection is slower than others will delayed in group discussions; Facebook could be distracting for students for browsing through Facebook timeline when doing formal discussion & it takes my attention away.

No.	Usage	Pros	Cons
		allow people to refer back to old content on Facebook in case anyone miss out; more convenient as we can access it from anywhere; group discussions on Facebook is more enjoyable than physical classroom with a change of scene is better & able to be more comfortable; lecturers can track the attendance & participation of students.	

Reflection Journals - March 2017 (n=38) – Perceived impact and Conclusion

No.	Perceived impact	Conclusion
P1	Allow us to provide input to the opinion/comments; acts as two-way learning process; progress through our assignment more quickly; neutral impact on formal classroom learning; not significant impact & not considered entirely a formal platform for educational use.	Culture shock; Facebook is not a common platform for educational purposes; enjoyed learning on Facebook as it's more casual; preferred interaction on Facebook due to page tidier & organised. **Neutral**, not preferred for formal platform of learning in university.
P2	Effective way for students who rarely speak up in face-to-face class; good chance to read peers' opinion; a method to enhance self-learning & collect additional data; agree to have Facebook discussion because it facilitates my learning progress by doing self-learning, sharing my thoughts & receiving different opinions from peers.	Popular SNS; widely used for discussion by lecturers & students; more comfortable of Facebook discussion; a good platform to form a discussion within students & lecturer. **Neutral** with no comment if Facebook is perceived positive or negative, suggest to have above factors to be effective.
P3	Positive impact for formal classroom learning as it did not require formality yet easy to access; extra bonus to better understand what we learnt from lecture & have deeper impression on the topics for future use.	Social media important platform for people to interact & become part of their daily life; familiarity with students; extend their learning experience beyond the boundaries of classroom; actively engage students & lecturer; serve as a platform for learning; allow students to collaborate & communicate with each; Facebook considered as informal platform for education; personally feel it's a good platform for learning; good to use Facebook

No.	Perceived impact	Conclusion
		for formal learning. **Positive** impact.
P4	Found Facebook groups resemble an online café with walls to all the classmates to allow students to chat in real-time, discuss in virtual-time, share materials; create an opportunity to build a better relationship with my classmate.	Sharing information in class for students to access anywhere, anytime; found it fun & easy as I'm an avid user of Facebook; I preferred Facebook discussion because more suitable, create space where students communicating like friends & more likely to participate in Facebook group. **Positive** impact.
P5	I would totally agree that Facebook has the most of the positive impact & is a useful platform to facilitate educational information & communication outside classes.	Facebook is the basic necessity in human life; strongly agree that Facebook had been a very useful platform in facilitating our course outline. **Positive** impact.
P6	Facebook group may also stimulate students' critical thinking by having online discussion & easily accessible to information for students to conduct research immediately.	I would agree that using Facebook group for formal learning is useful & helps students in their studies. **Positive** impact.
P7	Facebook in a whole help me to learn better as it keeps me updated with the latest news/trends viral on social media; I feel the questions being asked in the group might not be at interest to everyone & learning engagement is not there & only for the sake of completing online tutorials.	Facebook serves as a learning platform for communication & e-learning processes; Facebook as online classroom definitely a different way of learning all together; a new platform of discussion with my peers; as an alternative platform to in-class learning process; in a nutshell, Facebook group is not highly recommended, serves more as an announcement platform rather

No.	Perceived impact	Conclusion
		than a discussion ground as a class. **Negative** impact.
P8	Neutral stand as Facebook would serve as an extremely convenient method of getting all students to participate, mobile devices are readily available within arm's reach, reinforcing the ease of access of Facebook, however, as an official platform, the formality of the discussions would eventually or immediately be lost.	I was both relieved & reluctant to use Facebook as a platform for online discussion; further testing is required to disseminate the future usefulness of using Facebook for academical activities & discussions. **Neutral**.
P9	Neutral stand with both positive & negative impact; communication is faster & efficient; creates an effective platform for discussion accessible anywhere; immediate feedback but limits privacy for users who rather maintain a professional relationships with the lecturers.	**Neutral**.
P10	Neutral stand; online discussion among peers can impede my learning & intellectual thinking skills, but unfair that we can see our peers' opinions first before posting our own, therefore, can be demotivating as others can just copy and change it with different words for it.	Was sceptical at the beginning of the semester but in my personal opinion, it is wonderful to try something new; definitely a new change to CMS; online discussion is more informal; would prefer CMS; it is still great to try something new for academic purposes. **Neutral**.
P11	Neutral of having Facebook group as part of formal classroom learning due to a certain level of personal preference when using online forums; I don't believe that	I like the idea of using this platform as an alternative means of communication besides in-class discussion, provide us the freedom to conduct the discussion at our own

No.	Perceived impact	Conclusion
	having a Facebook group is a substitute to classroom learning, but rather it should be treated as a supplement to enhance the overall learning experience; to utilise online learning effectively & treat it as a tool to compensate for the shortfalls of face-to-face learning to optimise our learning experience & provide a platform for students to excel.	convenience; Facebook is our go-to source of info online; Facebook is a popular website, highly frequented; Facebook group come in handy to interact with lecturers or peers outside the confines of the lecture with little to no physical limitations. **Neutral**, best as supplementary. Still preferred face-to-face.
P12	Flexible & independent learning & knowledge construction; develop critical thinking skills; integrating e-learning technologies enhance the quality of learning; offered students a high-quality learning environment.	Really comfortable for me because of the informality in Facebook connection; became more enthusiastic to participate in online class activities; I feel glad & pleased for having this opportunity to use online Facebook group. **Positive** impact.
P13	My overall experience of using Facebook group was positive; I believe it can be a complementary medium to classroom learning, but not a replacement although I would rather use Facebook group because I prefer it to e-learn; possibility of integrating Facebook group into formal learning can have a great impact on learning; play an important part in the distribution of roles between learners & teachers as teachers can easily connect & interacts with students outside university; I strongly believe the	The experience of having Facebook for formal classroom seemed natural; this Facebook group wasn't very active due to reduced interaction amongst students but getting more active towards the end of semester; practices are still the same as in the classroom but being reworked in new ways of doing it online, may be both more controlled & seemingly more casual; I personally think that Facebook often appears as a playful object. **Positive** impact as additional platform to existing platform.

No.	Perceived impact	Conclusion
	use of Facebook group for formal learning can be positive, however, it should be an additional platform to the ones we already use such as eLearn.	
P14	Discussions done face-to-face is much more effective & efficient as individuals would be able to express themselves more freely; the online discussion on Facebook group turned out to be messy; Facebook group would be helpful to send out mass messages to the people of the group.	In my opinion, having the discussion online was not what I expected it to be, it had several drawbacks; there were more drawbacks to the online discussion on Facebook compared to the benefits of it; from what I noticed, students posted their answers to the questions asked for the sake of doing so, rather than actually engaging in a discussion; having a discussion on Facebook group will be beneficial & effective only if there's a limited number of people, say 10-15 students; wouldn't say that Facebook group as a platform for discussion doesn't help at all but smaller group would be much more effective. **Negative** impact.
P15	Can compare my answers with classmates & this facilitates my learning process; Facebook has advantage of being instantly familiar to us & we will not hesitation of using it; an effective platform for any education & learning process.	It provides a means for us to communicate & collaborate outside of the classroom in a medium which we are very familiar; in my opinion, Facebook is more useful & convenient compared to Blackboard; I prefer using Facebook as a discussion platform. **Positive** impact.

No.	Perceived impact	Conclusion
P16	Step outside of the traditional lecture method & facilitate a better learning by encouraging us to learn through social media; improves the imaginative learning process because of group learning; for me, online discussion on Facebook is neutral, don't have any bigger positive or negative impact.	Most university students are familiar of using social media in their study, makes them do their work more effectively; it's really a good platform for us to group learning; for me, Facebook is an entertainment platform & I seek fun from it; for me, it's a place to share & get info relevant to our course; our generation have used it & more comfortable on it. **Neutral** but can benefit student learning because more comfortable for new generation.
P17	Facebook group is a bridge that links us together for learning & gaining knowledge; it is an effective platform for any education & learning process; I would more support Facebook group compared to eLearn.	For me, this is a great experience because I love to type out my opinion; my experience told me that the benefits of using Facebook group are more than harm, it makes our life easier & give me motivation to participate in the discussion. **Positive** impact.
P18	Overall, I think Facebook group in a formal classroom setting is a good learning tool as almost everyone uses Facebook so might as well use it in the classroom for the sake of learning.	I have no qualms about using Facebook group as a communication tool for the classroom as long as it is more convenient for the students & the lecturer as it makes communication between students & the lecturer easier. More incline to use Facebook, a good learning tool. **Positive** impact.
P19	It's a two-way learning with lecturer learning from the students as well based on how they interact with others & how	I think online discussion is actually a good platform for students to discuss when they could not meet each other;

No.	Perceived impact	Conclusion
	they solve things together; a good platform for the students if everyone actively participating; Facebook facilitates our learning experiences in higher education as nowadays people spread news through social media; Facebook is one of the main social media platform that everyone go to so it is easier & have a high chance on getting students or people.	actually a bonus to add lecturer into the discussion group to help students' difficulties by giving advices & solving issues; would be great to have a balance of having online discussion & also face-to-face communication among students. Contain both pros and cons. **Neutral**.
P20	My knowledge on the subject increased overtime; as an open platform, I gain knowledge & can see my classmates whom rarely talks to each other, interacting & sharing information; collaboration not only through group work but classmates occurred; positive impact of Facebook group to express ourselves well.	My experience using Facebook as a formal classroom for learning is neither bad nor great; Facebook is more informal & easily accessible; I'm glad to use Facebook. **Neutral**.
P21	Facebook facilitates my learning process; ease my learning process; helps facilitate interaction between lecturers & students; I think Facebook group has a positive impact on formal classroom learning as it makes lecturers & students to be closer than ever.	**Positive** impact.
P22	Facebook group did facilitate my learning process conveniently; smoothened my learning process & allow lecturers to communicate with students directly & smoothly; I personally believe the impact of	According to my experience, everything went smoothly; many of us support each other by giving replies & 'likes'; I was very pleased with the outcome of the

No.	Perceived impact	Conclusion
	Facebook group for formal classroom learning is positive as Facebook group serves as a great tool or platform for formal classroom learning; helped students' work ethic & academic skills in reading, thinking, writing & researching where technologies are inevitable.	discussion & convenience of the platform. **Positive** impact.
P23	Facebook discussion helps refresh our memory & gear us for finals, helps us in revision; Facebook group helped me with my assignments or any general inquiries about our subject; collaborating with other classmates allow us to expand our thinking.	Although it was a bit messy at first because everyone was commenting on the same post, it got more organised later. **Positive** impact.
P24	I think Facebook did help with the learning process as I was able to directly access the necessary lecture slides & assignment briefs so it helped smoothened the learning process; able to ask queries directly in the Facebook group & get a response relatively fast; collaboration which allows me & my peers to share our knowledge & helped in critical thinking; I personally believe that using Facebook for formal classroom learning has a positive impact on the overall process of acquiring knowledge; the main positive impact for me would be the convenience & the ability to hold discussions easily	I believe online classroom learning would only improve in future but face-to-face interaction is still essential in the learning process. **Positive** impact.

No.	Perceived impact	Conclusion
	using Facebook posts & allow my peers & lecturers to give their feedback almost instantaneously.	
P25	Interactions with lecturer & peers were also much improved; any communication barrier or power distance were closed.	Advantages of using Facebook in formal university setting & classroom education far outweigh its disadvantages; remember to stay focused while using Facebook & not get distracted during Facebook discussion. **Neutral**.
P26	Facebook group did somewhat facilitate in my learning process where I was able to gain knowledge in regards to the subjects, assessment & assignment; my opinion the Facebook group had a negative impact in formal classroom learning, further puts a burden on us students who are already burdened with homework & assignments from other lecturers & subjects; not as effective compared to face-to-face discussions & the usage of Blackboard.	Comes with its fair share of challenges & ease of use; while technology does help us in many ways, certain things should be done the good old ways. **Negative** impact, Facebook puts a burden on students.
P27	Overall, I feel Facebook is not the best tool for formal classroom learning although it is easily accessible; it may not cause any significant impact to students if Facebook is still used as a platform to communicate.	In terms of my learning process, Facebook group helped me a lot; able to get all necessary subject content from the group; I feel that Facebook should be kept for social & entertainment purposes; in the future, Facebook may be a good way to discuss less complex & info material but it is crucial for students to be thought

No.	Perceived impact	Conclusion
		to have a sense of professionalism & use the appropriate tools. **Negative** impact, Facebook only serve as a communication platform.
P28	We manage to pull off a healthy discussion among ourselves by exchanging thoughts & opinions during online discussion on Facebook; Facebook group facilitated my learning process through constant communication & engagement; constantly interact with rest of the peers & lecturers; form a collaboration or teamwork among each other through knowledge sharing & other group tasks throughout the activities on Facebook group; I personally feel there are definitely positive impacts of using Facebook group for formal classroom learning despite all the drawbacks; although there are positive impacts, I still would prefer having face-to-face discussion in class rather than online discussion; although technology has been taking over the current generation, my personal preference would be to go back to old school method to see my lecturer & have a better understanding of any message delivered.	In my opinion, it was a good experience using Facebook group as a platform for formal classroom learning; I personally feel Facebook group online discussion is much comprehensive when it's done face-to-face, not virtually. Preferred face-to-face classroom. **Neutral**.

No.	Perceived impact	Conclusion
P29	Facebook has the potential to be a learning tool when it's used strategically & creatively; Facebook can be a reliable & a popular medium for both educators & students can interact appropriately; Facebook promotes knowledge & maintain effective & efficient student interaction with educators; Facebook open doors to new opportunities for ubiquitous learning; Facebook as a medium to develop communication skills & encourage participation & social commitment; Facebook can broke down the barriers between students & educators because of informal learning of sharing media & increased student involvement in formal learning settings.	I really like the idea of having online discussion because it is a new method of learning & we get to share ideas with our classmates & lecturers & get real-time responses immediately; there is a 'like' feature in Facebook when you can 'like' a comment tell someone when we agree with their comments/answers; Facebook open new doors to students allow their knowledge to grow, allow them to learn about themselves from their peers; it is my belief that Facebook will continue to evolve & optimise the education channels as a mean of enhanced communication that provides traceability to what has been discussed & a source of feedback on the discussion. **Positive** impact.
P30	Internet learning engaged students; Facebook increases lecturer student interaction in the form of web-based communication; serve as a communication channel between lecturer & students, for students to contact other students & lecturers about questions & work; to enrich learning experience; improve communication among students & lecturers; students get help from lecturers or peers.	No clearly stated impact. **Neutral**.

No.	Perceived impact	Conclusion
P31	Creates a useful resource hub for users in Facebook group to access as & when require at any location; gives users the ability to share thoughts, discuss ideas, ask questions & discover new info & answers related to lecture; provides students a channel to write specific question to lecturer that all other students can see.	I found it as a good learning resource relevant to my study. Negative impact on academic performance but positive impact on language and writing skills. **Neutral**.
P32	My experience of discussing on Facebook is not pleasant experience; I am dissatisfied with the experience of discussing on Facebook due to having no clear direction of discussion.	The experience of discussing on Facebook was not an enjoyable one; it did not change my experience towards online discussion as I still find Facebook discussion to be annoyance & not a suitable platform to discuss matters such as studies. **Negative** impact.
P33	N/A.	Having online discussion on Facebook was not something new to me; there is not much that changed my attitude & feeling towards the experience on Facebook; if Facebook serves as a platform for the students to download & get their resources from, it is kind of a promising idea because it's much faster & easier to access to it; I feel like the students should be responsible & mature to do so; maybe Facebook is an added feature for lecturers & students to use it as a platform to communicate, learn & share. **Neutral**.

No.	Perceived impact	Conclusion
P34	Facebook can be effective tool for formal learning as it's user-friendly & accessible to many; gives student time & space to think through the questions.	I believe Facebook could be effective for formal learning but other readily functions like notifications from a friend could be diverting; however, Facebook is still a good learning platform due to its smooth interface & its ability to promote participation & keep discussions focused. **Positive** impact but need to be aware of its drawbacks for education.
P35	Facebook group facilitates my interaction with lecturer & peers; gain skills through peer learning; feeding back into interpersonal communication & group collaboration; overall, I think Facebook facilitates my learning experiences to higher education; improved our language development & requires students to express ourselves & communicate in a written format; sharing opinions through Facebook improve our spelling & grammar, we learn ICT skills.	People prefer to communicate through social media & Facebook has become one of the new platform for education; I would definitely prefer online discussion; being a shy student in class, by using Facebook for learning in classroom education, every student is require to answer, no way for us to avoid or keep quiet; I realised I've found a more comfortable discussion venue to share my opinions & express myself; I'm stronger in discussion behind a computer screen with more time to analyse & articulate my thoughts in writing; communicate with lecturer through Facebook makes me feel less pressure as I'm more comfortable to communicate through social media. **Positive** impact.

No.	Perceived impact	Conclusion
P36	Facebook wouldn't be proper medium to provide a formal classroom education as I solely believe that formal education should be received on face-to-face communication basis.	I believe that it is good to have a Facebook group to deliver a message quick but at the same time, Facebook is not a place for having a discussion as too many notifications get distracting & too many messages appearing suddenly, confusing the reader; I cannot concentrate on any sort of education that is given on Facebook or any other social media. **Negative** impact.
P37	Facebook has been effectively used to support online classroom discussion; I actually learned more by having a Facebook discussion because it gave me more choices of answers.	Facebook is by all accounts a standout amongst the best devices since we respond to our discussions on Facebook quickly & comfortable enough in our space to share our opinions & information; a medium which youngsters like us are eager about, so it's a far superior approach to staying in contact than emailing; I would personally say Facebook is a very effective teaching resource. **Positive** impact.
P38	Makes learning & interacting very informative & easy; a great platform to connect students & lecturers formally & also on a more personal level; allow students & anyone to view the content of the discussion, makes it easier for reference in case we forget our notes; Facebook allows people to communicate without it being too formal.	I was never a fan of Facebook but in terms of education & classroom learning, I find it very efficient; I personally think Facebook is a great platform to work with; I think Facebook should be used more often for classroom group discussions; I highly recommend lecturers to continue using Facebook as a

No.	Perceived impact	Conclusion
		medium to have group discussions. **Positive** impact.