



Students' Perceptions of the Educational Usage of a Facebook Group

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Abstract:	The arrival of digital native students, and the omnipresence of Internet access and mobile devices have motivated professors to reflect on their teaching practices. The educational usage of Facebook includes communication, collaboration, and sharing (Mazman and Usluel, 2010). Different research designs and the lack of baseline data made it difficult to compare research findings and conclude students' perceptions of the educational usage of a Facebook group. The findings from this research showed even more positive attitudes towards the educational usage of a Facebook group after the experience. Specifically, positive significant differences were found in "improves communication between teacher and students", "provides rich multimedia resources and media support to improve the educational experience"; and a negative significant change in "encourages the creation of academic groups (communities) of people with the same interest and needs".

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Manuscripts

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Students' Perceptions of the Educational Usage of a Facebook Group

The arrival of digital native students, and the omnipresence of Internet access and mobile devices have motivated professors to reflect on their teaching practices.

The educational usage of Facebook includes communication, collaboration, and sharing (Mazman and Usluel, 2010). Different research designs and the lack of baseline data made it difficult to compare research findings and conclude students' perceptions of the educational usage of a Facebook group. The findings from this research showed even more positive attitudes towards the educational usage of a Facebook group after the experience. Specifically, positive significant differences were found in "improves communication between teacher and students", "provides rich multimedia resources and media support to improve the educational experience"; and a negative significant change in "encourages the creation of academic groups (communities) of people with the same interest and needs".

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Introduction

The arrival of digital native students, the ubiquity of the Internet access and mobile devices, the prevalence of social media, and the emerging massive open online courses (MOOCs) constantly provoked concerned educators to reflect on their teaching practices (Lee, Sun, Law, and Lee, 2016; Lillo-Bañuls, Perles-Ribes, and Fuentes, 2016; Sobaih and Moustafa, 2016a; Morellato, 2014; Ma and Au, 2014, Lee and Kim, 2014). Researchers have documented their experiences and reflections in adopting different technology and digital platforms to enhance students' learning and engagement. Among these, given the popularity of social media, researchers suggested it could contribute to the application of social learning because communication and interaction are significant pedagogical tools of the educational process (Sharma, Joshi, and Sharma, 2016; Isacsson and Gretzel, 2011).

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3 Facebook had 2.07 billion monthly active users in the third quarter of 2017, and
4 is the most popular social network (Statista, 2017). Ranked by the number of Facebook
5 users, the top ten countries are India, United States, Brazil, Indonesia, Mexico,
6
7 Philippines, Vietnam, Thailand, Turkey, and United Kingdom (The Next Web, n.d.).
8
9 The average daily time spent on Facebook by American adults has increased from 18
10 minutes to 23 minutes (EConsultancy, n.d.). A May 2015 study focusing on college
11 students found that respondents aged between 17 to 25 limited their activities on social
12 media to less than 6 hours daily while 15.6% of their sample indicating they spent
13 between 4 to 5 hours per day with Facebook (eMarketer, 2015).
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22 Facebook is one of the most popular social network sites used by college
23 students (Akcaoglu and Bowman, 2016; Bowman and Akcaoglu, 2014; Junco, 2012 a;
24 Junco, 2012 b; Isacson and Gretzel, 2011; Mazer, Murphy, and Simonds, 2007). Given
25 that almost all students have Facebook accounts, educators could capitalize on students'
26 familiarity with Facebook, and use it as an educational tool (Lamic, 2016; Lillo-Bañuls
27 et al. 2016; Morellato, 2014; Wang, Woo, Quek, Yang, and Liu, 2012; Deschryver,
28 Mishra, Koehler, and Francis, 2009).
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37 Facebook groups are the place for a small group to communicate and interact
38 with each other. A Facebook group does not require group members to be friends with
39 each other. New posts by the group are included in the News Feeds of its members
40 (Facebook, 2016). However, there is a paucity of Facebook pedagogical research in the
41 context of hospitality and tourism. It's important to have research focused on hospitality
42 students because these students tend to be more active, sensing, visual, and persistent
43 than students in other disciplines (Ma and Au, 2014; Cranage, Lambert, Morais, and
44 Lane, 2006), and their concerns for educational technology are different from other
45 students (Lee et al., 2016). Facebook groups have been implemented in
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2 sustainable tourism and spa management courses, with researchers reporting positive
3 learning experiences. These reported experiences were created due to the pro-active
4 sharing of knowledge, while creativity and critical thinking were encouraged (Isacsson,
5 2016; Isacsson and Gretzel, 2011). Yet, the researchers focused more on their Facebook
6 group structures and learning activities, but did not explicitly measure students'
7 perceptions (Isacsson, 2016; Isacsson and Gretzel, 2011). Outside of the hospitality and
8 tourism education domain, researchers reported Facebook group users had better
9 academic performance and more interest, and perceived more value in the course content
10 (Lamic, 2016; Bowman and Akcaoglu, 2014; Akcaoglu and Bowman, 2016).
11 Alternatively, O'Bannon, Beard, and Britt (2013) measured university participants'
12 perceptions before and after a Facebook group experience, but found no significant
13 differences in participants' perceptions of convenience, and their attitude about
14 "Facebook is for social-personal activities only - not for educational purposes". Given
15 the limited pedagogical research of Facebook groups in the hospitality and tourism
16 domain, as well as the contradicting findings of the educational usage of a Facebook
17 group in other domains, more research is needed. In addition, hospitality and tourism
18 educators have advocated more research in examining the educational value of social
19 media (Lillo-Bañuls et al., 2016; Ma and Au, 2014).

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42 Given the above, this research aims to address some of these gaps by providing an
43 example of using a Facebook group for educational purposes, and reporting the
44 comparison of students' perceptions. This research was based on a Facebook group
45 experience in a second year required hospitality marketing course of 195 students in a
46 Swiss hotel school. A pre-test / post-test research design compared 73 students'
47 Facebook visits and time spent, as well as their perceptions before and after a Facebook
48 group experience. The findings from students' perceptions of educational usage of a
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3 Facebook group could help academia to evaluate if a Facebook group should be
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5 implemented in their courses. This research will also contribute to practitioners by
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7 providing an example of using a Facebook group as an educational tool, and as the logistics
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9 and administration processes were explained in detail.
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11 12 **Literature Review**

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15 The digital native college students expect “user-driven” education, which may imply
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17 different knowledge consumption and construction processes (Sobaih and Moustafa, 2016a;
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19 Morellato, 2014; Isacson and Gretzel, 2011; Tess, 2013; Manca and Ranieri, 2013). The
20
21 growing enrolments of online courses and the traditional mass lecture based courses
22
23 motivate faculty to look for opportunities to increase students’ engagement
24
25 (DeSchryver et al., 2009; Bowman and Akcaoglu, 2014). Nowadays students demand more
26
27 autonomy, connectivity, interaction and socio-experiential learning opportunities (Mazman
28
29 and Usluel, 2010). Brown, Thomas, and Thomas (2014) reported that students are able and
30
31 willing to use a classroom response and engagement system in order to increase
32
33 engagement. Researchers have advocated social learning and stated that communication
34
35 and interaction are significant pedagogical tools (Sharma et al., 2016; Lambić, 2016; Tess,
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37 2013; Junco, 2012a; Mazman and Usluel, 2010; Deschryver et al., 2009). Specifically, Ma
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39 and Au (2014) encouraged hospitality educators to integrate social media more effectively
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41 in teaching and learning activities.
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46 47 ***The Educational Usage of Digital Tools***

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49 For educational technology, Lee et al. (2016) found flexibility, unlimited availability and
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51 personalized learning as the main advantages; while the need for higher self- motivation,
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53 distraction of other applications in mobile learning, and the feeling of confusion are
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55 students’ main concerns. Comparing students’ current adoption and
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2 expectation, students are satisfied with a learning management system (LMS),
3
4 multimedia presentations, and classroom response systems (clicker); but want more
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6 simulation, YouTube, Second Life, Facebook and Twitter, respectively (Lee et al., 2016).
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9 Hospitality and tourism educators have implemented many digital tools in their
10
11 courses. Davis (2016) shared his experience, tools, and tips in transforming his
12
13 marketing course into a flipped course. Lillo-Bañuls et al. (2016) incorporated wiki and
14
15 blog in their Economics courses, and reported increased students' interests and
16
17 engagement. Marr and DeWaele (2015) incorporated Twitter in their course, and stated
18
19 that Twitter is effective, encourages collaboration, and stimulates learning. Green,
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21 Chang, Tanford, and Moll (2015) stated clickers enhance student engagement while
22
23 lecture software doesn't. Morellato (2014) implemented a course management system
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25 project, and shifted the student role from information consumers to information
26
27 administrators. Millar and Schrier (2015) stated that students still preferred printed
28
29 textbooks to electronic textbooks. Penfold (2009) provided examples of using Second
30
31 Life in several courses, identifying benefits and challenges. The HOTS simulation has
32
33 been used for capstone and managerial accounting courses, and enhanced students
34
35 learning experiences and satisfaction (Pratt and Hahn, 2015; Chen and Downing, 2010).
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37 Given the popularity of Facebook among college students, and its functions which
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39 provided pedagogical, social and technical advantages; many researchers have advocated
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41 that Facebook could be a teaching and learning tool (Lambić, 2016; Wang et al., 2012;
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43 DeSchryver et al., 2009).
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49 ***Use of Facebook for General Purposes***

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52 On Facebook, college students update their status; chat, send private messages; check
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54 friends' Facebook activities; post, view, tag or comment on photos or videos; and play
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2 games (Junco, 2012a). Sheldon (2008) found that relationship maintenance, pass time,
3 virtual community, entertainment, coolness, and companionship are six motives for using
4 Facebook. Jong, Lai, Hsia, Lin, and Laio (2014) expanded Sheldon's work by adding peer
5 discussion to the six motives for using Facebook. Researchers explored the relationship
6 between general Facebook use and students' academic performance, and their findings were
7 mixed. Junco (2012a) found that Facebook use was significantly negatively predictive of
8 the engagement scale score and positively predictive of time spent in co-curricular activities.
9 Junco (2012b) stated that time spent on Facebook was strongly and significantly negatively
10 related to overall grade point average (GPA), while only weakly related to time spent
11 preparing for class. Using Facebook for collecting and sharing information was positively
12 predictive of GPA while using Facebook for socializing was negatively predictive (Junco,
13 2012b). Kirschner and Karpinski (2010) reported that Facebook users have lower GPAs and
14 spend fewer hours per week studying than non-users. On the other hand, Ainin, Naqshbandi,
15 Moghavvemi, and Jaafar (2015) found a positive relationship between students' academic
16 performance and general Facebook usage. These different findings could be attributed to the
17 incomparable conceptualizations of Facebook use and measurements (for example, the
18 engagement scale, the self-evaluation of academic performance) used in referenced studies.
19 Lambić (2016) advocated that a distinction must be made between using Facebook for
20 educational purposes and for non-education purposes when researching the impact of
21 Facebook on academic performance.

22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 ***Faculty Perception of Using Social Media and Facebook as an Educational*** 48 ***Tool*** 49

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51 The motivations to use social media for teaching purposes are to increase students'
52 motivation and involvement; to fulfil ways of collaborative and participative learning;
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3 to capitalize on students' familiarity with these tools; to improve the quality of teaching;
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5 to experiment with new tools; and to share content material with students easily (Manca
6
7 and Ranieri, 2016). Although faculty recognized the potential value of social media for
8
9 teaching, their actual use was limited (Manca and Ranieri, 2016; Sobaih, Moustafa,
10
11 Ghandforoush, and Khan, 2016b). The main barriers to the use of social media in
12
13 teaching are privacy and security; time commitment; loss of control and monitoring;
14
15 digital divide among students and between students and faculty; the variation in mobile
16
17 services; the issues of grading and assessment; the need to integrate with LMS; faculty
18
19 preferences towards LMS over social media; the need for institutional support to
20
21 develop digital and pedagogical competencies; infrastructure; ethical issues; lack of
22
23 awareness of social media as a teaching tool among faculty and students; the changing
24
25 relationship between students and faculty and the changing role of faculty (Sobaih et al.,
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27 2016a; Sobaih et al., 2016b; Manca and Ranieri, 2016).
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31 32 ***Educational Usage of a Facebook Group*** 33

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35 Mazman and Usluel (2010) identified communication, collaboration, and
36
37 resource/material sharing as educational usage of Facebook. Resource sharing and
38
39 collaboration were the most influencing determinants for adopting Facebook for
40
41 academic purposes (Sharma et al., 2016; Manasijević, Živković, Arsić, and Milošević,
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43 2016).
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46 In the hospitality and tourism domain, only two articles related to the
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48 educational usage of a Facebook group (Isacson, 2016; Isacson and Gretzel, 2011).
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50 Both reported positive conclusions from participating professors, and students'
51
52 appreciation of the informal but constructive learning experiences.
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55 Outside of the hospitality and tourism domain, Wang et al. (2012) reported that
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57 the Facebook group had the potential to be used as a LMS. Irwin, Ball, Desbrow, and
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3 Leveritt (2012) set up Facebook pages and reported that the majority of students viewed
4 (80.5%), liked (74.6%), commented (38.1%), or used the page to communicate with the
5 course instructors (19.5%). Overall, 78.0% of students anticipated a Facebook page
6
7 would facilitate their learning at the beginning of the semester. At the end of the semester,
8
9 the students regarded Facebook page as an effective learning tool, 51% of students stated
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11 effective, 37% claimed not effective, and 12% stated not sure (Irwin et al., 2012).
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15 Bowman and Akcaoglu (2014) implemented a Facebook group to serve as a voluntary and
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17 supplemental space for discussions and reported that the course grades were significantly
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19 higher for the Facebook group users than for the non-users. Bowman and Akcaoglu
20
21 (2014) further reported that 48% of students joined the Facebook group; while passively
22
23 involved students benefitted as much as the active super user students. Irwin et al. (2012)
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25 stated that course instructors had difficulties maintaining momentum with Facebook page
26
27 activities; while Bowman and Akcaoglu (2014) stated that instructors must contribute to
28
29 the student conversations if they hope their students will do the same, and, monitor the
30
31 appropriateness and accuracy of content on the Facebook group. Akcaoglu and Bowman
32
33 (2016) compared 56 Facebook group adopters and 31 non-adopters from 15 institutions
34
35 and found that significant differences existed in their perceived utility value and the
36
37 maintained interest in course content, but there were no significant differences between
38
39 the expected grade outcomes. The increased perceptions of the utility value and
40
41 maintained interests could be explained by the increased exposure to course content
42
43 shared on Facebook groups (Akcaoglu and Bowman, 2016). Lambić (2016) found a
44
45 significant and positive correlation between the frequency of use of Facebook for
46
47 educational purposes and the participant's academic performance. Furthermore, the
48
49 perceived usefulness of Facebook as a learning aid was evaluated significantly differently
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51 between Facebook group users and non-users (Lambić, 2016).
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2 Yet, O'Bannon et al. (2013) reported no significant differences in students' perceptions of
3 "convenience" and "Facebook is for personal-social activities only - not for educational
4 purposes" between the before and after Facebook group experience. O'Bannon et al.
5
6 (2013) also reported low levels of participation in Facebook group activities.
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10
11 It is difficult to compare the above research findings and draw a conclusion of the
12 educational usage of Facebook groups. The difficulties are due to different research
13 designs (for example, the participation policy as mandatory or voluntary), and the lack of
14 baseline data (Lambić, 2016; Bowman and Akcaoglu, 2014; Tess, 2013; O'Bannon et al.,
15 2013; Junco, 2012b). Bowman and Akcaoglu (2014) stated that without the baseline data
16 as to students' performance or interest before joining the Facebook group, it was difficult
17 to know if the students who joined the group were significantly different from the students
18 who did not. The statement from Bowman and Akcaoglu (2014) was echoed by Lambić
19 (2016) when discussing the positive correlation between the frequency of using Facebook
20 as a learning aid and the participant's academic performance. Lambić (2016) stated that
21 the positive correlation could be that successful students spend more time learning and
22 using learning aids. The only research with comparable data did not provide the evidence
23 of enhanced contribution from a Facebook group experience (O'Bannon et al., 2013)!

24
25 Hence, this research aimed to better understand students' perceptions of the
26 educational usage of a Facebook group by adopting the pre-test / post-test research design,
27 and measuring the perceptions before and after the Facebook group experience.
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Context and Setup

Context

The author's initial motivation to start the Facebook group project was to "stay on top of students' mind" by having course related content appearing on their Facebook News Feeds (Morellato, 2014; Ma and Au, 2014; Clough, 2010; Akcaoglu and Bowman, 2016).

Another motivation was to encourage students to find and share news articles, videos, or infographics which were relevant to the course entitled Customer Information and Distribution Channel Management (CIDCM) (Morellato, 2014; Lillo-Bañuls et al., 2016; Isacsson, 2016; Isacsson and Gretzel, 2011).

The course teaching assistant created a closed Facebook group and invited all students to join. Students were informed that being a member of the Facebook group did not automatically make him/her a friend of the faculty member. The author had explained to students that students' privacy of their profile information would be respected and students' Facebook activities would not show up on the author's News Feeds. The course materials such as syllabus, power point files, video playlist links, exercises and solutions, and reading materials were published on **learning management system**, not on the Facebook group.

The context of this research took place in a second-year required hospitality marketing course, CIDCM, in a Swiss hotel school. The students were in the bachelor degree program. The CIDCM course had two sections, and met two hours every week for 15 weeks. A total of 195 students were organized into 39 teams (four or five students per team).

A Three-step Process

Each team was responsible for completing a three-step process, twice, during the

1
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3 semester.

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5 In the first step, the team found relevant course content, such as an online news
6 article, video, or infographic. The team submitted the content and a brief content summary
7 to the teaching assistant by completing Google Form A, before the deadline. The
8 publication schedule and deadline were announced in the first class, and published on LMS
9 and the Facebook group.
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15 In the second step, after the teaching assistant posted the team's found content and
16 summary on the Facebook group, team members were responsible for monitoring and
17 responding to comments to their posts.
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22 In the third step, the team did a six-minute presentation (including the content
23 summary, a comment summary, and a question to the audience) in class; and each team
24 member completed Google Form B by nominating the two best comments to its post.
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30 *Logistics*

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32 Every weekday, the teaching assistant published one post on Monday, Wednesday, and
33 Friday, and two posts on Tuesday and Thursday. When the post was published, the post
34 automatically appeared on the News Feed of each student's Facebook. Alternatively,
35 students could visit the CIDCM Facebook group page to see all posts and comments. It is
36 important to note that, in this course, every post had 7 days of life, and was considered
37 'dead' after that. The purposes of these 7 days of life policy were to prevent students from
38 building up the last minute comments and to make the administration process easier. Posts
39 older than 7 days were available on the Facebook group, but any comments made after the
40 first 7 days would not get counted.
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51 The teaching assistant used several free and commercial software packages and
52 websites to manage the process. The entire project consisted of 78 posts from 39 teams and
53 195 students. Google Forms were used to collect team posts and best comment
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3 nominations. The post calendar function from the free version of Hootsuite was used to
4
5 schedule posts. By using a publication calendar, the teaching assistant programmed the
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7 posts in advance, allowing the posts to be published automatically on a specific day and
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9 time. This helped to ensure the relative consistent posting times during the semester.

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11 Grytics (a commercial subscription) was used to download comments made by each student
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13 to an Excel file, and to get an overview of group interactions, such as the most popular time
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15 for comments by day, the top commenters, etc.

18 19 ***Evaluation***

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21 The participation policy was mandatory, as recommended by Mindel and Verma (2006).
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23 Lee et al. (2016) reported hospitality students' major concern of educational technology is
24
25 the need for higher self-motivation. Evaluation is important to motivate students'
26
27 engagement, with the tradeoff being that of student anonymity (Lee et al., 2016; Lillo-
28
29 Bañuls et al., 2016; Davis, 2016; Brown et al., 2014). The consideration for evaluation is to
30
31 shift from the ability to use digital tools to the capacity to develop knowledge collaborately
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33 (Morellato, 2014). Teams were evaluated based on the relevance of the content to the
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35 weekly topic, and the presentation which synthesized the content, course concepts, and
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37 students' comments. The Facebook team grade accounted for 20% of the overall course
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39 grade.

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43 Another 5% of the course grade was related to the numbers of comments made by
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45 each student. The requirement to post comments was recommended by Everson, Gundlach,
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47 and Miller (2013) and O'Bannon et al. (2013) to increase students' engagement. The
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49 minimum number of words per comment was 20 to be eligible. This minimum word
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51 requirement was to provoke students' thinking and learning. A grading scale specified the
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53 number of comments and the corresponding grades was published at the beginning of the
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55 semester on LMS and showed in Table One. Students could

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3 achieve higher than 90% grade only by earning nominations granted by the members of
4 posting teams. At the end of every month, the teaching assistant published the numbers of
5 comments by students.
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11 Insert Table 1 Grading Scale around here.

12 The author chose frequencies of comments, instead of the content of comments, as
13 the grading criterion. This decision was based on the number of students enrolled in this
14 course, the number of comments generated, and that the ability to write was not a learning
15 objective for this course.
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21 Between the 195 students, the teaching assistant, and the author, a total of 6994
22 comments were created. **The mean and standard deviation of the number of comments per**
23 **post were 89.6 and 40.7, respectively. The mean and standard deviation of the average**
24 **number of comments per student was 35.8, and 12.3, respectively.**
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33 **Methods**

34 ***Instrument***

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38 The questionnaire used in this study was developed based on the literature review
39 (Manasijević et al., 2016; Mazman and Usluel, 2010; Wang et al., 2012). The first section
40 asked for the student demographic profile, including student ID number, age, and
41 nationality. The second section is related to their daily frequency of visits, and their
42 duration of time spent per visit on Facebook (Mazman and Usluel, 2010). The Likert scales
43 ranged from 1 (never; less than 5 minutes) to 5 (very frequently; more than 20 minutes)
44 were used. The third section measured students' agreements to the statements related to
45 educational usage of a Facebook group (Manasijević et al., 2016). The Likert scale
46 anchored between 1 (strongly disagree) to 5 (strongly agree) was used.
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3 The last section, which was given only in Week 15, measured students' willingness to
4 recommend Facebook group for other courses and the Facebook group participation policy
5 should be voluntary (instead of mandatory) (Wang et al., 2012). The Likert scale anchored
6 between 1 (strongly disagree) to 5 (strongly agree) was used.
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11 12 13 ***Procedure***

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15 The participants were the 195 students enrolled in CIDCM course during the Fall semester
16 2016. Echoing the call from Bowman and Akcaoglu (2014) for a more controlled research
17 design, this research adopted the pre-test / post-test research design. Hence, the students
18 were given the online questionnaire in the first lecture at week 1 before the announcement
19 of the Facebook group. The same online questionnaire plus two questions inquiring
20 students' willingness to recommend a Facebook group for other courses and their opinion
21 about a voluntary policy were given again in week 15 at the end of the course. The week 1
22 result served as the baseline to compare to the week 15 result. Between the two surveys,
23 students submitted 252 responses. After deleting subjects with incomplete responses, a
24 total of 67 paired responses were found and reached a response rate of 34%.
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37 The collected data were analyzed with descriptive statistics and paired t-tests. All
38 statistical tests used $p \leq 0.05$ to determine significance.
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42 43 **Results**

44 45 ***Student Profile***

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47 Among the 67 survey participants, the average age was 22 years old; including 49 female
48 students and 18 male students. The majority were Swiss (17); Chinese (12); French,
49 Italian, and Russian (four students each); German and Indonesian (three
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1 students each); American, Austrian, Dutch, Hungarian, Lebanese, and Taiwanese (two
2 students each); the rest were from Brazil, Canada, Columbia, Mexico, Portugal, South Korea,
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4 Romania, and Thailand (one each). All Facebook posts were in English.
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8 *Frequencies of Visits and Time Spent Per Visit*

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11 The frequencies of visits and time spent per visit are presented in Table Two. In week 1, the
12 mean and standard deviation for the frequencies of visits are 3.76 and 1.00; while the mean
13 and standard deviation for the time spent per visit are 2.57 and 2.01. In week 15, the mean
14 and standard deviation for the frequencies of visits are 3.96 and 0.77; while the mean and
15 standard deviation for the time spent per visit are 2.79 and 1.62. Two paired t-tests were
16 conducted and there were no significant differences. Although students perceived that they
17 visited Facebook more frequently and spent more time per visit in week 15, there were no
18 statistical differences.
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30 Insert Table 2 Frequencies and time spent per visit around here.
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34 *Perceptions of Educational Usage of Facebook Group*

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36 The responses related to students' perceptions of educational usage of Facebook are shown
37 in Table Three.
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42 Insert Table 3 Students' perceptions around here.
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45 In week 1, the items that received the highest agreement were: The use of Facebook
46 for educational purposes “improves communication between classmates (M = 3.87, SD =
47 0.91)”; “encourages the creation of academic groups (communities) or people with the same
48 interest and needs (M = 3.84, SD = 1.20)”; “improves the communication of announcements
49 about courses, classes or school (M = 3.63, SD =
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3 1.24)”; and “improves student group work (M = 3.57, SD = 0.95). Only one item has a
4
5 mean under 2.5, which is “improves communication between teacher and the students (M =
6
7 2.49, SD = 1.04).
8

9 In week 15, the three items with the highest means were: The use of Facebook for
10
11 educational purposes “improves communication between classmates (M = 3.75, SD =
12
13 0.89)”; “improves the communication of announcements about courses, classes or school
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15 (M = 3.54, SD = 1.40)”; and “Facebook provides rich multimedia resources and media
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17 support to improve the educational experience (M = 3.52, SD = 0.86)”.
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21 A total of ten paired t-tests were conducted, and three showed significant
22
23 differences. There was significant difference in the item, “improves communication
24
25 between teacher and the students” in week 1 (M = 2.49, SD = 1.04) and week 15 (M = 2.82,
26
27 SD = 1.15); $t(67) = -2.18, P = 0.03$. There was significant difference in the item, “The
28
29 use of Facebook encourages the creation of academic groups (communities) of people with
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31 the same interest and needs” in week 1 (M = 3.84, SD = 1.20) and week 15 (M = 3.43, SD =
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33 1.04); $t(67) = 2.79, P = 0.01$. Lastly, there was significant difference in the item,
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35 “Facebook provides rich multimedia resources and media support to improve the
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37 educational experience” in week 1 (M = 3.18, SD = 1.21) and week 15 (M = 3.52, SD =
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39 0.86); $t(67) = -2.11, P = 0.04$. Hence, students perceived that a Facebook group improved
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41 communication between teacher and students, provided rich multimedia resources to
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43 improve the educational experience, but this experience reduced their agreement in
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45 “encourage the creation of academic groups”. It is important to point out that there were no
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47 significant differences in students’ perceptions found in the study conducted by O’Bannon
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49 et al. (2013). Hence, these research findings were critical in providing empirical evidences
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51 of the educational usage of a Facebook group.
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3 In terms of students' willingness to recommend Facebook group to be implemented
4 for other courses, the mean was 3.26, and the standard deviation was 1.19. In terms of the
5 statement of the voluntary policy, the mean was 3.53, and the standard deviation was 1.13.
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7 Hence, students were positive about the possibility to expand the Facebook group to other
8 courses; and, as indicated, preferred the participation policy to be voluntary.
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13 14 15 **Discussions**

16 17 18 *Empirical Evidences with Significant Changes in Three Items*

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20 The research design compared students' perceptions before and after their Facebook group
21 experience. After the Facebook group experience, students' perceptions were positive, with
22 three items showing significant changes, including; a Facebook group improves
23 communication between teacher and the students; and a Facebook group provides rich
24 multimedia resources to improve the educational experiences. Yet, students were less in
25 agreement on "Facebook encourages the creation of academic groups (communities) of
26 people with the same interest and needs".
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36 Mazman and Usluel (2010) specified the educational usage of Facebook included
37 communication, collaboration, and resource/material sharing. The findings of significant
38 changes in this study were critical, as most previous research neither measured students'
39 perceptual changes, nor found significant changes as in O'Bannon's study (O'Bannon et
40 al., 2013). Hence, this research contributes to the empirical evidences of the educational
41 usage of Facebook defined by Mazman and Usluel (2010). Furthermore, the three changed
42 items reflected from student perceptions that a Facebook group could improve
43 communication and sharing, but may not encourage collaboration. Isacson and Gretzel
44 (2011) also reported that their Facebook
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3 group did not encourage team work, because the Facebook platform lacks the functions
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5 needed for students' projects.
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8 *Students' Positive Attitudes and Privacy Concern*

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11 Manasijević et al. (2016) reported low mean scores (mean values below 3.0 out of 5) for
12
13 educational usage of Facebook, especially when comparing to the means related to the
14
15 general usage of Facebook (mean values above 3.13). This research adopted the same
16
17 items from Manasijević et al. (2016), and found higher means in both week 1 (the means of
18
19 all items = 3.28 out of 5) and week 15 (the means of all items = 3.30 out of 5). Lee et al.
20
21 (2016) reported that students' expectation to use Facebook as education technology is 3.03
22
23 out of 5. It is interesting to note that students in this research had higher means in week 1
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25 and week 15, comparing to Manasijević et al. (2016) and Lee et al. (2016). When
26
27 considering students' willingness to recommend a Facebook group for other subjects, the
28
29 response was also positive.
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33 The response to the voluntary policy confirms that students were willing to
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35 participate if social media, not necessarily Facebook, was a voluntary part of class (Al-
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37 Bahrani, Patel, and Sheridan, 2015). The preference of voluntary policy may reflect on
38
39 students' concern for privacy. Previous researchers reported that Facebook group
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41 participants perceived Facebook for social purposes rather than for school work, and
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43 preferred to separate school life from personal life; and students were concerned about
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45 privacy and security (Lee et al., 2016; O'Bannon et al., 2013; Manca and Ranieri, 2013;
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47 Everson et al., 2013). This author also received similar feedback from some students
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49 during the semester, even though the author had clearly communicated to students that
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51 their privacy would be respected.
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55 It is going to be a tradeoff decision between respecting students' privacy concerns and
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57 preferences of a voluntary participation policy, and using grades to
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1
2 motivate students. Lee et al. (2016) pointed out that students' concern of educational
3 technology is the need for higher self-motivation, suggested to incorporate grading into the
4 activity to motivate students' engagement (Lee et al., 2016; Lillo-Bañuls et al., 2016; Davis,
5 2016; Brown et al., 2014). Faculty members will need to make the hard decision.
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11 12 ***Other insights***

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14 A total of 6994 comments were produced between 195 students. The average number of
15 comments per post was 89.6. The average number of comments per participant was 35.8. To
16 put these numbers in perspective, Isacson and Gretzel (2011) reported 38 members had
17 generated 111 discussions, 147 links, 39 photos, YouTube videos, newspaper articles, etc.
18 Bowman and Akcaoglu (2014) had 148 out of 321 students who participated in Facebook
19 group research and generated an average of 6.88 comments per person during the semester.
20 O'Bannon et al. (2013) reported the number of comments per post average as 1.46, and the
21 number of "likes" averaged 7.86.
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32 The learning continuing outside of the classroom was documented through Grytics
33 reports of student comment time. The original motivation to take on this Facebook group
34 project was to "stay on top of students' mind" outside of the classroom. This objective was
35 achieved. Out of 195 students, 70% (138) received at least one nomination, and a total of
36 23% (45) students received at least five nominations. Peer nominations empowered students
37 to recognize their peers, and provided feedback based on criteria set by students.
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47 ***Perception vs. Reality***

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49 When students' indicated positive attitudes in incorporating social media in classes, they
50 probably did not consider the time, effort, and privacy issues associated (Lee et al.,
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3 2016; Ma and Au, 2014; O'Bannon et al., 2013; Manca and Ranieri, 2013; Everson et al.,
4
5 2013). Alternatively, students with actual course related Facebook group experiences
6
7 realized the amount of time and effort required, and their perceptions may be more realistic.
8
9 It is interesting to note that the low levels of participation of Facebook group activities
10
11 reported by O'Bannon et al. (2013) and students need reminders reported by Isacsson and
12
13 Gretzel (2011). Hence, when asking students' opinions about incorporating new initiatives,
14
15 faculty members should remember that students are not likely considering the time and
16
17 effort associated, and may be more optimistic and open to new initiatives. In addition, as
18
19 noted above, it may be important to incorporate grading into the activity to motivate
20
21 students' engagement (Mindel and Verma, 2006; Lee et al., 2016).
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27 It is critical to measure and compare participants' perceptions in order to bridge the
28
29 gap between perception and reality, and to understand the impact of new initiatives.
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31 Bowman and Akcaoglu (2014) stated that setting up a control group in order to compare the
32
33 performances between the control group (without a Facebook group) and the experimental
34
35 group (with a Facebook group) could prevent the control group from benefiting and may
36
37 cause ethical concerns. An alternative is to measure students' perceptions before and after
38
39 the initiatives, as shown in this research and O'Bannon et al. (2013). Of course, before
40
41 initiating a Facebook group as an educational tool, the course instructor must first consider
42
43 associated learning objectives and how to measure their achievement.
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47 ***What is the Holy Grail?***

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50 The Holy Grail is about students obtaining the desirable learning competencies. Platforms
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52 or activities are a means to reach this Holy Grail (Isacsson and Gretzel, 2011);
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2 Lillo-Bañuls et al., 2016). Definitely, to have engaging students, faculty members need
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4 to invest time and effort, and create an interactive learning environment (Lillo-Bañuls et
5
6 al. 2016; Isacsson, 2016; Davis, 2016; Morellato, 2014; Isacsson and Gretzel, 2011;
7
8 Bowman and Akcaoglu, 2014). To obtain the Holy Grail, a possible solution is to
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10 leverage the synergy between the distribution capacity of a LMS; the social features of a
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12 platform; the creativity, time and effort made by the faculty members; and a grading scale
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14 to motive students. More research is needed to validate the assumption that a Facebook
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16 group is the better, or even best, platform for hosting the social communication and
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18 interaction.
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23 **Conclusion, Limitations and Future Research**

24 ***Conclusion***

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29 This paper provided the empirical evidence of students' perceptions of the educational
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31 usage of a Facebook group in a hospitality and tourism context. Certainly, the research
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33 design combined with a specific course and a Facebook group as the reference frame
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35 reduced the uncertainty of students' perceptions when responding to the survey. The
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37 research findings showed positive significant changes in “communicating between
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39 teacher and students”, and “Facebook provides rich multimedia resources and media
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41 support to improve the educational experience”, but a negative significant change in
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43 “encourages the creation of academic groups (communities) of people with the same
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45 interested and need”. These significant differences are critical as most previous research
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47 neither measured students' perception changes in the educational usage of Facebook, nor
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49 found significant changes in students' perception changes after the Facebook group
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51 experience (O'Bannon et al., 2013). Overall, based on this study, students' perceptions
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53 and attitudes are positive, and students preferred to have a voluntary participation
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3 policy. These findings add to the on-going discussion of the educational usage of Facebook.

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5 It is going to be a tradeoff decision by course instructors between respecting
6
7 students' privacy concerns and preferences of a voluntary participation policy, and using
8
9 grades to motivate students' participation. Incorporating a Facebook group project as shown
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11 in this study could switch students' role from information receiver to information provider
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13 and moderator. This could contribute to a more rigorous learning experience, as students
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15 are more involved in recognizing the quality of students' contributions. The Holy Grail is
16
17 about students obtaining the desirable learning competencies. To obtain the Holy Grail, a
18
19 possible solution is to leverage the synergy between the distribution capacity of a LMS; the
20
21 social features of a social media platform (not just Facebook); the creativity, time and effort
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23 made by the faculty members; and a grading scale to motive students.
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27 This research contributes to the academic by employing the pre-test / post-test
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29 research design; and by adopting the same survey questions from previous research; both
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31 which may facilitate comparison of research findings in the future. This study provided a
32
33 vivid example of the educational usage of a Facebook group, including communication,
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35 collaboration, and resource/material sharing (Mazman and Usluel, 2010). This research also
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37 contributed to practitioners by providing an example of using a Facebook group for a large
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39 class, and identified supported digital tools to facilitate the process. This detailed description
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41 of the course methods is considered a significant contribution as it may suggest to future
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43 course instructors considering similar applications of the logistical challenges involved,
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45 even without a research component. Student concerns identified in this paper may better
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47 prepare future instructors in their course development.
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Limitations and Future Research

The research design ensured comparable data available to measure students' perceptions of the educational usage of a Facebook group. At the same time, the research design and the specific Facebook group project setup used in this study may limit the generalizability of these research findings. Specifically, the ten t-tests conducted to measure the perception changes before and after the Facebook group experience could be argued to cause multiple comparison and the potential of committing a type I error.

The educational usage for Facebook are reported to be communication, collaboration, and resource/material sharing (Mazman and Usluel, 2010; Sharm et al., 2016; Manasijević et al., 2016). This research incorporated all three elements in the Facebook group experience but did not measure the link between educational usage and academic performance. Future researchers could consider measuring the link between the educational usage of Facebook and the learning process, and academic performance (Ma and Au, 2014).

Both a Facebook group and a learning management system (LMS) generate a huge amount of quantitative and qualitative data, which could contribute to our understanding of students' activities and perceptions of learning. In this research, each class section met only one day a week while the Facebook posts occurred daily. Hence, it was difficult to compare the log data generated from LMS (skewed on the two days when classes met) and students' Facebook activities. Future research could explore the rich opportunities generated from server log data.

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Table One Grading Scale for Comment Frequencies*

Grade	10%	20%	30%	40%	50%	60%	70%	80%	90%
# of comments	3	5	7	9	11	13	19	29	35
* Five percent of the course grade is linked to the number of comments made by the student.									

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	Pre-test		Post-test		t-stat	P-value
	Mean	SD	Mean	SD		
1. On a daily basis, how often do you visit*	3.76	1.00	3.96	0.77	-1.78	0.08
2. Per visit, how much time do you spend**	2.57	2.01	2.79	1.62	-1.35	0.18
* The Likert scale ranged from 1 (never) to 5 (very frequently) was used						
** The Likert scale ranged from 1 (less than 5 minutes) to 5 (more than 20 minutes) was used						

Table Three Educational Usage of Facebook: Means and Standard Deviations of Pre and Post Tests (n = 67)

Item		Pre-test		Post-test			
	Usage	Mean	SD	Mean	SD	t-stat	P-value
3. The use of Facebook for educational purposes							
3.1 improves communication between classmates	CM	3.87	0.91	3.75	0.89	0.81	0.42
3.2 improves communication between teacher and the students	CM	2.49	1.04	2.82	1.15	-2.18	0.03
3.3 improves classroom discussion	CM	2.84	1.20	2.97	1.00	-0.91	0.36
3.4 improves the delivery of course content and resources	CM	2.94	1.42	3.06	1.24	-0.71	0.46
3.5 improves the communication of announcements about courses, classes or school	CM	3.63	1.24	3.54	1.40	0.56	0.57
3.6 encourages the creation of academic groups (communities) of people with the same interest and needs	CO	3.84	1.20	3.43	1.04	2.79	0.01
3.7 improve student group work	CO	3.57	0.95	3.33	0.89	1.82	0.07
3.8 Facebook is an appropriate platform to exchange course related information	SH	3.15	1.04	3.22	1.18	-0.44	0.66
3.9 Facebook provides the resources to share a wide variety of resources and learning materials	SH	3.34	0.96	3.40	0.97	-0.41	0.69
3.10 Facebook provides rich multimedia resources and media support to improve the educational experience	SH	3.18	1.21	3.52	0.86	-2.11	0.04
<ul style="list-style-type: none"> • These items are adopted from Manasijević et al. (2016). • Mazman & Usluel (2010) stated the educational usage as communication, collaboration, and sharing. CM stands for communication. CO is collaboration. SH is sharing. • The Likert scale anchored between 1 (strongly disagree) to 5 (strongly agree) was used 							