

Utilising A Social Networking Site As A Learning Tool In An Academic Environment: Advancing Practice From Information-Sharing To Collaboration And Innovation (ICI)

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Abstract

There is a scarcity of research regarding the possible academic uses of Social Networking Sites (SNSs), such as Facebook (FB). Much research focuses on the social or information student use. This paper demonstrates how a SNS, in this case Facebook, can help increase a student's academic engagement and develop synergistic knowledge. Engagement is understood as the effort and time a student invests in educational activities in or out of class, which are empirically related to college outcomes (Kuh, 2009). Engagement encompasses various aspects including interactions with faculty, involvement in co-curricular activities and peer interaction.

Building Pollara and Zhu's (2011) observations that students believe online collaboration assists learning, this paper demonstrates synergistic knowledge development by students as a result of Facebook use on UCD's 'Business Information Systems Management' module during one semester. Data was collected using student surveys, archival Facebook information and interviews with students. This student group are a less researched cohort regarding SNS usage: they are post-experience, part-time postgraduates. This study's findings support Junco's (2012) observation that some Facebook usage can be academically advantageous to students. The benefits here to using Facebook in teaching and learning also included the development of educational micro-communities as suggested by Bosch (2009). In our study, Facebook stimulated critical thinking and engagement in academic debate regarding the module material. The evidence here suggests that this SNS can allow for student engagement in a way that traditional educational environment cannot. This module promoted student engagement beyond just information-sharing, demonstrating high levels of student collaboration and synergistic knowledge development, and ultimately theoretical innovation with the module concepts. It also provides an insight into post-experience, postgraduate usage of SNSs. The research questions were:

- Can Facebook be used as a learning tool to academically engage student?
- Can Facebook as an eLearning tool improve students' learning experience?

Keywords: Facebook, student engagement, social networking sites.

Case Study. URL: <http://ojs.aishe.org/index.php/aishe-j/article/view/137>

1. Introduction.

There is a scarcity of research regarding the possible academic uses of Social Networking Sites (SNSs), such as Facebook. Much research focuses on the social or information use of SNSs for students. This paper demonstrates how a SNS, in this case Facebook, can help increase a student's academic engagement and develop synergistic knowledge. Engagement is understood as the effort and time a student invests in educational activities in or out of class, which are empirically related to college outcomes (Kuh, 2009). Engagement encompasses various aspects including interactions with faculty, involvement in co-curricular activities and peer interaction.

Building on Pollara and Zhu's (2011) observations that students believe online collaboration assists learning, this paper demonstrates synergistic knowledge development by students as a result of Facebook use on UCD's 'Business Information Systems Management' module during one semester. Data was collected using student surveys, archival Facebook information and interviews with students. This student group are a less researched cohort regarding SNS usage: they are part-time, postgraduates with generally 5-10 years work experience. This study's findings support Junco's (2012) observation that some Facebook usage can be academically advantageous to students. The benefits here to using Facebook in teaching and learning also included the development of educational micro-communities as suggested by Bosch (2009). In our study, Facebook stimulated critical thinking and engagement in academic debate regarding the module material. The evidence here suggests that this SNS can allow for student engagement in a way that traditional educational environment cannot. This module promoted student engagement beyond just information-sharing, demonstrating high levels of student collaboration, synergistic knowledge development and ultimately theoretical innovation with the module concepts. It also provides an insight into post-experience, postgraduate usage of SNSs. The research question which guided this research project was 'Can Facebook be used as a learning tool to academically engage student?'. The research objectives were:

1. To integrate a SNS tool into the module delivery to enhance student learning.

2. To introduce a new SNS driven assessment component to raise awareness of student-centric learning opportunities.
3. To develop student critical thinking skills developing student-centric learning opportunities.
4. To utilise a SNS tool for student communication, collaboration and innovation.

1.1 Social networking sites for academic purposes.

A Social Networking Site (SNS) is a

'...web-based service that allow individuals to: (1) Construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connection and those made by others within the system.' (Boyd and Ellison, 2008: 211)

An SNS functions primarily as a communication tool but also a social tool. The term social network describes how a community of online users communicate regarding a topic of mutual interest. Examples of SNSs include Twitter, Xing and Facebook.

One of the most dominant SNS, Facebook, has approximately 1.15 billion monthly active users (Facebook Company, 2013) and was initially created for university students. After its expansion outside of higher education the 25-34 year old demographic has experienced most growth with an increase of 181% and the 35 and older age group increased 98% (Lipsman, 2007 cited by Kirshner and Karpinski, 2010:1239). Already these statistics are dated and Facebook has become more prolific. Facebook allows the user to create a profile and provide personal information regarding interests, upload photos, update the user's status and post events. Users can also join group pages based on interests and activities. Admittedly, most students use such technologies for social purposes but there is increasingly exploration by higher education staff of how these tools might be appropriately utilised for academic endeavours. While the use of a SNS like Facebook for academic purposes can be viewed by some academics with suspicion and as a time consuming activity, others are embracing the interactive nature of Web

2.0 technologies which can allow academics facilitate the investigation and cooperation of answers, opportunities and solutions to problems during the course of the modules (Barczyk and Duncan, 2013). Some faculty are exploring the extent to which Social Media may provide a different and often complimentary avenue to more traditional approaches regarding the pursuit of student engagement in active learning (Junco, Heiberger and Loken, 2011; de Villiers, 2010). While it is not the focus of this paper, inevitably such engagement also raises additional questions the management of delicate considerations such as student privacy, potential sharing of student/staff social information and/or behaviour and guidelines on appropriate usage. Such topics will be more comprehensively researched in future work by the authors.

Much of the research to date has focused on the use of Facebook amongst younger students (e.g. Kolek and Saunders (2008) or Junco (2012)), however, little research has been completed on its uses for part-time students who are – in many cases – older. Hung and Yuen (2010:703) recognise learning

'...as a social construct that is explained by students' sense of classroom community and their active participation in classroom community of practice.'

There is limited research regarding the use of Facebook for academic learning purposes. Although intended for social uses, SNSs are transitioning into areas of life, including student learning. This classroom community can be an online community as well as more traditional teaching environments. Indeed, social networking might be considered as 'the practice of explaining knowledge by making connections with individuals of similar interests' (Gunawardene, et al., cited Hung and Yuen, 2010:705). Rather than suggesting the online as an alternative approach, Yuen and Hung (2010) suggest that social networking tools are best implemented as a supplement to face-to-face communities or virtual communities with local ties. They suggest that a SNS allows students to network outside of the classroom and such extended interaction can also lead to additional learning opportunities and/or enhance participation in the classroom. Yuen and Hung (2010) found that a student's positive learning experiences with the use of social network were highly related to information-sharing and the interactional function of technology.

Rovai (2007) suggests that in addition to the benefits of being able to reflect on the course content, some disadvantages of online discussions include the large numbers of postings to navigate, the possibility of misunderstanding or propensity of some students to dominate discussions. Kirschner, et al., (2010:1244) found that there was a 'significant negative relationship between Facebook and academic performance', outlining that Facebook users in their studies had lower GPAs and reported spending fewer hours a week studying than the average Facebook user. They assumed that students use Facebook while concurrently studying or engaged with other activities – the negative relationship may suggest a 'deleterious effect' of trying to study and use Facebook at the same time (Kirschner, et al., 2010:1244).

1.2 Student Engagement Online.

Generally, research reviews student engagement in offline environments and there has been modest inquiry of the potential of Social Media, and specifically SNSs, in academic engagement. Research suggests that a high student engagement in a programme can increase students' psychosocial development and specifically academic success, including critical thinking skills (Junco, 2012; Pascarella and Terenzini, 2005). Engagement was defined by Astin (1984 cited by Junco, 2012: 163) as the '*amount of physical and psychological energy that the student devotes to the academic experience*'. Astin suggested that the amount a student learns and develops associated with a programme of study is directly related to the quantity and quality of student engagement. Thus, the effectiveness of any academic practice is related directly to the capacity of that practice to develop academic engagement. Kuh (2009) suggests engagement is conceptualised to include different factors including involvement with co-curricular activities, peer interaction, interactions with faculty members and investment in the academic experience of college. Engagement can be in-class or out of class engagement in activities which are educationally relevant and both are important to student success.

From the research conducted to date, Heiberger and Harper (2008) and HERI (2007) found that Facebook is positively related to student engagement. Facebook attempts to be a platform for engaging young people and was originally set up for student usage (Junco, 2012). Junco found that there is both a positive and negative relationship to engagement and that Facebook specific activities are related to engagement. Junco (2012) found that Facebook activities were a stronger predictor of student engagement, class preparation and time spent on co-curricular activities than time on Facebook. Junco (2012:164) drew upon Astin's five tenet's of engagement to research student use and Facebook involvement:

1. *Engagement refers to the investment of physical and psychological energy:* Students spend a great deal of psychological energy using Facebook, checking Facebook and engaging in a variety of Facebook activities.
2. *Engagement occurs along a continuum:* Some students use Facebook a great deal, while others do not. Furthermore, there is variability in the types of Facebook activities in which students engage.
3. *Engagement has quantitative and qualitative features:* This tenet was strongly supported by the student study as it relates to time spent on Facebook. Some activities were predictive of engagement and others were not e.g. commenting on content was an activity which engaged the user in interactions with others.
4. *The amount of student learning and development associated with an educational programme is directly related to the quality and quantity of student engagement in that programme.* The module predicting time spent in co-curricular activities showed the both time spent on Facebook or RSVP'ing to events were positive predictors.
5. *The effectiveness of any educational practice is directly related to that practice to increase student engagement:* While this study found both positive and negative predictors, it is possible that faculty and administrators could develop educational practices that include Facebook in ways that maximise both engagement and academic benefits.

(Adapted from Junco, 2012:164)

In reviewing Junco's research, the nature of engagement needs to be further defined. Many of the engaging activities which Junco outlined would be considered to be information-sharing, e.g. checking up on friends or rsvping to events. This paper asserts that Facebook can be used as an academic tool and engagement can transcend beyond information sharing to student collaboration and innovation. While Facebook presents an opportunity to allow the sharing of information, it might encourage collaborative student activities where students learn from each other, engaging in synergistic knowledge development (SKD). SKD is defined as a process 'by which a group constructively integrates diverse perspectives of individual group members' (Mu and Gnyawali, 2003:690). This relates to higher-order knowledge and also collective knowledge development, where by the individual level representation of the information environment, in this case online, is brought together to develop a collective representation through discussion, sharing and integration of different individuals perspectives (Mu and Gnwayayli, 2003). It suggests that older students engage in more constructive discussion (Fritschner, 2000 cited by Mu and Gynawali, 2003).

The findings of this study suggest that Facebook has the potential to be used as an academic tool that encourages student engagement and higher order learning. The experience of using Facebook on the module 'Business Information Systems Management' is now provided.

2. Case Study: Facebook Integration For Communicating, Collaborating And Innovating As Part Of A Postgraduate Distance Learning Module.

2.1 Context.

This case study focuses on the 'Business Information Systems Management' (BISM) module forming part of a distance learning Masters in Management (Part-Time) programme at the Michael Smurfit Graduate Business School, University College Dublin (UCD) during the academic year 2011/2012. The programme is designed for non-business graduates unable to

complete a Masters programme on a full-time basis. Students are working full-time and the average age of the cohort was 30. There were 32 students in this class. The programme is delivered on a distance learning basis. Students generally attend one weekend of classes in each month during. Students reside throughout the country, with two based in Germany and Slovenia. This 7.5 ECTS module is primarily delivered online incorporating 4 seminar hours of lecturer-student face-to-face interaction. These students undertook this module in Semester 2, Year 2 of the programme. Students attended two classes on campus at the start and midway through the module. All other module content was delivered using Blackboard which is UCD's eLearning suite.

This module discusses the concepts and specific skills related to information and communication technology (ICT), electronic business, online marketing and Web2.0/Social Networking. It evaluates ICT & eBusiness opportunities and investigate its implications on different industry sectors. Students are also required to evaluate ICT & eBusiness opportunities and investigate its implications on organisations competing in different industry sectors.

The module was assessed using 3 components:

1. 20% for individual participation: students were invited to discuss the module concepts using Blackboard and/or Facebook for the duration of the semester. A discussion page was set up on Blackboard and a Facebook group page was set up for the module where students could discuss the module concepts and provide and share examples from the current business environment of the course content.
2. 30% for a Group Industry Impact Report: This group project involved the preparation of a examining how the introduction of ICT (particularly, the Internet and Social Media) has influenced the evolution of a chosen industry. Students had to prepare a written report and deliver a presentation on this report.
3. 50% for a Learning Journal: Students had to complete a learning journal outlining their learning during the module and their insights into the module concepts.

2.2 Aims and objectives.

The aim of this module was to incorporate innovative SNS initiatives – in particular a dedicated Facebook group for students taking this module – to support students' academic engagement and develop synergistic knowledge. More specifically the objectives were:

1. To integrate supplementary SNS tools as part of delivering an online distance learning module enhancing the students' learning experience.
2. To introduce a new assessment component (online contribution through eLearning tools) complimenting existing assessments (group presentation and written end-of semester learning journal). This will raise awareness of different student-centric learning opportunities.
3. To develop student critical thinking skills through the introduction of processes (dedicated Facebook group page) requiring students to evaluate and objectively comment on content created by peers.
4. To encourage students collaborate and innovate with both peers and the module co-ordinator utilising SNS.

2.3 Implementation.

A Facebook group was implemented for students encouraging them to communicate, collaborate and innovate. 31 students (n=31) representing 97% of the entire class joined the dedicated Facebook group entitled "MIS4002D_2012". The group was setup as a secret group with the following attributes (Figure 1):

- The group's administrator (in this case the module co-ordinator) has the exclusive right to approve new members.
- Only group members are allowed to create new content, contribute to and view existing content.
- Only members see the group, its members and members' posts.

Students were also reminded of the 'UCD Student Code of Practice' and also the 'UCD School of Business Protocol on Teamworking' as they commenced their assessment components.

The image shows the settings for a Facebook group named 'MIS4002D_2012'. The settings are organized into several sections:

- Group name:** MIS4002D_2012
- Privacy:** Three options are shown: 'Open' (unselected), 'Closed' (unselected), and 'Secret' (selected). The 'Secret' option is described as 'Only members see the group, who's in it and what members post.'
- Membership approval:** Two options are shown: 'Any member can add or approve members.' (unselected) and 'Any member can add members, but an admin must approve them.' (selected).
- Group Address:** A button labeled 'Set Up Group Address'.
- Description:** A text box containing 'MiM Business Information Systems Management group'. Below the text box, it states 'Potential members see the description if privacy is set to open or closed.'
- Posting permissions:** Two options are shown: 'Only members can post in this group.' (selected) and 'Only administrators can post to the group.' (unselected).

Figure 1: MSS4002D Facebook group attributes.

3. Methodology.

A case study approach was used to underpin the design of this research project. A case study design was selected, as it allowed for an in-depth study of this phenomenon and encouraged the use of multiple data collection tools (Yin, 2009). A survey instrument was used for primary data collection tool for this study. It was administered to 32 students (n=32) on 2nd May 2012. Students had two weeks to respond anonymously with 15 students responding (n=15) by 16th May 2012. There were 14 questions which examined the uses of Facebook and the students'

experience of it. Questions were a mix of open-ended, closed-ended and rating scale (which used a modified Likert scale). A copy of the survey is included in Appendix One. SurveyMonkey (<http://www.surveymonkey.com>) was used to distribute the survey online as it was convenient and used for other programme evaluations so the students were familiar with it. Two student semi-structured interviews were also conducted to gain a better insight into the students' experience of Facebook for this module. Content analysis using Nvivo was used to analyse the findings from the student interviews. Codes for the content analysis were identified using the themes which arose during the literature review phase of the research. Descriptive statistics were used to summarise the survey's quantitative data. The survey also provided students with the opportunity to answer open-ended survey questions and the results of these were prepared thematically using content analysis.

4. Summary Of Key Findings.

A number of themes emerged from this research, including the use of Facebook to enhance learning and the experience of using Facebook for assessment purposes, the opportunity to develop critical thinking skills.

4.1 Research Objective 1 – Integration of a SNS tool into module delivery to enhance student learning.

Students found that they used Facebook more as outlined by Figure 2 below.

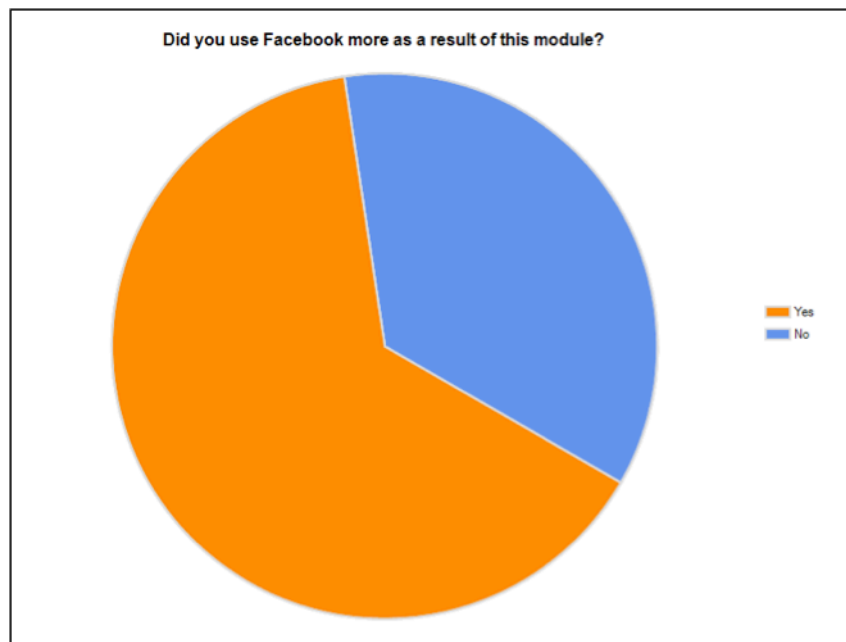


Figure 2: Increased Facebook usage for module.

One student even stated that they joined Facebook specifically to contribute to this page. The BISM Facebook page appears to provide an impetus to students to use Facebook more generally, as indicated by the following student quote:

'...wouldn't always check my [Facebook] account everyday but felt I had to due to this module' (Interviewee 1).

A small number of students highlighted that this was not always positive as Facebook could be a distraction from their other studies, as suggested by the following response:

'That's not always a good thing, for time spent looking up articles and taking part in conversations the proportion of marks was not high enough' (Survey Respondent 4).

Facebook was overwhelmingly used as the main application for participation purposes compared to Blackboard.

From the survey, 92.9% of students preferred using Facebook, as per Figure 3. This was surprising as Blackboard had been used since orientation with the students and they were familiar with it over a period of 18 months prior to this module. The functionality of Facebook appeared to be more user friendly than Blackboard.

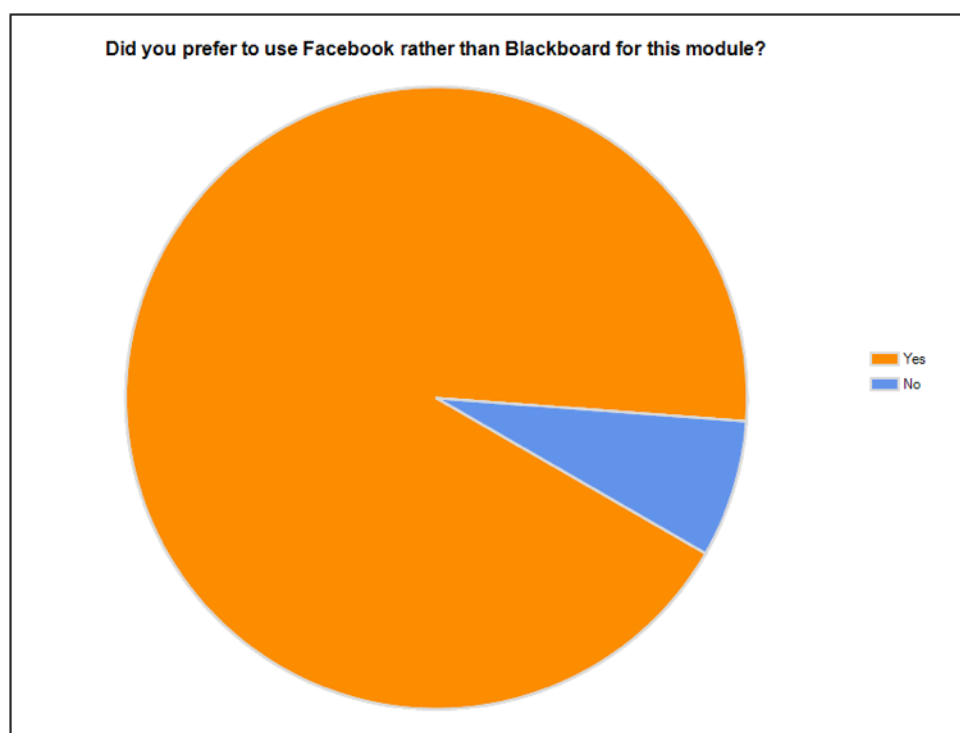


Figure 3: Facebook versus Blackboard use.

Facebook was described as *'more convenient'* and *'more user friendly'* during the course of an interview with one of the students. Students highlighted that as Facebook was *'more image based'* (Interviewee 1) it was more visually stimulating. Students also found the discussion flowed more freely using Facebook as students could post easily and start a new discussion with ease. During an interview, one student highlighted that you *'do not need to be in study mode'* (Survey Respondent 2) to engage with the module, highlighting that utilising his Smartphone he could log on at any time to check the discussion and post material. As this

student confided 'I read it [the Facebook BISM page] everyday' (Survey Respondent 6) and anywhere.

4.2 Research Objective 2 – Introducing a new SNS driven assessment component to raise awareness of student-centric learning opportunities.

Though it is hypothetical, students were also asked, as part of the survey, if they would have used Facebook had marks not been awarded for participation. As highlighted in Figure 3 below, 64.3% indicated that they would have used Facebook regardless of the mode of assessment. During an interview, one student highlighted that initially the 20% for participation encouraged Facebook usage but as the module progressed, usage was more interest driven, checking Facebook particularly:

'if someone commented on what you commented on or what you working on'
(Interviewee 1).

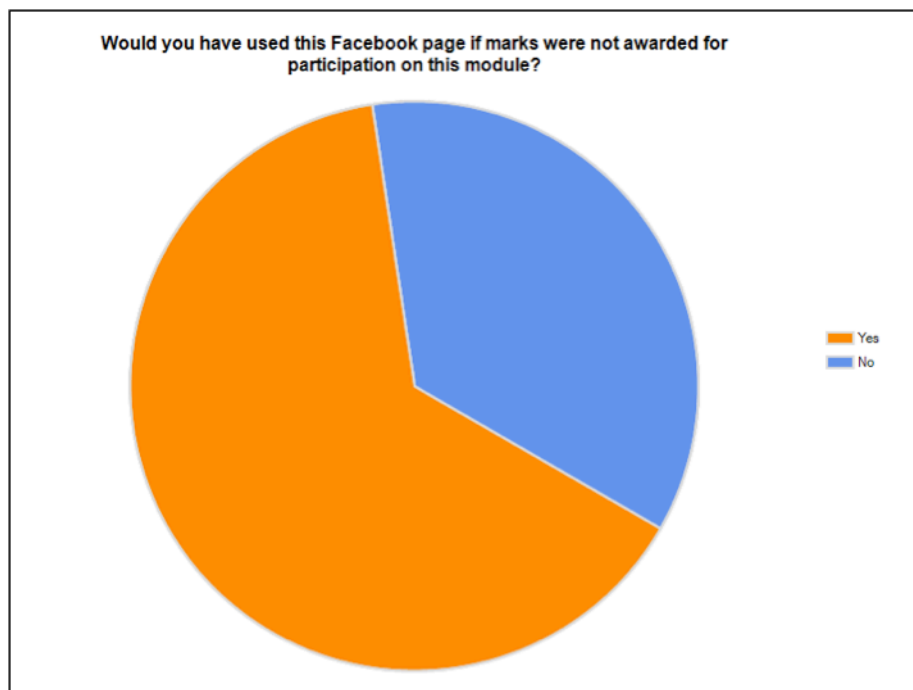


Figure 4: Facebook usage and module grading.

4.3 Research Objective 3 - To develop student critical thinking skills developing student-centric learning opportunities.

The students appeared to benefit from their use of Facebook on the modules, with 92.3% of the students highlighted that their learning benefitted from the use of Facebook as illustrated in Figure 5 below. Some of the advantages which students highlighted that *'the discussions on articles enhanced knowledge about the subject area'*(Interviewee 2), they found they were more likely to try new technology such as 'Twitter' and were made aware of academic material that they would not of received otherwise. The access to other resources via posting updates was listed by a number of students as a key benefit. However, one student reported in the survey that some students posted for *'the sake of it'* and getting participation marks, rather than carefully selecting articles. Another student highlighted during the interview that they read more widely during to the nature of the posts and that they actually *'read more than they had commented on'*.

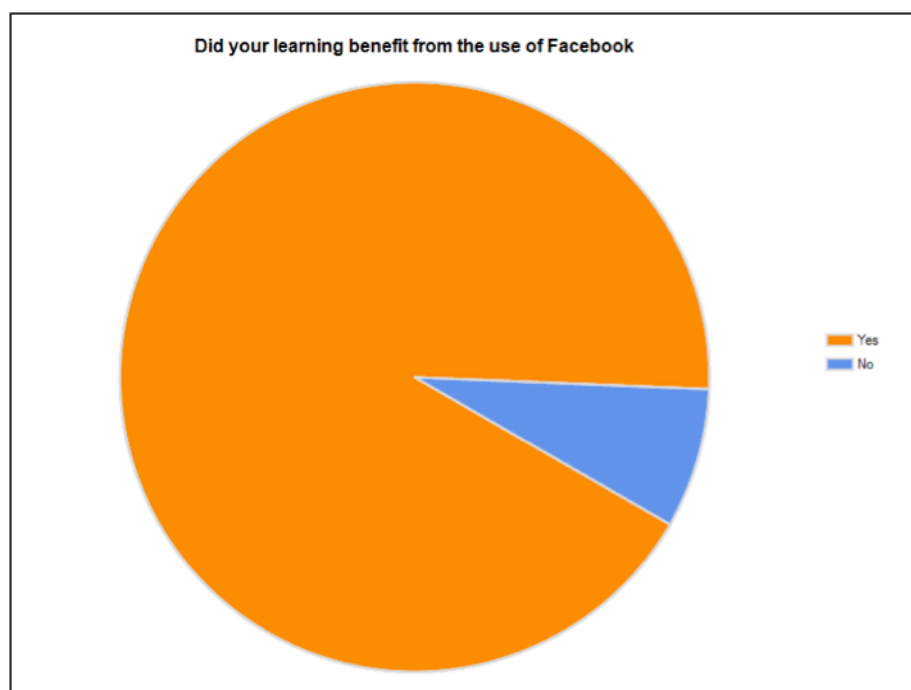


Figure 5: Facebook and student learning.

The relationship between how students perceived Facebook usage for this module and their learning was best captured by the following student quote:

'allowed a distance learning course to become much more personal - the FB page became a de facto online classroom' (Respondent 8).

One student highlighted that the breadth and scope of content they encountered using the Facebook MIS4002D page was thought to be more than what could have been covered in a 'traditional classroom' environment. Facebook appeared to facilitate a wider discussion on course material than a traditional session might allow. It highlighted that Facebook allowed for the momentum of learning to continue outside of the classroom, especially given the delivery model of this programme.

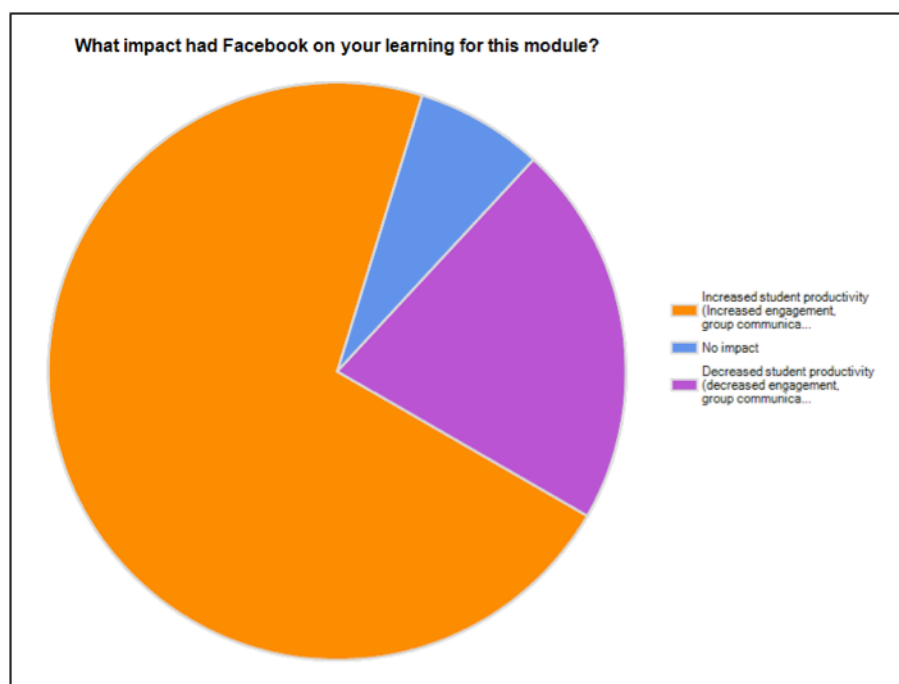


Figure 6: Impact of Facebook on learning.

As illustrated in Figure 6, 71.4% students believed that the use of Facebook increased student productivity. Productivity here means increased group communication and increased individual engagement. For 7% of students it made no impact. 21.6% of students found that Facebook

decreased student productivity. Some of the reasons the students highlighted included a need for more structured posting amongst the group.

'Often a frustrating experience to look up the group site and realize that again a new topic stream or random article was posted, which somebody had found. Classmates started posting high quantities of links and posts, because engagement was being graded'(Interviewee 1).

'The open-ended requirement for contribution on Facebook was overwhelming. I would have preferred a set goal (e.g. word count or page count in papers)' (Survey Respondent 5).

As per Figure 7, students engaged with Facebook in a number of academic fashions. The most popular use of Facebook was the ability to review what classmates were posting. 85.7% of students used Facebook to review the academic postings of other students. In the context of this study, students were posting relevant discussions or examples which discussed the module content.

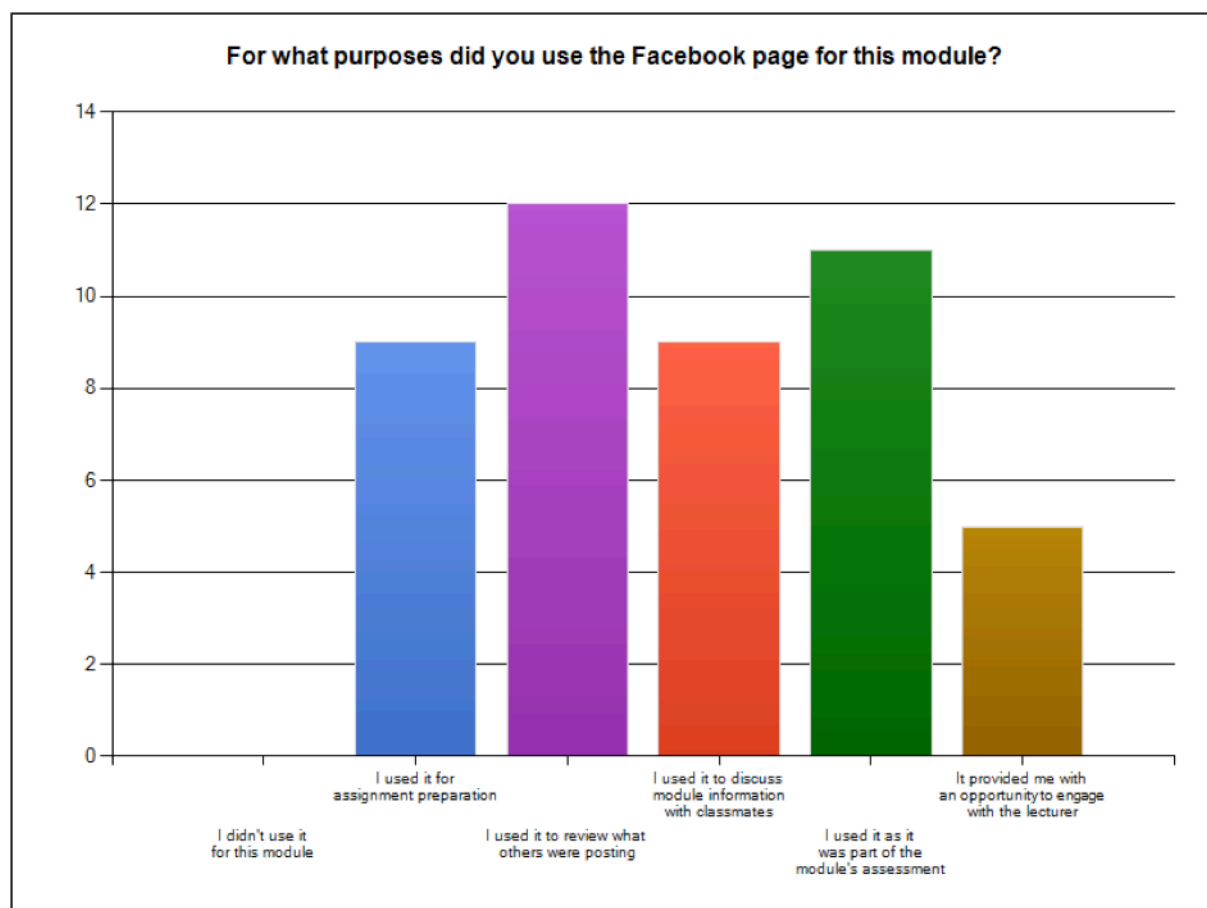


Figure 7: Categories of Facebook usage.

As one student said

'it was very useful for highlighting interesting articles that other class mates and the lecturer posted' (Interviewee 2).

The second most popular reason was the fact it was used for the module's assessment. 78.6% used it to prepare for an assignment or as a means to participate in discussion which was assessed. An interesting and less expected use for Facebook was for the preparation of assignments (64.3% used Facebook for assignment preparation). Students used Facebook to share academic resources and communicate regarding their group assignment. Some groups used it as a forum to arrange group meetings or to check in on assignment preparation. However, the lack of document sharing tools available on Facebook was recognised as an impediment to its use for students and meant Facebook was not the single technological solution for academic engagement. Consequently, some students reverted to email or Google+ to prepare assignments.

4.4 Research Objective 4: Utilising a SNS tool for student communication, collaboration and innovation.

A number of the studies discussed above highlight the use of Facebook for social purposes. Many of the studies do not review the potential of Facebook for academic purposes. The Facebook page for this module was reported to generate academic activity and discussion as outlined by Figure 7 above. Students shared academic resources and posted current affairs reports from other media sites which prompted discussion of the module's concepts.

While students did use Facebook to share academic information, it also was a tool to collaborate and innovate. A number of groups reported that they used Facebook to share academic resources and prepare for their group assignment. . Student groups used to arrange and prepare project deadlines. In addition, this collaboration also generated discussion. Such engagement was reported to assist students to think about, evaluate and critically analyse the module's key themes and concepts. This was evidenced during both the student interviews.

The innovation process allows students to introduce new ideas, methods or processes building on an existing infrastructure with the main purpose of managing existing tasks and processes more efficiently. Feedback from one interview indicates that students indeed used the FB infrastructure (groups, chat, file sharing) to innovate the learning process:

“Communication lead to collaboration which in some cases lead directly to innovation. We identified dedicated group pages for this module’s and programme’s projects and assignment components” (Interviewee 2).

Drawing on these findings, the authors propose the following innovative social infrastructure for better learning model based on communication, collaboration and innovation (Figure 8). This model acknowledges that SNSs, such as Facebook, can elicit more than just communication and information sharing between students. The three elements may be considered as a hierarchy which commences with communication, then progresses into collaboration and finally evolves into innovation. The three aspects are interdependent, as it is unlikely that innovation can occur without both communication and collaboration. It can provide a medium for academic engagement and a forum to demonstrate higher order thinking skills. It allows the student to collaborate in an easy-accessible online environment. The accessibility of this environment can be used to stimulate critical thinking and innovation amongst the student body in a way which the time constraints of the traditional environment does not facilitate. This is particularly useful tool for part-time and distance learning students.

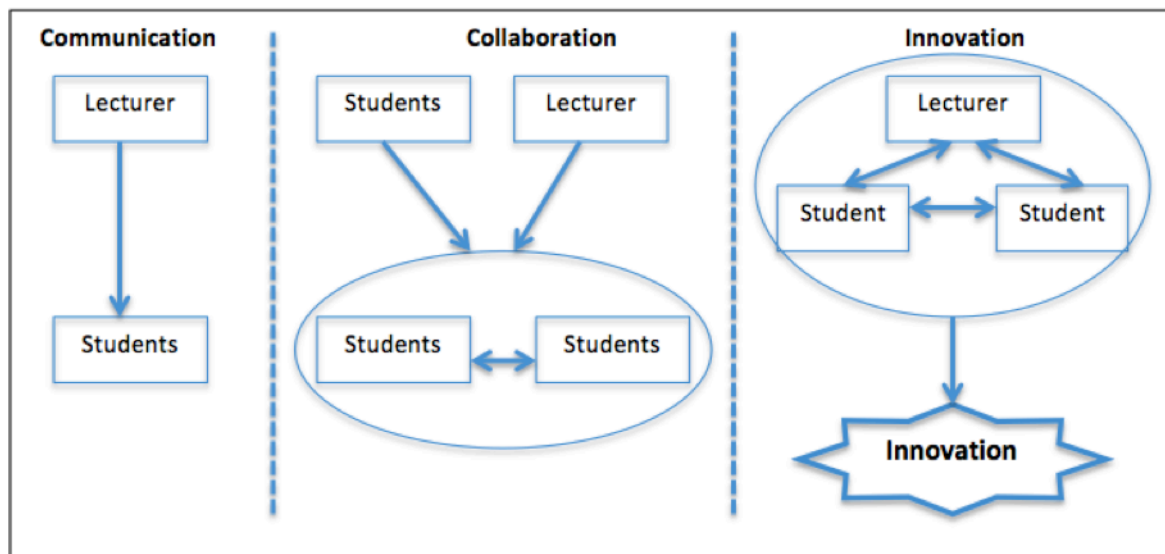


Figure 8: An innovative social infrastructure for better learning model.

5. Conclusion And Future Research.

The evidence from this research into the BISM module at UCD suggests that Facebook can be used as a learning tool to academically engage students. Yuen and Hung (2010:716) suggest that 'as a supplementary learning tool, social networking holds promise for enhancing students' sense of classroom community which contributes to their classroom Community of Practice in and out of the classroom. This case study's findings show that a SNS, particularly Facebook, can be used in higher education to improve the students' learning experience incorporating Glowatz & O'Brien's innovative social infrastructure for better learning model based in effective and efficient lecturer <-> student communication, collaboration and innovation principles. Careful consideration is required before implementing SNSs for academic purposes until further research emerges. While Facebook was successful in this environment, its transferability has not been researched. This cohort of students may be more predisposed to using Facebook given the programme is for distance learners who have less classroom time and are an older and possibly more mature learner.

As this research focuses on a narrow cohort of only part-time distance learning students, we recommend that further research should be undertaken to overcome any limitations in our study:

- Conduct similar research for other cohorts in the higher education sector, such as full-time undergraduate or postgraduate students.
- Evidence of synergistic knowledge development
- Can the proposed “social infrastructure for better learning” model be applied to non-MIS modules?

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