

Cardiff University School of Computer Science & Informatics

# Interim Report:

## To What Extent can Social Networking Sites enhance the Student Education Experience?

### CM0343 - 40 Credits

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## **Acknowledgements**

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## **1.0 Executive Summary**

The following paper details a thorough investigation into student learner types, student learning preferences and ability of social networking sites to enhance the student education experience. The findings from the research indicates differing opinions on the impact of social networking sites to enhance the learning experience and in some cases the resistance to embrace this type of learning mechanism. In addition, there is a clear suggestion that the proposed teaching session has potential to be successful due to the interest of one third of the segment population. However, this number can potentially increase once the release of the teaching plan is made available based on the learning preferences stated by the participants. A conceptual model has been designed to understand all the variables that affect the choice of learning mechanisms by a student and how these decisions contribute to an understanding the module content being taught. The questions chosen within my questionnaire were made to provide insightful data from the participants to apply to the three areas of investigation mentioned above and assist with critically applying this data to formulate the teaching plan within the next semester. Thus, based on the research experience, further examination of other year groups' preferences could be applied to assist the formulation of the proposed teaching session and understand if social networking sites can be used to enhance the student education experience.

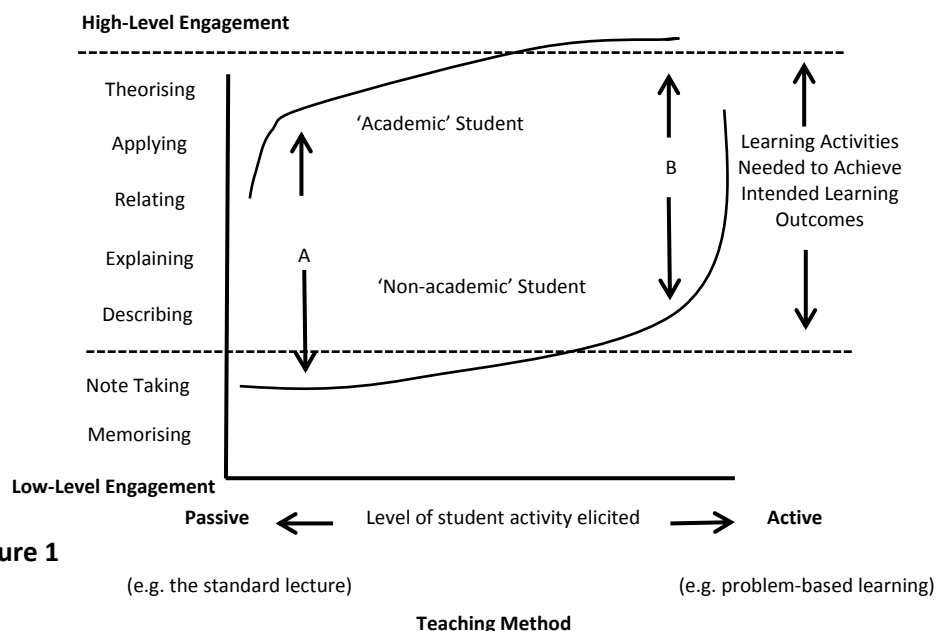
## **2.0 Introduction: The Basics**

The focus of the work for this semester has been around the questionnaire construction, analysis and formulation of the initial stages of the influence diagram. The construction of the questionnaire has been a lengthy process stretching back to the early stages of reminding myself of the differences between unipolar and bipolar questions as studied last year within a different module. The following document contains details about the investigation carried out in the semester and states the continuation plans for the next one. The final deliverable that all this analysis is building towards is creating the teaching session based on social networking mechanisms. In essence the session will be based on similar techniques as applied within a case study seminar using Twitter as the main form of social interaction, which generated much discussion (Eustice K, 2011). The retrieved data from the questionnaires given to first year students, will help structure a finalised influence diagram for displaying how social networking sites enhance the student education experience. In addition to this visual display of factors, the construction of a unique teaching session will be formulated based on the preferences retrieved from the surveys.

## **3.0 Background: Understanding the Problem**

The current problem surrounding the student education experience is to do with the divide between different types of students and learning methods. Different students have different academic ambitions, capabilities and desires to be studying the particular degree they chose to undertake. Biggs J and Tang C (2007a) discuss this in great detail within a proposed scenario of two different students attending lectures. One student is very much an academic; she does much extension reading and preparatory understanding before lectures or tutorials and has a clear interest in studying the subject with a drive to be successful. The other student is at university not because of a burning desire to understand a chosen subject or a desire to be successful in the profession but to obtain a qualification for a decent job. This passage emphasises the fact that more and more students in the modern day are falling under the bracket of the second individual. The major problem facing lecturers is the ability

to engage not just one type of learner but multiple types. Furthermore, the lecturer does not want the second individual to be like the first but wants the second to obtain a better level of engagement in the subject, simulate their mind and assist the individual with learning more in the first individual's manor. Figure 1 displays a diagram highlighting the concepts that Biggs and Tang have calculated based on the two different types of learners.



**Figure 1**

The model displays the different types of techniques applied to the learning process and the gap between obtaining a 1:1 or pass in a credited module is so wide. The essence of the graph highlights the idea that the basic knowledge and minor understanding of theories can help obtain a pass, however understanding, analysing and application theory assist to the gain the top bracket marks. The concept heavily links to using social networking sites to enhance the student education experience as the mechanisms used within sites such as Facebook and Twitter could assist with motivating, engaging and stimulating a 'non-academic' student. Thus, the mechanisms could push to obtain high marks through these teaching methods, making theory and practical elements more interesting and in turn close the gap between the two different types of learners.

The process of learning is very difficult to tackle with multiple researchers having attempted to trace the problem to the route cause. The common believe within academia is that there are two different approaches to learning, surface approach and deep approach (Biggs J and Tang C, 2007b). The first approach is associated with the second type of individual as the learning method is based on performing a task with minimum effort in an attempt to meet the course requirements. This idea typically relates to the non-academic activities being a priority over academic ones, inability to understand a specific topic, poor time management or even a cynical view towards University work. The second approach relates to thorough thinking and analysing a particular topic, it is based on using the most appropriate cognitive activities for understanding a situation. This learning type is related to the first individual, as it highlights an interest in a topic and a genuine desire to challenge them to gain the highest grade possible. The idea emphasises the ability to fully engage with a particular work piece, have a great understanding of topic knowledge and a well-structured method to interpreting theories being taught. Therefore, using social networking mechanisms could aid the ability

to improve the student education experience as it encourages individuals interested in social media to be engaged in the topic area and move towards a deep approach to learning.

The emergence of social networking sites as a learning mechanism comes under the title of e-learning which is an area that has development vastly in the past 5 years. Grace and Gravestock (2009a) discuss the advantages and disadvantages of this type of teaching compared to traditional teaching methods of lectures and textbook. They believe the process can be advantageous due to many reasons such as providing feedback through formative assessments and quizzes, suiting an individual's learning styles and promoting an independent learning style. These concepts link heavily to the my proposed ideas of Facebook polls, forums and Twitter feeds used within a social networking based teaching session. However, many researchers including Grace and Gravestock are skeptical about the idea. One view is based around the lack of access to technology for particular individuals, however due to the advancements in smart phones and tablets, this argument has little support. Another argument is related to the aspect of copyright, intellectual property and plagiarism with the documents being provided through the e-learning realm. These lecturers do not want their students using illegal resources or passing other accredited people's work as their own. Lastly, the final argument is related to the idea that e-learning can cause isolation for particular students and the learning style may not suit all the individuals. It is important to remember that for my project, the idea is based on an actual teaching session whereby all students can contribute and they would not be required to complete work outside of the allocated teaching slot.

Within the article the authors discuss the concept of discussion boards, this is an aspect that my proposed teaching session is heavily dependent on. This mechanism is beneficial as it displays the ease of interaction for students, provides clear guidelines on what content is expected and encourages posts to be relevant and insightful (Grace S, and Gravestock P, 2009b). This procedure is straightforward and direct displaying interesting course content; however issues can occur with dealing with international students as this method of teaching may not be their preference and also different learners intake information in various ways. Therefore, discussion forums will formulate a strong basis of my proposed teaching session but the influence of the questionnaire preferences from the participating students will form the majority of the focus and teaching plan.

### **3.1 Background: Summary of Recent Findings**

As previously mentioned, the focus of this study surrounds data retrieved from year one students about their learning preferences, types and methods of understanding topics. The pretests undertaken before the release of the official questionnaire provided the precise criticism that was required to know if the participants fully understood the questions being asked. In addition, these formulated the platform for making the questions engaging, worthwhile and allow me to retrieve the exact data that I required from the study. As an overview, the progression of the questionnaire results was very interesting, as initially many of the participants were skeptical about using this type of teaching method and chose not to participate. However, as the final weeks of the questionnaire being available progressed, there was a direct change in other participants advocating the idea. There are multiple factors as to why this was the case and will be explained further throughout this document. Lastly, as the questionnaire availability closed, this allowed the creation of the influence diagram based on participants' views, opinions and stats retrieved. This conceptual model displays the crucial concepts as to what makes the current set of year one undergraduates understand the content being taught within modules.

### **3.2 Background: Summary of Ethics Statement**

Due to various obligatory laws and legalisation, a key aspect of releasing the questionnaire to either course colleagues or year one students was having the approval from the School's ethical officer, Professor N.J. Avis, with the document found within Appendix One. The Data Protection Act 1998 (The National Archives, 2012) is a particular piece of legislation that most certainly needed to be upheld, each individual questionnaire contained personal preferences from students studying both with year one and year three within the School of Computer Science & Informatics. However, within the questionnaire there are minimal personal details that need to be answered e.g. Are you Male or Female. The only time within the questionnaire that there is a request for a particular personal detail is if the person completing the questionnaire wishes to have a one to one meeting about the topics which required obtaining a full name and chosen email address. Ethics and responsibility is a crucial part of form of questionnaire planning, building and analysis. The individual completing the questionnaire should be made fully aware that the content being discussed is for the use of the research survey only and will not be sold on to any organisations for product implementation. Moreover, it is dishonest to solicit participation in any type of survey under one pretext and then use the survey to promote something else (Bourque L, and Fielder E, 1995a). Thus, all the items discussed are purely confidential between my supervisors, the School and me.

### **3.3 Background: Summary of Communication Plan**

Throughout the past semester, the communication plan was initial set as communicating with the selected questionnaire completers through the use of emails. Furthermore, if that advanced to further development, one to one meetings or observations could have potentially been constructed. In addition, supervisor meetings were initially planned on a fortnightly basis and if urgent meetings were required the model could have changed to once per week.

### **4.0 Approach: Trial Questionnaire**

The construction of my questionnaires was aimed at students within the school to gain a greater understanding of the learning methods that are currently taught within particular modules. The focus of the questionnaires was to analyse each individual student's preference for learning and how that is enhanced using various social networking sites. The details of the questionnaire would allow myself to understand which lecturers currently advocate the usage of social networking sites to drive teaching within the module and which modules could have this method applied to gain better interest from students. Thus, the main focus of the questionnaire was to capture three separate areas: the usage of ICT within teaching, usage of social networking sites as a learning mechanism and to discover individual's learning types and methods.

The construction of the questionnaire followed a simple checklist enable the students to be motivated and actually engage with what was being questioned. The following list displays these details: keep questions short, make questions specific, avoid vague qualifiers, avoid abstract terms, avoid jargons, start with easier questions and move on to harder ones, ask questions in a logical order, decide where to place demographic questions and why you are choosing that location (Bourque L, and Fielder E, 1995b).

Within the construction process of questionnaires it is essential that before the questionnaires are officially released to your chosen segment that a pretest including focus groups can be fully undertaken. Moreover, it is crucial that the questionnaire can be tested to enable any mistakes, misunderstood questions or even non-engaging questions can be rectified. My chosen focus group was that of students within my year of study, IS students in Year Three. Furthermore, pilot tests or focus groups assist with understanding how different individual's understand particular questions and if the motivation to complete the survey is actually even there in the first place. There are three key elements that the pretests aim to target: completion of the questionnaire in its current state, suggest what other items should be added to the questionnaire and discuss aspects of the existent questionnaire that might be changed (Bourque L, and Fielder E, 1995c). The segment chosen for the pretests should be a representation of the further segment which could potentially complete the questionnaire. This tool is very useful as the students completing the initial questionnaire are fully aware of all the available teaching mechanisms within the school as they have experienced it for three years already. The main response that is needed from this initial questionnaire is to gain feedback on any questions that lack clarity, the length of the questionnaire and to ensure the questionnaire does not just engage Year Three students but also Year One students as well.

The following list details the chosen sample of six students both male and female within Year Three at Cardiff School of Computer Science & Informatics:

- Sam Jones, studying BSc Information Systems
- Charlotte Doherty, studying BSc Information Systems
- Natalie Crawford, studying BSc Information Systems
- Lowri Williams, studying BSc Information Systems
- Elliot Cook, studying BSc Information Systems
- Michael Khong, studying BSc Information Systems

The initial questionnaire can be seen within Appendix One, this questionnaire is the one that was originally sent out to the pretest focus segment. Within Appendix Two, it clearly displays the results to the questionnaire in the first draft state. Furthermore, Appendix Three displays the details of the constructive criticism and feedback on the initial questionnaire constructed in a second questionnaire.

#### **4.1 Approach: Trial Questionnaire Summary of Findings**

Trial questionnaires are crucial for gaining feedback on particular questions and assisting with creating more engaging and focused questions. Based on my small segment of six students studying Information Systems in third year, there were a variety of different comments surrounding the structure, length, question types and general criticisms on particular topics found within Appendix Four. The comments and feedback from my completed pretest questionnaire proved very interesting as the majority of participants provided relevant and insightful details. Moreover, the comments assisted with structuring some of the questions slightly differently but also displayed the fact that something I thought was understandable was perceived in a different way in some cases.

The crucial part of any questionnaire is to ensure the participant is engaged with the content and is willing to give as much information as possible that is relevant to what is being asked. For example, one response stated "I think there were an extensive range of questions and



enough extra space to comment to allow students to expand on ideas and really provide detail or feedback they would want to. (without forcing them to if they didn't)". This emphasises the fact that the person filling out the question felt the questions were specific, suited for the topic and did not force the user to complete questions they may or may not have felt uncomfortable completing. In a general sense, the response displays that the questionnaire was indeed engaging for the participant. Furthermore, another participant felt comfortable completing the questionnaire due to the familiarity with the topics being discussed, the participant stated "It was all familiar to me, and I felt knowledgeable when answering the questions".

One particular aspect that needed attention was that of the problematic questions within the 20 questions being asked. This would ensure that spelling errors, badly worded English or even that content of the question could be addressed and changed before the release of the final questionnaire. In addition, the human brain interprets various sentences in different ways; therefore different people understood different questions in separate ways. The majority of points that needed to be addressed were along the lines of minor grammatical problems, ordering of questions, answer options and potentially one question surrounding the usefulness of these social networking sites in education within the school to date. All the specific comments given within the pretest questionnaire can be seen within Appendix Four.

After the review of all the comments discussed within the questionnaire, the following list has constructed the focus for amendments for the production of the official release (Includes direct quotes from participants):

- **S1Q4** – "perhaps offer an option for not spending any time in tutorials as they might not have any"
- **S1Q5** – "again same as above, offer a zero hour option if they don't have any"
- **S1Q6** – "i dont think you need none of the above if you're giving them the option to put anything. "
- **S1Q9** – "doesnt make sense to me."
- **S2Q1** – "student might not be aware of what type of learner they are. You could either send them to this site (<http://www.vark-learn.com/english/page.asp?p=questionnaire>) to find out or perhaps provide some extra details about what each of the learning styles are?"
- **S2Q2** – "The way the question is worded is a little confusing, you might want to reiterate that its a social media based teaching session. Also in this one you had Computational Thinking and Introduction to Computational thinking as options they are the same. Also is fundamentals of computing with Java and Introduction to Java the same too? I'm not sure."
- **S2Q2** – "might actually give a link to an online test for them to find out what learner they are if they have no clue what type they are. q2 of B are teaching session tutorials? if so i'd stick to using the word tutorials as this is what we're used to."
- **S2Q4** - the idea of what? i know you're repeating things but you have to for some people as they'll have no clue what youre asking."
- **S2Q4** – "For this question might be an idea to list the lecturers (or at least the common ones) as tick box options and then have another box for more simply as the students might not know all the lecturers or want to write a list."
- **S2Q6** – "dont know if survey monkey allows you to do this but maybe give a drop down menu or a choice of modules and lecturers for them to choose from."

- **S2Q7** – “Again might be worth reiterating that the teaching session is a social media based one, just in case students forget, makes it more explicit for them.”
- **S2Q10** – “re word the question as everything else is formal and that is informal. Also maybe give a small short paragraph at the top of the questionnaire to explain why you're asking this.”

After much review of the questions constructed within the initial questionnaire, there have been various changes made to some of the wording and focus of particular questions. These changes were prompted by the suggestions from the pilot group but also by some thorough analysis made by myself. Furthermore, further changes have been made to providing the participant background information to my study and also adding a few more questions to gain further depth in the topic.

Another method of amending the questionnaire was through the use of studying literature that falls under the same or similar topic bracket. An article relating to the usage of Facebook and using the social networking mechanism for teaching was studied within Tennessee University (Roblyer M et al, 2010) with the articling discussing a procedure of quantitative and qualitative research through the usage of surveys to understand the different mechanisms to enhance learning. This article provided some insightful details about how the retrieved data can be analysed and the statistical information that can be retrieved from these studies. This literature in particular provided a questionnaire sent to faculty to understand different perceptions of Facebook and Email as instructional tools. Furthermore, the questions asked within the survey provided further thinking and structure for constructing more insightful questions which I could use within my research. The questions from the study which I will be amending are questions 6-8, these topics did not cross my mind until now and further manipulation of the wording will be used to focus my research.

The further development of the questionnaire led to the delay in the launch of the questionnaire. Furthermore, the initial launch was due to be during week 5, however due to the issues with some of the questions not retrieving a detailed level of feedback, led to the release during the start of week 7. Through progression analysis of the current questions and evaluating them against other resources with a similar research area, the construction of the questions were made more unique and designed to engage the participants in something they may not have completed. One particular aspect of the study that I felt could be used to engage the user was to understand their selected learning style and how pedagogical learning influences this. The online questionnaire produced by Fleming N (2011) helps uniquely discover what type of learner the participant actually is and how that would aid their own personal studying or revision techniques as an individual. For my study, there is only minor observations of their learning styles by questioning the preferences on lectures and laboratory classes. This is only minimal details but still works understand each individual's preferences. Another method used within the process to allow the individual's to calculate their own personal learning procedure. This was highlighted within the article based on learning types (Unknown, 200-) and highlights phrases which allow associate to a particular learning style. Thus, the procedure for finalising the questionnaire was based on a combined of literature examples, online journals and previous questionnaires produced within others' investigations.

#### **4.2 Approach: Questionnaire Designed for Year One Students**

The questionnaire assists with the development of the research methodology, it is essential to have this aspect within my project as it precisely highlights how the chosen segment interact with these types of mechanisms and the potential benefit it can have on the student education experience. As previously mentioned, questionnaire construction is a very tedious and complex procedure. The participants need to be engaged with the questions and feel happy answering the questions rather than being pressured into doing them. The final construction of the questionnaire combined multiple resources to ensure the questions were tailored exactly to the participants' interests. Just before the release of the official questionnaire a small segment of three first year students and one second student provided me with some insightful feedback. The details of the feedback can be found within Appendix Eight, the feedback confirmed some of the initial concerns I had with releasing the questionnaire and allowed me to rectify the issues in preparation for the final release. Lastly, Nick Avis reviewed this survey and he provided further feedback on the questionnaire to ensure any problems with clarity of specific questions was addressed. Various initial issues surrounded retrieving the data but the only option was to send it to the reception staff and first year student staff panel members to forward the URL to their course colleagues.

#### **4.3 Approach: Questionnaire Statistical Analysis**

The statistical data retrieved from surveymonkey.com can be easily mapped into an excel files containing for quantitative and qualitative data depending on the question that was being asked within the survey. Each of the 25 questions provided insightful information about the student within first year but there a few in particular that are essential for molding the teaching session next semester. The details retrieved from the School of Computer Science & Informatics Admissions Office revealed that there are currently 132 undergraduate students enrolled within first year and 50 of which participated within my study, giving a 37.8% response rate. Due to the questionnaire being entirely voluntary, there were no compulsory questions asked within the questionnaire to stop participants being put off from answer it. The final total of completed survey was that of 37 (some participants skipped one or more questions) but the initially participant amount was 50.

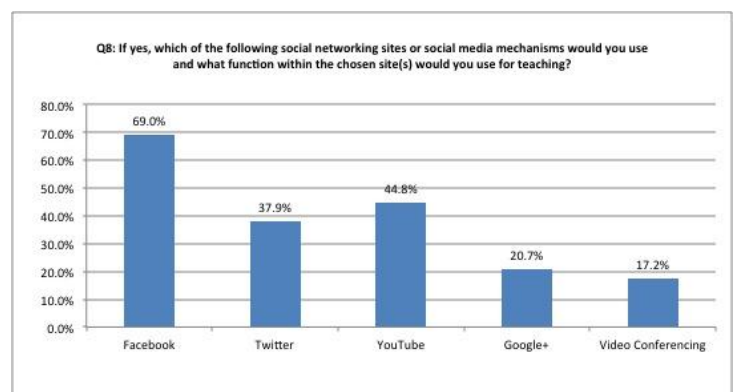
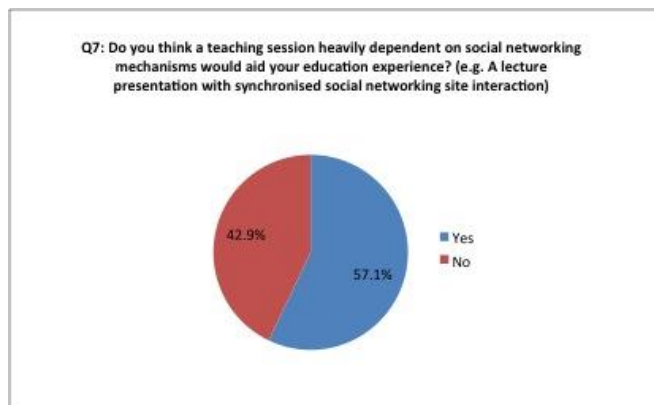
- Social networking mechanisms that the students currently use.
- Preferences of teaching procedures.
- Modules they felt the teaching session could be used within.
- Understanding the majority of learning types within first year.

One major focus of the questionnaire itself was to understand different students' perceived learning styles and if the learning type they thought they were, was actually the correct learning type that could be mapped from my findings. Furthermore, based on understanding your learning style or type it can prove extremely beneficial for understanding a particular student can process the information they are being taught. This method is believed to be part of an individual's professional development. This understanding helps to gain academic, personal and professional advantages in developing a particular student (Ldpride.net, 2008). In terms of academic advantages understanding a particular individual's learning type can be beneficial for maximising that individual's learning capabilities and potential, understand how each individual's learning types can be met by the lecturer's teaching style and overcome any current learning limitations. In addition, this can be advantageous as it assists with building an individual's confidence in a subject if they are clear on how to maximise

their learning capabilities and gain the best possible understanding of the topic. This understanding can help benefit in the long term as the individual can improve their professional development as it assists with being more efficient with particular tasks, improving student confidence, time management skills and learning new skills which would be required in the work place.

The first initial data set that provides rich information to help model the teaching session is that of questions seven and eight. They address the issue of understanding the interest in this type of teaching method within the school and prompts the participants to provide their own personal preference on what they would use within the session. Figure 2 & 3, below displays a pie chart that gives the exact proportion of student social networking site preferences. Alongside this there is a summary of the comments taken from the specific mechanisms within these sites, that the students want to see be used. Furthermore, after further conclusions it was clear that wikis and blogs could have been used within the teaching session.

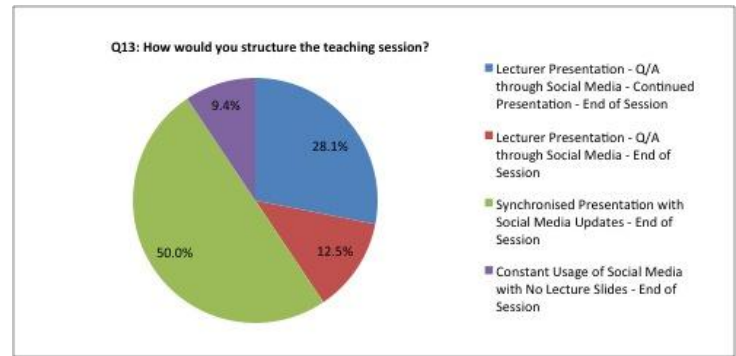
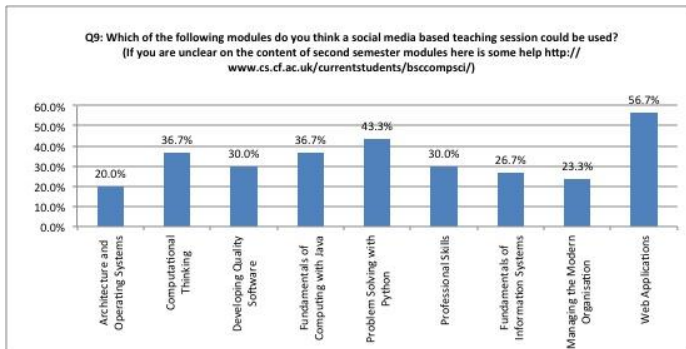
**Figure 2**



**Figure 3**

The second data set that was essential is that of retrieved from questions 9 and 13 as they instruct what modules this session should be used within and the preferences of the layout of the teaching session. The interesting findings within Figure 4 & 5 display vast spread of modules that the first year students think this type of teaching could be used within.

Based on the results from the survey, it was clear that the current modules being undertaken are the modules that the students feel social networking mechanisms work well for teaching. In addition, after removing the redundant data in terms of the current modules, it was obvious that “Fundamentals of Computing with Java” and “Fundamentals of Information Systems” were the two modules that could potentially be used as individual teaching sessions. Alternatively, if only one teaching session was decided on as a joint module for all degree programmes it would be “Professional Skills”. The majority of participants were in favour of using a synchronised presentation with social media updates as this still combines the traditional teaching methods with the new revolutionary social networking site mechanisms. Therefore, based on the results discovered, the project intends to use “Professional Skills” as the module for the teaching plan. The module is taught by Mrs N. Edwards and if she is willing to allow me to produce this teaching session within one of her lectures, I will be working closely with her.



The following figure displays a tag cloud highlighting all the key terms with the frequency of these terms displayed by the size of the font (Tagcrowd, 2012). The model displays the top 40 most frequent words found within the question 10. The data retrieved was in a qualitative format but can be made quantifiable due to the term frequencies. This method proves advantageous due to the ability to highlight the key words retrieved from the comments, the question discusses how beneficial social networking mechanism could be within the module. The words that initially spring to mind are that of “communication”, “group”, “interactive” and “social”. These words are exactly what the proposed teaching session will aim to provide and enhance the student education experience.



One particular data set that was very intriguing was related to question 11 (Figure 7), this question discusses the willingness of student to participant within the teaching session. Initially, many were against the idea with an 80/20 split declining the idea of the teaching session. Furthermore, those figures began to change to 50/50 and then eventually it was split 32.4%/67.6 split; giving just over 30% in favour of actually taking part. The issue surrounds people thinking the method will be beneficial but are not actually willing to take part. Alternatively, it could be because student may find it difficult to find the time to take part due to being late in the semester but hopefully some form of arrange can be made to meet both sets of timetables. The following system will surround incentivising the session and providing further details on why this session is crucial to my project delivery.

Would you be willing to take part in this proposed social media based teaching session?

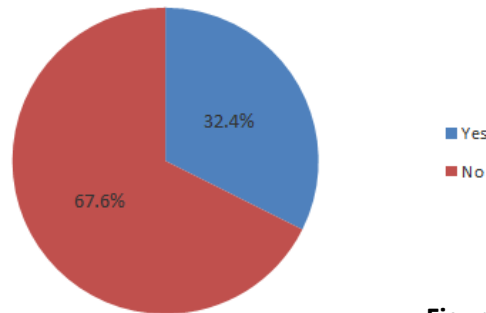


Figure 7

The concept of using social networking mechanisms within a lecture is very interesting aspect as the results from Figure 2 displayed. However, convincing students to participant is the next stage within the development. Currently first year students are unaware of the methods and procedures to be used within the session, with a low interest at this point slightly expected. In addition, as the following semester progresses and the teaching plan becomes finalised, the methods of teaching will become clearer and the interest in participating will hopefully be greater. Moreover, there are believed to be many psychological constraints related to straight forward lecture learning using plain lecture slides and discussion. Biggs J and Tang C (2007c) discuss the problems surrounding lecture learning; they believe a sustained and unchanged level of learning causes concentration levels to decrease and urge lecturers to introduce a short rest period or change of activity every 15-20 minutes to maintain the focus of the students and improve performance. Thus, the introduction of a social networking site assisted teaching session could prove very beneficial in maintaining students' interest, attention and improving lecture interactions.

The another data set that is essential is that of questions 19 and 20 (Figure 8 & 9), they critically reveal the perceived learning type a particular student considers themselves to be and then revealing if the perceived learning type is actually correct. It is an interesting concept because many may be confused on what type of learner they think they are and the data retrieved could model learning sessions to tailor based on the majority learning types as revealed within the study. Moreover, based on the results from the two interlinking questions it displays the fact that the majority of first year students understand what type of learner they actually are. However, the only slight confusion surrounds the difference between auditory and read-write learners which could be deemed as similar but are actually very different learning styles.

Figure 8

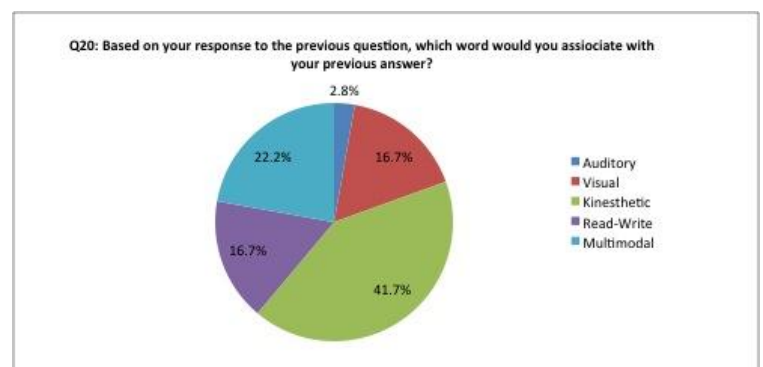
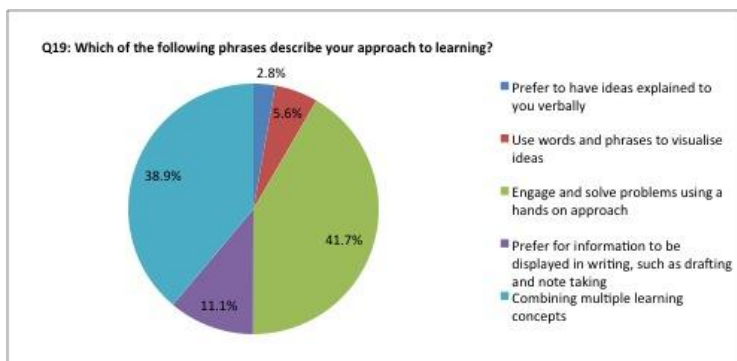
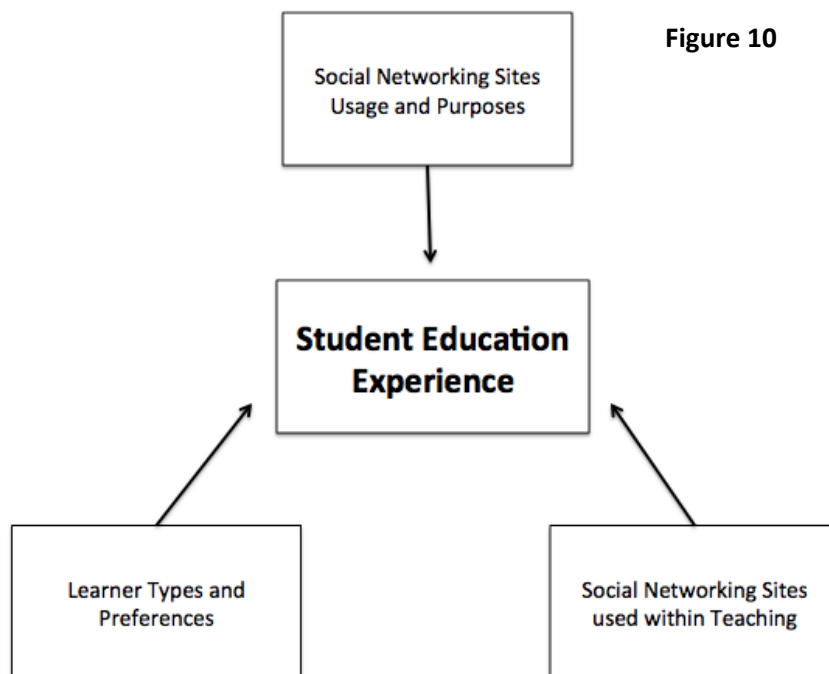


Figure 9

#### **4.4 Approach: Questionnaire Summary of Findings**

The main focus of the questionnaire was formulate the linkage between the methodology set within the project plan to delivering the items within the teaching session in the next semester. The methodology was to discover to different students' learning styles, learning preferences and the usage of ICT within the learning such as social networking sites. Moreover, the crucial aspects which needed to be discovered were that of highlighting the main social networking mechanisms that the students currently use, their preferences of teaching procedures, modules they felt the teaching session could be developed within and applying the data discovered about the learning types to model interactions within the teaching session. Within the student education experience for my study, there are three main variables that contribute to the model (Figure 9). This precisely highlights the main aspects that were taken from the questionnaires and why particular questions were asked to gain insightful data about these topics discussed.



#### 4.5 Approach: Initial Influence Diagram

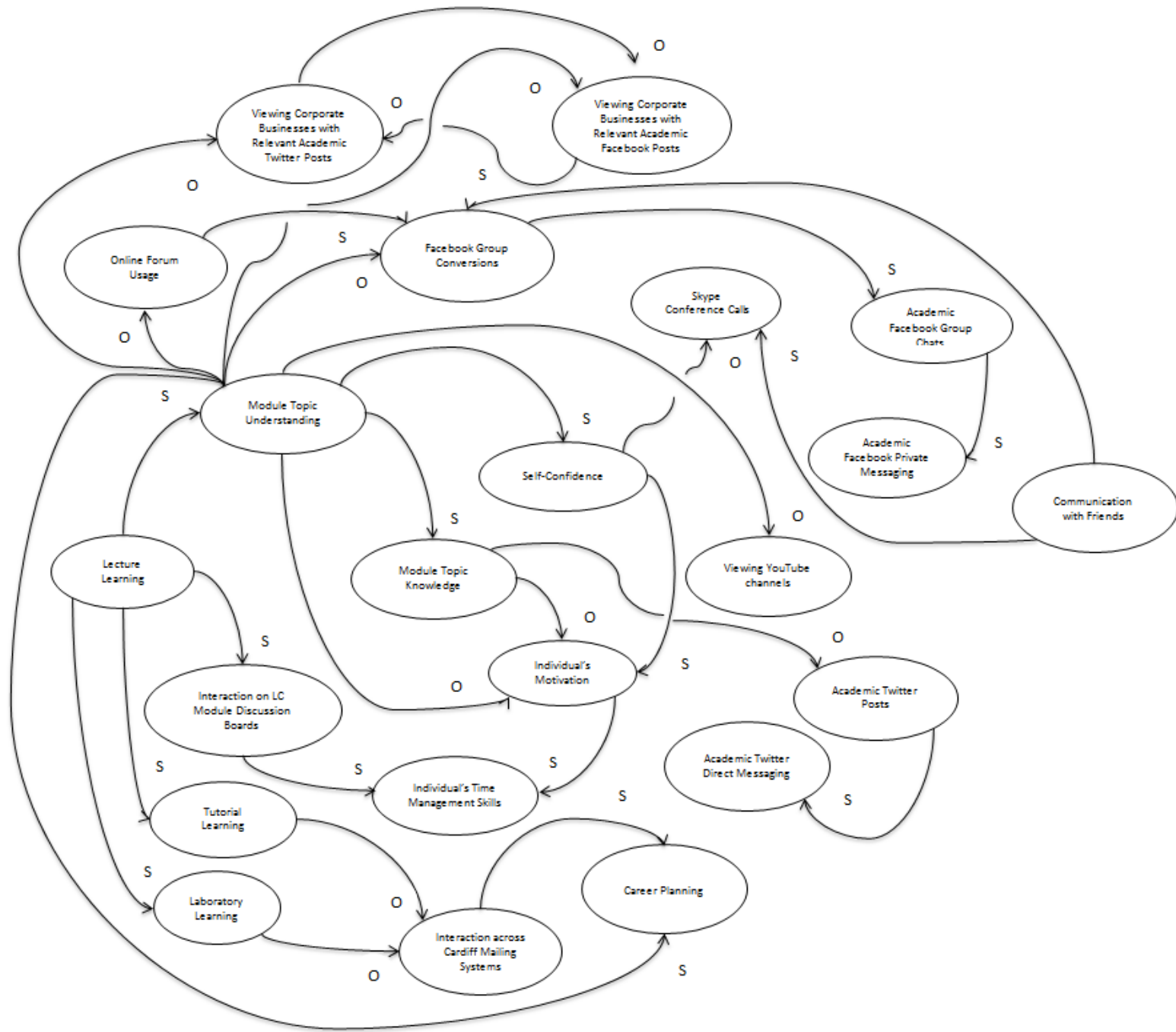


Figure 11



#### **4.6 Approach: Initial Influence Diagram Variables Summary**

Figure 3 shows the influence diagram as a conceptual overview of the current methods of teaching provided by the School of Computer Science & Informatics based on conventional methods and the unconventional methods of using social media mechanisms by both lecturers and students. Based on the interpretations from the questionnaire sent out to first years and my own previous experiences with learning, figure 3 assists with understanding the learning process in a visual sense. The core functions of learning are surrounded with attending lectures on a particular module to gain the understanding of that topic. This allows the student to build on any platform domain knowledge and expand on it through using tutorials and laboratories on that module. Based on the findings retrieved from the questionnaire, Facebook, Twitter, and YouTube are the main social media mechanisms used by first year students to understand topics if they are unclear on lecture content or any details being taught within any teaching session. Moreover, if the current understanding is still not clear at this point, consultation with tutors or lecturers will assist resolve a current that is unclear or point the student in the direction of useful physical books or online resources.

Student Learning Process within the School of Computer Science & Informatics Variables:

- (1) Module Topic Knowledge
- (2) Module Topic Understanding
- (3) Individual's Motivation
- (4) Self-Confidence
- (5) Viewing YouTube channels
- (6) Skype Conference Calls
- (7) Academic Facebook Private Messaging
- (8) Academic Facebook Group Chats
- (9) Communication with Friends
- (10) Academic Twitter Posts
- (11) Academic Twitter Direct Messaging
- (12) Career Planning
- (13) Individual's Time Management Skills
- (14) Interaction across Cardiff Mailing Systems
- (15) Laboratory Learning
- (16) Tutorial Learning
- (17) Interaction on LC Module Discussion Boards
- (18) Lecture Learning
- (19) Online Forum Usage
- (20) Viewing Corporate Businesses with Relevant Academic Twitter Posts
- (21) Facebook Group Conversions
- (22) Viewing Corporate Businesses with Relevant Academic Facebook Posts

As the influence diagram is refined during the next semester, the explanation of the different interlinking factors will be fully examined and reinforced using the external research and data analysis from my questionnaires.

## **5.0 Conclusion**

This semester has proved very successful in terms of achieving the intended project plans based on the initial outset. Difficulties rose when distributing the questionnaires as expected and also the construction which proved to take longer than initially expected. This problem caused a reshuffle in terms of the deadlines towards the latter stages of the semester. In addition, good time management and shifting tasks allowed all the planned work to be produced in time.

In terms of my project expectations at this point, it was expected that a greater interest in the proposed teaching session would have been shown but as mentioned previously there are a vast range of potential reasons why this was case. This particular aspect was the most intriguing as it formulates the basis of my final project deliverable and responses fluctuated over the three week window of the questionnaire being available to be completed. A potential preview of the teaching session will be available in the next semester based on the data gathered from questionnaire and future focus groups from the interested participants. This will clarify any areas of the proposed session that non-interested questionnaire participants may have been unclear about and potentially increase the interest in the session. In addition, there has been an indication that this type of method would be appealing to second years as well which provides a secondary evaluation of this teaching session if the first session results are inconclusive.

The platform for designing the teaching session and building a finalised influence diagram is now in place, this can be backed up through the use of survey data displaying the teaching preferences and learner styles. The project still aims stay on course with the project plan but may require additional tasks e.g. focus groups, which were not indicated with the original submitted project plan. As an overview, the following list displays the intended plan for the next semester:

- Finalising the influence diagram and explanation of factors.
- Constructing focus groups based on the interested participants from the previous questionnaire.
- Contacting the lecturer and designing the teaching plan.
- Designing the post-session questionnaire much more basic procedure compared to the first semester method.
- Delivering both the teaching plan and post-session questionnaire, followed by analysis of both afterwards.

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## **7.0 Appendices**

See attached Appendices containing the following documents:

- Appendix One: Ethics Email
- Appendix Two: Initial Questionnaire
- Appendix Three: Initial Pre-test Questionnaire
- Appendix Four: Trial Questionnaire Results
- Appendix Five: Questionnaire Responses Part A & B
- Appendix Six: Final Questionnaire 1.0
- Appendix Seven: Final Questionnaire 2.0
- Appendix Eight: Questionnaire 2.0 Feedback
- Appendix Nine: Final Questionnaire Released
- Appendix Ten: Questionnaire Data Retrieval Count Summary

## **8.0 Glossary**

### **A**

- Auditory Learner – A learner who prefers to have ideas explained verbally or revising my speaking topics aloud and constantly repeating the process.

### **B**

- Bipolar Questions – Based on a seven point scale containing a wide range of answers from a two ended scale with a middle point. e.g. Much too long to About right to Much too short.

### **C**

### **D**

- Deep Approach – Applying a heavy theoretical understanding to complete an intend tasks, going beyond the required amount of effort to understand the concept due an interest in the domain or wanting to achieve a great rewards from the task.

### **E**

### **F**

### **G**

### **H**

- High-Level Engagement – The process of theorising, applying and relating to understand concepts being taught and using a strong application of knowledge to fully understand all aspects.

### **I**

- Influence Diagram – A conceptual model that displays individual variables that relate to a main concept, it includes interrelationships to show inverse and adverse effects on particular variables. Associated with the concept of system dynamics.

### **J**

### **K**

- Kinesthetic Learner – A learner who is engages with problem solving using a hands on approach through practical sessions.

### **L**

- Low-Level Engagement – The process of using describing, note taking and memorising on a small scale to adequately understand topics but not applying great detail to fully understand the ideas being taught.

### **M**

- Multi-Modal Learner – A learner who combines multiple learning concepts and types.

### **N**

### **O**

### **P**

### **Q**

### **R**

- Read-Write Learner – A learner who prefers information to be displayed in writing, such as drafting and note taking. Takes notes and learns from repetition of note taking.

### **S**

- Surface Approach – Applying a minimal amount of effort to the task required to achieve a basic pass for completing a task.

## **T**

- Tag Cloud – A visualisation method of metadata associated with the importance or frequency of each word being displayed in a larger font size.
- Teaching Session – A learning sessions that can be in the form of lectures, tutorials or laboratory classes. For this instance, based on a lecture format.

## **U**

- Unipolar Questions - Based on a five point scale containing a spectrum of answers e.g. Extremely helpful to Not at all helpful

## **V**

- Visual Learner – A learner who uses words and phrases to visualise ideas being taught.

## **W**

## **X**

## **Y**

## **Z**

### **Appendix One: Ethics Email**

Dear Professor N.J. Avis,

I am third year student studying Information Systems and I am currently producing my initial research for my final year project. As part of my project I need to conduct a research questionnaire with my chosen segment being that of year one students. I have been informed by Professor R.M. Whitaker that you are the ethics officer for the school and any documents that need to be released to the students have to be passed by you. I have attached the URL link to my survey which is stored on SurveyMonkey.com and was wondering if you could have a glance over the questions to decide if you feel the questionnaire can be released. If there are any questions you feel are too personal and should not be asked, I can remove them or use another question to enable the go ahead with the study.

Kind regards

Sam Boyes

---

Professor N.J. Avis Response:

“Your questionnaire might have some additional info I have not seen to introduce it – but you need to give some more context at the top of the survey

You also need to give a statement about how the information will be used (and what will happen to it) – will you share it with anyone, be used as part of a publication etc etc

You should reinforce the fact that participation in the survey is voluntary

Q1 – why do you need to know the sex of the responder ? – what part of your hypothesis does this information support ? – I would suggest that this is removed if not needed

Q3 – having an account does not equate to usage - what are you trying to establish here ?

Q4 – you will not be able to relate this to the answer to Q3 – why only one ???

Q6 is subjective – my understanding of a little too often will not be comparable with others – this could be made objective and then perhaps ask this subjective question to gauge different peoples interpretation of the terms

Q8 – do you think people will be able to imagine what such a session would be like – perhaps they need more guidance

Q10 – will all people know about all these modules – are some taken by more degree programmes than others

Q14 – some minor editing issues – “End”

Q15 – add word “brief”

Q18 – I am not clear what “similar to the one being proposed” really is – I think people will interpret this very differently – and surely Q19 reveals this lack of clarity further

Q22- not sure that people will be able to interpret these terms”



## Appendix Two: Initial Questionnaire

### FYP - To What Extent do Social Networking Sites enhance the Student Education Experience Part A

1. Are you male or female?

☐ Male

☐ Female

2. What degree scheme are you currently studying? (If studying BSc Joint Honours Computing & Mathematics please do not complete this questionnaire)

☐ BSc Business Information Systems

☐ BSc Computer Science with Security and Forensics

☐ BSc Software Engineering

☐ BSc Computer Science

☐ BSc Computer Science with Visual Computing

☐ BSc Computer Science with High Performance Computing

☐ BSc Computer Systems Engineering

3. On average how many hours per week do you spend in lectures?

☐ 10-15 Hours

☐ 21-25 Hours

☐ 16-20 Hours

☐ 25+ Hours

4. On average how many hours per week do you spend in tutorials?

☐ 2-4 Hours

☐ 8-10 Hours

☐ 5-7 Hours

☐ 10+ Hours

5. On average how many hours per week do you spend in scheduled teaching laboratories?

☐ 2-4 Hours

☐ 8-10 Hours

☐ 5-7 Hours

☐ 10+ Hours

6. Which of the following social networking sites or social media mechanisms do you currently have an account with?

☐ Facebook

☐ Google+

☐ None of the Above

☐ Twitter

☐ Skype

☐ LinkedIn

☐ YouTube

Other (please specify)

7. How often does the School of Computer Science & Informatics use these mechanisms as a teaching aid?

☐ Too Much

☐ About right

☐ Much too little

☐ Somewhat too often

☐ Too little

☐ A little too often

☐ Somewhat too little

8. How beneficial have the Facebook discussion groups been in your education experience so far?

☐ Extremely beneficial

☐ Slightly beneficial

☐ Very beneficial

☐ Not at all beneficial

☐ Somewhat beneficial

9. Do you think a unique teaching session heavily dependent on social networking mechanisms would aid your education experience?

☐ Yes

☐ No

10. If yes, which of the following social networking sites would you use and what function within the chosen site or sites would you use for teaching?

☐ Facebook

☐ YouTube

☐ Twitter

☐ Google+

please specify the mechanism

Done

1. What type of learner would you consider yourself to be?

☐ Auditory

☐ Visual

☐ Kinesthetic

☐ Read-Write

2. Which of the following modules do you think this teaching session could be used within?

☐ Architecture and Operating Systems

☐ Problem Solving with Python

☐ Web Applications

☐ Computational Thinking

☐ Professional Skills

☐ Introduction to Java

☐ Developing Quality Software

☐ Fundamentals of Information Systems

☐ Introduction to Computational Thinking

☐ Fundamentals of Computing with Java

☐ Managing the Modern Organisation

3. For the module(s) that you have selected, why do you feel social networking mechanisms would be beneficial to the teaching session?

4. Are there any lecturers within the school you feel would embrace the idea?

5. Are there any modules that you are currently undertaking which use Facebook discussion groups rather than posting relevant material to Learning Central?

☐ Yes

☐ No

6. If yes, which module(s) are currently using these mechanisms and who is the lecturer?

7. Would you be willing to take part in this proposed teaching session?

☐ Yes

☐ No

8. If yes, would you prefer to keep your interactions within the session anonymous or would you prefer to use your own personal social networking site account?

☐ Anonymous Account

☐ Personal Account

9. Do you feel this type of teaching method would encourage more students to be involved in group discussions?

☐ Yes

☐ No

10. Depending on your response, why do you think that?

Done

## Appendix Three: Initial Pre-test Questionnaire

### FYP - Pretest Questionnaire Review

1. Are you male or female?

☐ Male

☐ Female

2. Did you find the questionnaire engaging?

☐ Yes

☐ No

3. Depending on your response to the previous question, why did you give the that answer and please expand with any necessary comments?

4. Was there a particular question that lacked focus or you did not understand?

☐ Yes

☐ No

5. If yes, which question was problematic (e.g. S1Q6) and what was the issue?

6. Did you find the questionnaire was of an adequate length?

☐ Yes

☐ No

7. If no, what was wrong with the length of the questionnaire and would you include more or less questions? (Please state your chosen total number of questions)

8. Did you feel there was a missing question or subject that should have been asked?

☐ Yes

☐ No

9. If yes, what other question(s) would you have asked?

10. Do you think i should propose an incentive to complete the questionnaire (e.g. some of form prize) and do you think it would gain a better response from the students within year one?

Done

Powered by [SurveyMonkey](#)  
Check out our [sample surveys](#) and create your own now!

## **Appendix Four: Trial Questionnaire Results**

### **1. Are you male or female?**

Responses: Male (3) Female (2)

### **2. Did you find the questionnaire engaging?**

Responses: Yes (5) No (0)

### **3. Depending on your response to the previous question, why did you give the that answer and please expand with any necessary comments?**

Response 1: "I think there was an extensive range of questions and enough extra space to comment to allow students to expand on ideas and really provide detail or feedback they would want to. (without forcing them to if they didn't)"

Response 2: "Lots of questions were good as follow ups to previous ones"

Response 3: "It was all familiar to me, and I felt knowledgeable when answering the questions"

Response 4: "Made me think of my answers more in depth"

### **4. Was there a particular question that lacked focus or you did not understand?**

Responses: Yes (2) No (3)

### **5. If yes, which question was problematic (e.g. S1Q6) and what was the issue?**

Response 1: "S1Q4 - perhaps offer an option for not spending any time in tutorials as they might not have any S1Q5 - again same as above, offer a zero hour option if they don't have any S2Q1 - student might not be aware of what type of learner they are. You could either send them to this site (<http://www.vark-learn.com/english/page.asp?p=questionnaire>) to find out or perhaps provide some extra details about what each of the learning styles are? S2Q2 - The way the question is worded is a little confusing, you might want to reiterate that its a social media based teaching session. Also in this one you had Computational Thinking and Introduction to Computational thinking as options they are the same. Also is fundamentals of computing with Java and Introduction to Java the same too? I'm not sure. S2Q4 - For this question might be an idea to list the lecturers (or at least the common ones) as tick box options and then have an other box for more simply as the students might not know all the lecturers or want to write a list. S2Q7 - Again might be worth reiterating that the teaching session is a social media based one, just in case students forget, makes it more explicit for them"

Response 2: "S1Q7 , S2Q4"

### **6. Did you find the questionnaire was of an adequate length?**

Responses: Yes (5) No (0)

**7. If no, what was wrong with the length of the questionnaire and would you include more or less questions? (Please state your chosen total number of questions)**

Responses: Comment Box with no comments as question 6 was satisfied

**8. Did you feel there was a missing question or subject that should have been asked?**

Responses: Yes (2) No (3)

**9. If yes, what other question(s) would you have asked?**

Response 1: "After S1Q8 perhaps you could ask why its been useful and how students have used it?"

Response 2: "Second year modules?"

**10. Do you think i should propose an incentive to complete the questionnaire (e.g. some of form prize) and do you think it would gain a better response from the students within year one?**

Response 1: "I think it would better to do a trial run of the questionnaire see how many responses you got back first and then if there wasn't enough offer an incentive"

Response 2: "No"

Response 3: "Yes"

Response 4: "Get put into a prize draw to win a massive bar of chocolate. Smart people eat chocolate"

Response 5: "No mate think it should be fine"

**General Comments and Feedback**

"Q9 of A doesnt make sense to me. q6 of A i dont think you need none of the above if you're giving them the option to put anything. q1 of B, might actually give a link to an online test for them to find out what learner they are if they have no clue what type they are. q2 of B are teaching session tutorials? if so i'd stick to using the word tutorials as this is what we're used to. q4 of B, the idea of what? i know you're repeating things but you have to for some people as they'll have no clue what youre asking. q6 of B dont know if survey monkey allows you to do this but maybe give a drop down menu or a choice of modules and lecturers for them to choose from. q10 of B, re word the question as everything else is formal and that is informal. also maybe give a small short paragraph at the top of the questionnaire to explain why you're asking this. q3 of the last questionnaire "depending on your response to q2" not the previous question. q6. did you find the questionnaire of an adequate length. you dont need the was"

## **Appendix Five: Questionnaire Responses Part A & B**

### **1. Are you male or female?**

Responses: Male (3) Female (1)

### **2. What degree scheme are you currently studying? (If studying BSc Joint Honours Computing & Mathematics please do not complete this questionnaire)**

Responses: BSc Business Information Systems (5) BSc Computer Science (0) BSc Computer Science with High Performance Computing (0) BSc Computer Science with Security and Forensics (0) BSc Computer Science with Visual Computing (0) BSc Computer Systems Engineering (0) BSc Software Engineering (0)

### **3. On average how many hours per week do you spend in lectures?**

Responses: 10-15 Hours (5) 16-20 Hours (0) 21-25 Hours (0) 25+ Hours (0)

### **4. On average how many hours per week do you spend in tutorials?**

Responses: 2-4 Hours (5) 5-7 Hours (0) 8-10 Hours (0) 10+ Hours (0)

### **5. On average how many hours per week do you spend in scheduled teaching laboratories?**

Responses: 2-4 Hours (4) 5-7 Hours (0) 8-10 Hours (1) 10+ Hours (0)

### **6. Which of the following social networking sites or social media mechanisms do you currently have an account with?**

Responses: Facebook (5) Twitter (5) LinkedIn (3) Google+ (2) Skype (3) YouTube (3)

### **7. How often does the School of Computer Science & Informatics use these mechanisms as a teaching aid?**

Responses: Too Much (0) Somewhat too often (0) A little too often (0) About right (0) Too little (2) Somewhat too little (0) Much too little (3)

### **8. How beneficial have the Facebook discussion groups been in your education experience so far?**

Responses: Extremely beneficial (1) Very beneficial (1) Somewhat beneficial (2) Slightly beneficial (1) Not at all beneficial (0)

### **9. Do you think a unique teaching session heavily dependent on social networking mechanisms would aid your education experience?**

Responses: Yes (3) No (2)

**10. If yes, which of the following social networking sites would you use and what function within the chosen site or sites would you use for teaching?**

Responses: Facebook (2) Twitter (3) YouTube (1) Google+ (0)

Other responses: "Facebook groups are an excellent way of starting class discussions, doing polls and provided extra information and links to sites that students might helpful. Twitter can be used to give live up dates on current news that are relevant to the course. Youtube can be used as a teaching aid to find tutorials or videos that help explain a subject area or reinforce a point"

"tweets"

**1. What type of learner would you consider yourself to be?**

Responses: Auditory (1) Visual (1) Kinesthetic (1) Read-Write (2)

**2. Which of the following modules do you think this teaching session could be used within?**

Responses: Architecture and Operating Systems (1) Computational Thinking (3) Developing Quality Software (2) Fundamentals of Computing with Java (1) Problem Solving with Python (4) Professional Skills (3) Fundamentals of Information Systems (1) Managing the Modern Organisation (3) Web Applications (3) Introduction to Java (1) Introduction to Computational Thinking (3)

**3. For the module(s) that you have selected, why do you feel social networking mechanisms would be beneficial to the teaching session?**

Responses: "Beneficial to 1st years using Facebook and Twitter as they are comfortable with them"

"I think any module is able to incorporate social media into their teaching be it either in a very specific teaching session or through adding to a teaching session through quick quizzes, regular posts with information to the day and adding links to other resources that can be found online. Also the use of chat systems allows conversations and discussions to be occurring while students are learning allowing for collaborative learning and the building of knowledge."

"More immediate interaction with lecturers. Students can see the answer to a question asked by another student."

"Breaks the teacher/student barrier. Communication can be more social and focused."

"Maybe less time needed in lectures"

**4. Are there any lecturers within the school you feel would embrace the idea?**

Responses: "Yes"

"I feel that vast majority of the lecturers we have come across would readily embrace the use of social media in their lectures if explicitly told to."

"Irena Spasic, kirill sidorov, matt Morgan, Alun preece, roger Whitaker"

"Irena"

"Irena Spasic and Matt Morgan"

**5. Are there any modules that you are currently undertaking which use Facebook discussion groups rather than posting relevant material to Learning Central?**

Responses: Yes (1) No (4)

**6. If yes, which module(s) are currently using these mechanisms and who is the lecturer?**

Responses: "Not this year but in second year Irena Spasic used Facebook to add extra material for her course"

**7. Would you be willing to take part in this proposed teaching session?**

Responses: Yes (4) No (1)

**8. If yes, would you prefer to keep your interactions within the session anonymous or would you prefer to use your own personal social networking site account?**

Responses: Anonymous Account (2) Personal Account (2)

**9. Do you feel this type of teaching method would encourage more students to be involved in group discussions?**

Responses: Yes (5) No (0)

**10. Depending on your response, why do you think that?**

Responses: "some students are not comfortable speaking in a group and would be more prepared to do so online"

"I think students would feel more confident and able to participate using these tools than in a class room where they may feel shy. People tend to be more talkative and involved online than in face-to-face situations. It would also allow for the ones who are less vocal to contribute and interact more"

"It's a more familiar environment, often students are too shy to speak up in class"

"Students might feel more at ease and be able to communicate better when they aren't in front of other pupils. Facebook discussion groups mean that anyone can communicate from anywhere as long as they have a facebook account and an internet connection."

"Because they can be anonymous means that they may feel more comfortable participating with group discussions."



## Appendix Six: Final Questionnaire 1.0

### FYP - To What Extent do Social Networking Sites enhance the Student Education Experience Part A

I am a third year Information Systems student, producing my final year project researching the area of using social networking sites to enhance the student education experience. I would really appreciate if you could spend five minutes completing my questionnaire as it would extremely beneficial in my project development. Thank you

#### 1. Are you male or female?

- ☐ Male ☐ Female

#### 2. What degree scheme are you currently studying? (If studying BSc Joint Honours Computing & Mathematics please do not complete this questionnaire)

- ☐ BSc Business Information Systems ☐ BSc Computer Science with Security and Forensics ☐ BSc Software Engineering  
☐ BSc Computer Science ☐ BSc Computer Science with Visual Computing  
☐ BSc Computer Science with High Performance Computing ☐ BSc Computer Systems Engineering

#### 3. On average how many hours per week do you spend in lectures?

- ☐ 10-15 Hours ☐ 21-25 Hours  
☐ 16-20 Hours ☐ 25+ Hours

#### 4. On average how many hours per week do you spend in tutorials?

- ☐ 2-4 Hours ☐ 10+ Hours  
☐ 5-7 Hours ☐ None  
☐ 8-10 Hours

#### 5. On average how many hours per week do you spend in scheduled teaching laboratories?

- ☐ 2-4 Hours ☐ 10+ Hours  
☐ 5-7 Hours ☐ None  
☐ 8-10 Hours

#### 6. Which of the following social networking sites or social media mechanisms do you currently have an account with?

- ☐ Facebook ☐ Google+ ☐ None of the Above  
☐ Twitter ☐ Skype  
☐ LinkedIn ☐ YouTube

Other (please specify)

#### 7. How often does the School of Computer Science & Informatics use these mechanisms as a teaching aid?

- ☐ Too Much ☐ About right ☐ Much too little  
☐ Somewhat too often ☐ Too little  
☐ A little too often ☐ Somewhat too little

#### 8. How beneficial have the Facebook discussion groups been in your education experience so far?

- ☐ Extremely beneficial ☐ Slightly beneficial  
☐ Very beneficial ☐ Not at all beneficial  
☐ Somewhat beneficial

#### 9. Do you think a teaching session heavily dependent on social networking mechanisms would aid your education experience?

- ☐ Yes ☐ No

#### 10. If yes, which of the following social networking sites would you use and what function within the chosen site or sites would you use for teaching?

- ☐ Facebook ☐ YouTube  
☐ Twitter ☐ Google+

please specify the mechanism

**1. What type of learner would you consider yourself to be? (Use <http://www.vark-learn.com/english/page.asp?p=questionnaire> to discover your learning type, if you are not already aware)**

- ☐ Auditory
 ☐ Visual
 ☐ Kinesthetic
 ☐ Read-Write

**2. Which of the following modules do you think a social media based teaching session could be used?**

- |  |  |   |
|--|--|---|
| <input type="checkbox"/> Architecture and Operating Systems  | <input type="checkbox"/> Problem Solving with Python         | <input type="checkbox"/> Web Applications                       |
| <input type="checkbox"/> Computational Thinking              | <input type="checkbox"/> Professional Skills                 | <input type="checkbox"/> Introduction to Java                   |
| <input type="checkbox"/> Developing Quality Software         | <input type="checkbox"/> Fundamentals of Information Systems | <input type="checkbox"/> Introduction to Computational Thinking |
| <input type="checkbox"/> Fundamentals of Computing with Java | <input type="checkbox"/> Managing the Modern Organisation    |   |

**3. For the module(s) that you have selected, why do you feel social networking mechanisms would be beneficial to the teaching session?**

**4. Are there any lecturers within the school you feel would embrace the idea of a social media based teaching session?**

**5. Are there any modules that you are currently undertaking which use Facebook discussion groups rather than posting relevant material to Learning Central?**

- ☐ Yes
 ☐ No

**6. If yes, which module(s) are currently using these mechanisms and who is the lecturer?**

**7. Would you be willing to take part in this proposed social media based teaching session?**

- ☐ Yes
 ☐ No

**8. If yes, would you prefer to keep your interactions within the session to be anonymous or would you prefer to use your own personal social networking site account?**

- ☐ Anonymous Account
 ☐ Personal Account

**9. Do you feel this type of teaching method would encourage more students to be involved in group discussions?**

- ☐ Yes
 ☐ No

**10. Based on your response to the previous question, why do you think this type of teaching method would encourage students to be more involved in group discussions?**

1. Have you heard of any other teaching sessions outside of the School of Computer Science & Informatics that is similar to the one being proposed?

☐ Yes

☐ No

2. If yes to the previous question, what types of social networking mechanisms did they use within this session and how successful was the session overall?

\* 3. If this type of teaching session is successful, do you think it could have the potential to roll out to more than just the chosen module it is being used within?

4. How would you structure the teaching session?

☐ Lecturer Presentation - Q/A through Social Media - Continued Presentation - End

☐ Lecturer Presentation - Q/A through Social Media - End

☐ Synchronised Presentation with Social Media Updates - End

☐ Constant Usage of Social Media with No Lecture Slides - End

5. Would you be willing to complete a post-session questionnaire after undertaking the teaching session?

☐ Yes

☐ No

## Appendix Seven: Final Questionnaire 2.0

### FYP - To What Extent do Social Networking Sites enhance the Student Education Experience?

I am a third year Information Systems student, producing my final year project researching the area of using social networking sites to enhance the student education experience. I would really appreciate if you could spend five minutes completing my questionnaire as it would be extremely beneficial in my project development. Thank you!

#### 1. Are you male or female?

☐ Male

☐ Female

#### 2. What degree scheme are you currently studying? (If studying BSc Joint Honours Computing & Mathematics please do not complete this questionnaire)

☐ BSc Business Information Systems

☐ BSc Computer Science with Security and Forensics

☐ BSc Software Engineering

☐ BSc Computer Science

☐ BSc Computer Science with Visual Computing

☐ BSc Computer Science with High Performance Computing

☐ BSc Computer Systems Engineering

#### 3. Which of the following social networking sites or social media mechanisms do you currently have an account with?

☐ Facebook

☐ Google+

☐ None of the Above

☐ Twitter

☐ Skype

☐ LinkedIn

☐ YouTube

Other (please specify)

#### 4. On average, how many hours per day do you spend on one of these social networking sites?

☐ No Social Networking Site Account

☐ 1-3 hours per day

☐ 7-9 hours per day

☐ Less than one hour per day

☐ 4-6 hours per day

☐ 10+ hours per day

#### 5. For what purpose(s) do you check your social networking account?

☐ No Social Networking Site Account

☐ Education Interaction

☐ Communicating with Friends

☐ Career Planning

Other (please specify)

#### 6. How often does the School of Computer Science & Informatics use these mechanisms as a teaching aid?

☐ Too Much

☐ About right

☐ Much too little

☐ Somewhat too often

☐ Too little

☐ A little too often

☐ Somewhat too little

#### 7. How beneficial have the Facebook discussion groups been in your education experience so far?

☐ Extremely beneficial

☐ Slightly beneficial

☐ Very beneficial

☐ Not at all beneficial

☐ Somewhat beneficial

What course aspect was addressed?

#### 8. Do you think a teaching session heavily dependent on social networking mechanisms would aid your education experience?

☐ Yes

☐ No

#### 9. If yes, which of the following social networking sites would you use and what function within the chosen site or sites would you use for teaching?

☐ Facebook

☐ YouTube

☐ Twitter

☐ Google+

please specify the mechanism:

Next

## FYP - To What Extent do Social Networking Sites enhance the Student Education Experience?

10. Which of the following modules do you think a social media based teaching session could be used?

- |   |  |  |
|---|--|--|
| <input type="checkbox"/> Architecture and Operating Systems | <input type="checkbox"/> Fundamentals of Computing with Java | <input type="checkbox"/> Fundamentals of Information Systems |
| <input type="checkbox"/> Computational Thinking             | <input type="checkbox"/> Problem Solving with Python         | <input type="checkbox"/> Managing the Modern Organisation    |
| <input type="checkbox"/> Developing Quality Software        | <input type="checkbox"/> Professional Skills                 | <input type="checkbox"/> Web Applications                    |

11. For the module(s) that you have selected, why do you feel social networking mechanisms would be beneficial to the teaching session?

12. Would you be willing to take part in this proposed social media based teaching session?

- ☐ Yes ☐ No

13. If yes, would you prefer to keep your interactions within the session to be anonymous or would you prefer to use your own personal social networking site account?

- ☐ Anonymous Account ☐ Personal Account

14. How would you structure the teaching session?

- ☐ Lecturer Presentation - Q/A through Social Media - Continued Presentation - End
- ☐ Lecturer Presentation - Q/A through Social Media - End
- ☐ Synchronised Presentation with Social Media Updates - End
- ☐ Constant Usage of Social Media with No Lecture Slides - End

Other (please specify)

15. Would you be willing to complete a post-session questionnaire after undertaking the teaching session?

- ☐ Yes ☐ No

16. Do you feel this type of teaching method would encourage more students to be involved in group discussions?

- ☐ Yes ☐ No

17. Based on your response to the previous question, why do you think this type of teaching method would encourage students to be more involved in group discussions?

18. Have you heard of any other teaching sessions outside of the School of Computer Science & Informatics that is similar to the one being proposed?

- ☐ Yes ☐ No

19. If yes to the previous question, what types of social networking mechanisms did they use within this session and how successful was the session overall?

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20. Which of the following phrases describe your approach to learning?

- ☐ Prefer to have ideas explained to you verbally
- ☐ Use words and phrases to visualise ideas
- ☐ Engage and solve problems using a hands on approach
- ☐ Prefer for information to be displayed in writing, such as drafting and note taking
- ☐ Combining multiple learning concepts

21. Based on your response to the previous question, which word would you associate with your previous answer?

- ☐ Auditory ☐ Visual ☐ Kinesthetic ☐ Read-Write ☐ Multimodal

22. When analysing lectures, completing coursework or even preparing for an exam, which type of approach do you take?

- ☐ Light Approach ☐ Moderate Approach ☐ Heavy Approach

23. Based on your response to the previous question, how would you define the chosen approach?

24. Which of the following words describe your personal learning method?

- ☐ Theorising ☐ Explaining ☐ Memorising
- ☐ Applying ☐ Describing
- ☐ Relating ☐ Note Taking

25. Do you prefer a lecturer who?

- ☐ Uses Demonstrations, Models or Practical Sessions
- ☐ Question and Answer Session, Talk or Guest Speakers
- ☐ Diagrams, Charts or Graphs
- ☐ Lecture Slides, Handouts or Readings
- ☐ Combination of all the Methods Above

Other (please specify)

26. When you are completing a lab exercise do you?

- ☐ Follow the Instructions Set by the Lab Supervisor
- ☐ Ask Questions about the Guide
- ☐ Search for Online Resources rather than the Lab Guide
- ☐ Combination of all the Methods Above

Other (please specify)

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Done

## **Appendix Eight: Questionnaire 2.0 Feedback**

“Right, looks really great. Pretty straight forward and covers most areas. If you can shorten it, I would. It's not overly long but I'm just concerned people might just be giving you crap answers by the 3rd page just for it to end. If possible, let people know it's only 3 pages so they're not wondering how much longer it'll go on for. With questions 21 and 22, maybe give an explanation of each of the terms to avoid any ambiguity. Either in your own words or using a link to an external site. Other than that, looks great”

### **Elliot Howells, 2<sup>nd</sup> Year Information Systems Student**

“For question 10, I don't know how we'd know if social networking would work for modules we haven't even started or have seen what's on them. Also, just wondering if there's a way you could limit the amount of questions relating to the social media session, and just ask for an email or something if people were interested. I'd be up for doing it, I just think you could have a yes/no then a comment box after it with your email..then nearer the time send out some kind of specific survey or some information then”

### **Matthew Rhys Jones, 1<sup>st</sup> Year Computer Science with Forensics and Security Student**

“Well the length is good, enough to keep it engaging because I think anything more than 3 pages just makes me lose interest. One thing at the start I did notice is there is an option 'none of the above' when the options aren't actually above... if that makes sense. As a whole it's a good questionnaire”

### **Kieran Flay, 1<sup>st</sup> Computer Science (With a Year in Industry) Student**

“yer seems alright. would be nice to know how many questions it is at the beginning so you dont quit thinking it goes on for ages”

### **Aled Phillips, 1<sup>st</sup> Computer Science Student**

## Appendix Nine: Final Questionnaire Released

### FYP - To What Extent do Social Networking Sites enhance the Student Education Experience?

I am a third year Information Systems student, producing my final year project researching the area of using social networking sites to enhance the student education experience. The data retrieved from this survey will assist the project development by understanding each individual participant's learning style, preferences of teaching and social networking site interaction. I would really appreciate if you could spend five minutes completing my questionnaire as it would be extremely beneficial in my project development.

The questionnaire covers 25 concise questions across 3 different pages.

Your participation in the survey is voluntary, all the data collected will only be used within my project and not handed over to any external people or companies.

Thank you!

#### 1. Are you male or female?

☐ Male

☐ Female

#### 2. What degree scheme are you currently studying? (If studying BSc Joint Honours Computing & Mathematics please do not complete this questionnaire)

☐ BSc Business Information Systems

☐ BSc Computer Science with Security and Forensics

☐ BSc Software Engineering

☐ BSc Computer Science

☐ BSc Computer Science with Visual Computing

☐ BSc Computer Science with High Performance Computing

☐ BSc Computer Systems Engineering

#### 3. Which of the following social networking sites or social media mechanisms do you currently have an account with?

☐ Facebook

☐ Google+

☐ None of the Options

☐ Twitter

☐ Skype

☐ LinkedIn

☐ YouTube

Other (please specify)

#### 4. If you selected one of the social networking sites in the previous question. On average, how many hours per day do you spend on that selected social networking site(s)?

☐ Less than one hour per day

☐ 4-6 hours per day

☐ 10+ hours per day

☐ 1-3 hours per day

☐ 7-9 hours per day

#### 5. For what purpose(s) do you check your social networking account?

☐ No Social Networking Site Account

☐ Education Interaction

☐ Communicating with Friends

☐ Career Planning

Other (please specify)

#### 6. How beneficial have the Facebook discussion groups been in your education experience so far?

☐ Extremely beneficial

☐ Slightly beneficial

☐ Very beneficial

☐ Not at all beneficial

☐ Somewhat beneficial

What course aspect was addressed?

#### 7. Do you think a teaching session heavily dependent on social networking mechanisms would aid your education experience? (e.g. A lecture presentation with synchronised social networking site interaction)

☐ Yes

☐ No

#### 8. If yes, which of the following social networking sites or social media mechanisms would you use and what function within the chosen site(s) would you use for teaching?

☐ Facebook

☐ YouTube

☐ Video Conferencing

☐ Twitter

☐ Google+

please specify the mechanism:

Next



## FYP - To What Extent do Social Networking Sites enhance the Student Education Experience?

9. Which of the following modules do you think a social media based teaching session could be used? (If you are unclear on the content of second semester modules here is some help <http://www.cs.cf.ac.uk/currentstudents/bsccompsci/>)

- |   |  |  |
|---|--|--|
| <input type="checkbox"/> Architecture and Operating Systems | <input type="checkbox"/> Fundamentals of Computing with Java | <input type="checkbox"/> Fundamentals of Information Systems |
| <input type="checkbox"/> Computational Thinking             | <input type="checkbox"/> Problem Solving with Python         | <input type="checkbox"/> Managing the Modern Organisation    |
| <input type="checkbox"/> Developing Quality Software        | <input type="checkbox"/> Professional Skills                 | <input type="checkbox"/> Web Applications                    |

10. For the module(s) that you have selected, why do you feel social networking mechanisms would be beneficial to the teaching session?

11. Would you be willing to take part in this proposed social media based teaching session?

- ☐ Yes ☐ No

If interested please state your email address:

12. If yes, would you prefer to keep your interactions within the session to be anonymous or would you prefer to use your own personal social networking site account?

- ☐ Anonymous Account ☐ Personal Account

13. How would you structure the teaching session?

- ☐ Lecturer Presentation - Q/A through Social Media - Continued Presentation - End of Session  
☐ Lecturer Presentation - Q/A through Social Media - End of Session  
☐ Synchronised Presentation with Social Media Updates - End of Session  
☐ Constant Usage of Social Media with No Lecture Slides - End of Session

Other (please specify)

14. Would you be willing to complete a post-session questionnaire after undertaking the teaching session?

- ☐ Yes ☐ No

15. Do you feel this type of teaching method would encourage more students to be involved in group discussions?

- ☐ Yes ☐ No

16. Based on your response to the previous question, why do you think this type of teaching method would encourage students to be more involved in group discussions?

17. Have you heard of any other teaching sessions outside of the School of Computer Science & Informatics that are similar to the session being proposed?

- ☐ Yes ☐ No

18. If yes to the previous question, what types of social networking mechanisms did they use within this session and how successful was the session overall?

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FYP - To What Extent do Social Networking Sites enhance the Student Education Experience?

19. Which of the following phrases describe your approach to learning?

- ☐ Prefer to have ideas explained to you verbally
- ☐ Use words and phrases to visualise ideas
- ☐ Engage and solve problems using a hands on approach
- ☐ Prefer for information to be displayed in writing, such as drafting and note taking
- ☐ Combining multiple learning concepts

20. Based on your response to the previous question, which word would you associate with your previous answer?

- ☐ Auditory
- ☐ Visual
- ☐ Kinesthetic
- ☐ Read-Write
- ☐ Multimodal

21. When analysing lectures, completing coursework or even preparing for an exam, which type of approach do you take?

- ☐ Light Approach
- ☐ Moderate Approach
- ☐ Heavy Approach

22. Based on your response to the previous question, how would you define the chosen approach?

23. Which of the following words describe your personal learning method?

- |                                     |                                      |                                     |
|-------------------------------------|--------------------------------------|-------------------------------------|
| <input type="checkbox"/> Theorising | <input type="checkbox"/> Explaining  | <input type="checkbox"/> Memorising |
| <input type="checkbox"/> Applying   | <input type="checkbox"/> Describing  |                                     |
| <input type="checkbox"/> Relating   | <input type="checkbox"/> Note Taking |                                     |

24. Do you prefer a lecturer who?

- ☐ Uses Demonstrations, Models or Practical Sessions
- ☐ Question and Answer Session, Talk or Guest Speakers
- ☐ Diagrams, Charts or Graphs
- ☐ Lecture Slides, Handouts or Readings
- ☐ Combination of all the Methods Above

Other (please specify)

25. When you are completing a lab exercise do you?

- ☐ Follow the Instructions Set by the Lab Supervisor
- ☐ Ask Questions about the Guide
- ☐ Search for Online Resources rather than the Lab Guide
- ☐ Combination of all the Methods Above

Other (please specify)

**Appendix Ten: Questionnaire Data Retrieval Count Summary**

Question	Answered Question	Skipped Question
1. Are you male or female?	49	1
2. What degree scheme are you currently studying? (If studying BSc Joint Honours Computing & Mathematics please do not complete this questionnaire)	49	1
3. Which of the following social networking sites or social media mechanisms do you currently have an account with?	49	1
4. If you selected one of the social networking sites in the previous question. On average, how many hours per day do you spend on that selected social networking site(s)?	48	<u>2</u>
5. For what purpose(s) do you check your social networking account?	48	2
6. How beneficial have the Facebook discussion groups been in your education experience so far?	46	4
7. Do you think a teaching session heavily dependent on social networking mechanisms would aid your education experience? (e.g. A lecture presentation with synchronised social networking site interaction)	49	1

8. If yes, which of the following social networking sites or social media mechanisms would you use and what function within the chosen site(s) would you use for teaching?	29	21
9. Which of the following modules do you think a social media based teaching session could be used? (If you are unclear on the content of second semester modules here is some help <a href="http://www.cs.cf.ac.uk/currentstudents/bsccompsci/">http://www.cs.cf.ac.uk/currentstudents/bsccompsci/</a> )	30	20
10. For the module(s) that you have selected, why do you feel social networking mechanisms would be beneficial to the teaching session?	28	22
11. Would you be willing to take part in this proposed social media based teaching session?	37	13
12. If yes, would you prefer to keep your interactions within the session to be anonymous or would you prefer to use your own personal social networking site account?	20	30
13. How would you structure the teaching session?	32	18
14. Would you be willing to complete a post-session questionnaire after undertaking the teaching session?	35	15
15. Do you feel this type of teaching method would encourage more students to be involved in group discussions?	36	14

16. Based on your response to the previous question, why do you think this type of teaching method would encourage students to be more involved in group discussions?	28	22
17. Have you heard of any other teaching sessions outside of the School of Computer Science & Informatics that are similar to the session being proposed?	35	15
18. If yes to the previous question, what types of social networking mechanisms did they use within this session and how successful was the session overall?	3	47
19. Which of the following phrases describe your approach to learning?	36	14
20. Based on your response to the previous question, which word would you associate with your previous answer?	36	14
21. When analysing lectures, completing coursework or even preparing for an exam, which type of approach do you take?	36	14
22. Based on your response to the previous question, how would you define the chosen approach?	27	23
23. Which of the following words describe your personal learning method?	36	14

24. Do you prefer a lecturer who?	36	14
25. When you are completing a lab exercise do you?	34	16

The above table displays a summary of the count totals of the questionnaire, all other further details relating to the data can be retrieved upon request. Due the length of some of the qualitative data, there are too many comments to include within the interim report. However, all the data can be found within the SurveyMonkey account or available within the downloaded excel files containing each individual question's answers.