Facebooks as a tool for communication with undergraduate

Taxation students

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Facebook as a tool for communication with undergraduate taxation students

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The use of Facebook is increasing rapidly and its pedagogical uses are endless. University students are part of a new generation, working with ease and confidence in this social environment. This article explores the use of Facebook as an additional communication tool in an undergraduate taxation module presented at the University of Pretoria and evaluates students' perceptions of the effectiveness of such a tool. A Facebook group was created to enhance interaction between students and lecturers and students and their peers. Participation was voluntary, and the students completed a survey at the end of the semester to evaluate their experience in the group. The results of the study show that, although the use of a Facebook group as a communication tool cannot replace the formal learning management system of the university, respondents' perception of the use of the tool was that Facebook could be used as an additional academic communication tool in all of their subjects. It is the lecturers' responsibility to learn how to use this tool and incorporate it effectively into their teaching strategies.

Keywords:

Facebook, social network service (SNS), Web 2.0, academic communication tool, higher education, accounting education.

Introduction

Social network sites (SNSs) such as Facebook, MySpace, Twitter, Flickr and LinkedIn are among the most visited sites on the internet today (http://mostpopularwebsites.net/, 2011). Students are increasingly making use of these tools to build new relationships and rediscover old ones. Facebook is by far the most popular of these tools, which is borne out by its top ranking, based on the number of visits to the site (Compete.com, 2011). De Villiers (2010:173) maintains that Facebook is integral to the lifestyle of contemporary youth. However, the site has not been widely used in undergraduate education beyond the employment of basic marketing strategies, such as those followed by universities and faculties introducing themselves to prospective students (McCarthy, 2009:39). Where students lead, institutions must follow, and the intention of this study is to help these two to stay connected.

Numerous literature sources concurs that Facebook is a very powerful tool (De Villiers, 2010; McCarthy, 2009:40; Van Rooyen & Pieterse, 2010). This is not a surprising conclusion, as the statistics shown on the Facebook website (Facebook.com, 2011) indicate the popularity of this service:

- Facebook has more than 500 million active users;
- 50% of the active users log on to Facebook on any given day;
- The average Facebook user has 130 friends;
- People spend over 700 billion minutes per month on Facebook;
- There are more than 150 million active users currently accessing Facebook by means of their cell phones;
- People who use Facebook on their cell phones are twice as active on Facebook as non-cell phone users.

Although Facebook is used mainly for social purposes, the group and discussion facilities available on the site offer potential for focused academic use (De Villiers, 2010:173). In fact, most of the research conducted on this subject agrees that the potential use of Facebook as a pedagogical tool is limitless (ECAR Research Study, 2008:82; Van Rooyen & Pieterse, 2010). The research question to be asked is whether this powerful tool could be incorporated into the teaching environment to improve communication with and between students.

The Department of Taxation in the Faculty of Economic and Management Sciences (the Faculty) at the University of Pretoria (UP) presents a second semester course in Taxation to undergraduate Bachelor of Commerce (B.Com) students. In the second semester of 2010, a total of 820 students registered for this course (undergraduate Taxation students). As per statistics obtained from the Faculty Administration, these students study diverse B.Com degrees, of which the subject of taxation is a core module. The researchers selected this group of students to participate in the study specifically due to the following two factors:

- The group of students represents the largest classes taught by the Department of Taxation, and the need arose to address some of the challenges of teaching for large classes;
- The subject of taxation evolves and changes on a daily basis. The profile of the student who is successful in this subject implicates that the student would easily adapt to any changing environment and be dynamic and diverse in accepting change. As lecturers, it is important to understand the need to keep up with the students in this changing environment and implement strategies to do so (De Villiers, 2010).

In their book on the challenges of teaching large classes, Gibbs and Jenkins (1992:14) noted that the number of students in a large class makes it difficult for the lecturer to communicate and interact personally with them. Another challenge endemic to large classes, especially with a group of students studying for diverse degrees, is the low level of personal interaction among the students. According to Gibbs and Jenkins (1992:14), there is a consequent need to create a more effective platform of interaction with and among the students than the traditional face-to-face interaction.

McCarthy (2009:40) observes that research literature strongly suggests that students' increased interaction with their peers has a "substantive positive impact on their engagement with their learning". Facebook was considered the ideal platform for creating this personal interaction with and among the students and was chosen on account of the site's immense popularity (as discussed above) and the assumption that large numbers of students would already be familiar with its layout and operation. They would therefore confidently use it throughout the course of the semester (McCarthy, 2009:40). Further, the 'Group' application on Facebook facilitates the creation of an accessible, easily maintainable, and highly interactive online forum (Van Rooyen & Pieterse, 2010). In essence, the rationale for the need and subsequent creation of a Facebook group was to go where the students are, using the platform that they use daily.

The principal aim of this study is to explore the use of Facebook as an additional communication tool for undergraduate taxation students, and evaluate the students' perceptions of the effectiveness of the established tool. The effectiveness of the tool was measured in whether the additional communication tool enhanced communication between students and the lecturer and students and their peers.

This study follows a multipart research approach. The research design can be described as follows:

- A literature review and review of other relevant surveys to set the background of using SNS's and specifically Facebook in academic environments;
- Action research followed in setting up the Facebook group and regularly responding to feedback from students;
- A quantitative web-based survey of all students registered for the undergraduate taxation module, and interpretation of the responses received.

This research article starts with a lay out of the research methodology in addressing the problem statement as defined in the introduction. The data collection methods are stated firstly with the literature review and review of other relevant surveys to establish a background for using Social Network Sites (SNSs), specifically Facebook, in academic environments. Thereafter, the data collection methodology followed in creating the Facebook group and the academic communication survey are described, and thereafter a discussion of the results.

The research article concludes with a summary of the findings and a discussion of limitations and directions for future research.

Research Methodology

As stated in the introduction to the study, the research methodology followed in this study was:

- Performing a literature review and review of other relevant surveys to set the background of using SNS's and specifically Facebook in academic environments;
- establishing the Facebook group through the use of action research, in order to investigate students' and lecturers' perceptions of the effectiveness of Facebook as an additional communication tool for undergraduate taxation students;
- executing a quantitative web-based survey in order to evaluate the effectiveness of the established tool in enhancing communication between students and lecturers and students and their peers.

Data Collection

The methodology for collecting data used in the research process is discussed in detail in the following section.

Literature Review

Facebook traditionally offers a social networking site experience (De Villiers, 2010:174). It is therefore important to first establish the background for the use of SNSs in education, after which the specific use of Facebook is discussed with reference to the most recent literature on the study. The main ideas are summarised in the conclusion to the review.

Social Networking Sites (SNSs)
The present-day culture of the student environment is more socially orientated than previously, owing to the emergence of SNSs (Visagie & De Villiers, 2010). SNSs are examples of Web 2.0 services. Sendall, Ceccucci and Pelsak (2008) define Web 2. 0 services as online applications for communications facilitated between group members and companies. Other examples of Web 2.0 services include Wikis and Blogs. These services are extremely effective in connecting people and sharing information on mutual platforms, typically providing users with a profile space, facilities for uploading content (e.g. music, photos, links) and messaging in different forms with a number of connections ('friends') (Joinson, 2008:1027). Various SNSs are used for social and academic interaction. Examples include Facebook, Twitter, Flickr, MySpace and LinkedIn (ECAR Research Study, 2008). Of all of these tools, Facebook is the most popular (ECAR Research Study, 2008), and therefore chosen as the SNS to be used in this study. It appears as if there is a worldwide tendency that these tools are not generally used by lecturers in higher education because they are not really interested in learning the teaching techniques that would be required (Sendall *et al,* 2008*)*. Visagie and De Villiers (2010) found in a study across five countries (RSA, USA, Canada, Australia and the UK) that 58% of lecturers admitted that they would not consider using Facebook as an academic tool for group work or online discussions. In contrast, according to a study on the use of SNSs in accounting education performed by Romera-Frías and Montaño (2010), close to 80% of students from the UK would prefer the use of an SNS as a first option for academic communication. Romera-Frías and Montaño (2010) further maintain that "the reality is that students are using SNSs excessively and educators have the choice to work with them or against them".

With the increasing use of SNSs in higher education, one concern is that university educators often encounter the improper use of technology by students (Leake & Warren, 2009). Bugeja (2006) is of the opinion that "academics assessing learning outcomes often discover that technology is as much a distraction in the class room as a tool". Students are frequently enthusiastic when it comes to adopting digital communication technologies, which have been found to be of value irrespective of whether or not students' academic achievement is enhanced. However, social networking can rival with studying as their primary occupation (Skeels & Grudin, 2009).

From the point of view of educators, although information technology was intended to bridge digital divides and enhance student research, the networks set up by universities are being used to entertain members of the so-called "Facebook Generation", who text message or talk on their cell phones during classes, use their internet facility to visit SNSs and rather listen to iPods than to guest speakers in lecture halls (Bugeja, 2006).

Even though there may be some challenges to overcome, educators should realise that new technologies are integral to students' everyday lives, and as the latter are going to use SNSs anyway, educators should focus instead on incorporating the technology into the teaching environment (Czerniewicz, Brown, Pan & Moyo, 2007).

In an extensive 2008 USA study carried out on students and their use of information technology by the EDUCAUSE Centre of Applied Research (ECAR), it was found that 85.2% of the respondents used one or more SNSs. Of these, Facebook was the most popular, attracting 89.3% of SNS users. Statistics in South Africa are similar, as shown in the Friendship 2.0 survey results (2009). This survey was conducted on behalf of M-web (one of the largest telecommunication companies in Southern Africa), with respondents representing the South African online population, of which the majority of the respondents represented the online student population. The results show that 88% of the respondents use social networks, 82% of whom are Facebook users.

Facebook

Facebook (2011) describes itself as: "a social utility that connects people with friends and others who work, study and live around them", and its mission as: "to give people the power to share and make the world more open and connected". According to the Facebook website (2011), anyone can sign up for Facebook and interact with the people they know in a trusted environment. The Facebook service is free. On becoming a member, a personal profile can be set up, showing interests, sharing pictures, displaying any other information and controlling one's privacy via different settings. The tool allows the member to search for other people whose profiles are displayed on the website and invite them to be 'friends'. Members can invite others to events or make use of the chat function for live communication, along with a very considerable number of other applications.

Facebook plays an important role in people's social and academic interactions (Visagie & De Villiers, 2010). A study conducted by Cloete, de Villiers and Roodt (2009), highlights the advantages of Facebook's application in higher education subjects, and concludes that students are using Facebook as an academic tool because they are already involved in classroom networks. Students and lecturers can also be more closely connected, which can be beneficial to the student/lecturer relationship. It also helps students to develop various online skills (Visagie & De Villiers, 2010). Social networking supports students' indirect sharing of resources, thoughts and ideas. It is also an extremely helpful tool for group work as Facebook is a social utility that has academic potential in the form of internal networks and groups (Visagie & De Villiers, 2010).

There are various concerns about the use of Facebook for academic purposes. According to an article in *The Independent* (Anon., 2010), one of these is that academia is not in control of the content on Facebook, as opposed to having relevant control of content in the university's virtual learning management system. Further, universities are conscious that the more they involve their institutions in social networking sites, the more students are going to resist, feeling that lecturers should not 'invade' their private space (*The Independent,* Anon., 2010). This being said, the main concern would actually be that the site is privately owned and according to the Facebook terms and conditions set out on the website, any material, including teaching notes and potential research, is owned by Facebook (Facebook, 2011). Visagie and De Villiers (2010) also commented on this privacy issue, pointing out that educators have become progressively more concerned about students' privacy and security. Students may assume that, when they are online, they are working in a safe and secure environment, when, in reality, the information may be accessed by anyone. On the other hand, students themselves are not particularly concerned about privacy and security issues, probably because it is common practice to set up access restrictions on their SNS profiles (ECAR, 2008).

An article published in the *Sunday Times* (Leake & Warren, 2009) stated that Facebook is damaging students' academic performance. The article found that people who spend more time on Facebook spend less time studying and that students who used Facebook achieved a significantly lower grade point average. However, the same article stated that other academic research shows the benefits of services like Facebook, and that it is up to students and lecturers to use this tool effectively.

The concerns highlighted are valid, but most other literature on the subject agrees that, while certain boundaries must be overcome, with the correct use of the tool, the advantages of using Facebook far exceed the disadvantages. They agree that Facebook can be beneficial to both lecturers and students on an academic level (Susilo, 2008; Van Rooyen & Pieterse, 2010; Czerniewicz, Brown, Pan & Moyo, 2007).

Van Rooyen and Pieterse (2010) maintain that using this tool has the following three prominent advantages: "improved student achievement, ease of finding peers to participate in group assignments, and enhancement of communication between lecturer and student".

The value of Facebook for academic purposes

Facebook is used for sharing information. This information can be social or academic, which means that resources, thoughts, ideas and notes can be shared just as easily as photographs, music and videos.

Van Rooyen and Pieterse (2010), in their study on the use of informal discussion forums, concluded that the use of such forums is an essential element in delivering quality instructions to students. They also concluded

that participation in informal forums contributes significantly to students' success. It is important and beneficial to both students and lecturers that the period of time between and after classes should be put to use for academic purposes and if students are encouraged to take part in increased lecturer/peer interaction on Facebook, the chances are that they might utilise Facebook to engage in this type of academic work before and after classes and not only use Facebook as a social utility (Van Rooyen & Pieterse, 2010). Access to Facebook via cell phones means increased support and interaction for students outside the class room (Visagie & De Villiers, 2010). More than half of the Facebook population of South Africa access Facebook using their cell phones (Friendship 2.0, 2009).

In a study conducted by Cloete, de Villiers and Roodt (2009) on the use of Facebook as an academic tool for Information and Communication Technology lecturers in South Africa, it was found that the majority were of the opinion that they already had a site (usually the formal learning management system of the university) available for academic communication and that online SNSs may mirror what has already been presented in formal learning management systems. So why use Facebook as an additional communication tool? Due to the vast array of academic advantages offered by the use of Facebook as discussed above, the use of this tool can not be ignored. Facebook is an interface which students are completely familiar with (Fontana, 2011). Dwyer and Malani (in Visagie & De Villiers, 2010) maintain that Facebook is a mutual tool, use of which is inexpensive, and there is a strong case for the deployment of such tools in higher education. Learning via Facebook is cost-effective because it involves skills and technologies that students already possess (De Villiers, 2010:185). The social infrastructure of Facebook has already been developed and set up, it can be used for free and it is accessible to all.

Visagie and De Villiers (2010) confirm that Facebook has pedagogical potential, so lecturers should not simply ignore it. Networks like Facebook clearly facilitate increased interaction and knowledge-sharing among peers.

Summary
The above discussion demonstrates the value of using SNSs as academic communication tools to enhance communication between students, their lecturers and peers, with Facebook noticeably at the forefront. It is evident that its integration into the classroom holds benefits for both students and lecturers. Its availability on cell phones would allow for effective teaching, and lecturers would be able to integrate this active learning into their course-work. Lecturers should be aware that students are already using a variety of Web 2.0 tools for both social and academic purposes. The above discussion shows clearly that there are concerns about the use of these technologies, but it is vital both to be aware of the tools and the possible implementation of them if students' needs are to be met. This could motivate and maintain their interest during their studies (Visagie & De Villers, 2010).

Action research (creating the Facebook group)

Action research was carried out in creating and continuously assessing the students' and lecturers' perceptions of the efficiency of the Facebook group in enhancing communication between students and their lecturers and peers. According to O'Brien (2001), educational action research is one of the main streams of action research as a whole and can be defined as any systematic inquiry conducted by researchers in the teaching/learning environment to gather information on how their particular environment operates, how they teach, and how well their students learn. It is a reflective process that allows for inquiry and discussion as components of the research. Information is gathered with the goals of gaining insights, developing reflective practice, effecting positive changes in the educational environment and improving student outcomes (Ferrance, 2000). Action research is conducted in the natural setting in which the problem is encountered, and is an informal, qualitative, interpretive, reflective and experimental methodology that requires all the participants to be collaborative researchers (O'Brien, 2001).

In this study, the researchers wanted to establish whether a Facebook group could be incorporated into the teaching environment as an additional communication tool to enhance interaction between lecturers and

students, and students and their peers. The group was established and the groups' functionality as an additional communication tool was continuously assessed in order to address the problem statement.

The UP already has a formal learning management system and academic communication tool in place. The web-based learning tool is based on a Blackboard learning system, and is called ClickUp in the UP context. ClickUp is used by both students and lecturers. According to a survey based on students' experiences of using ClickUp, the overall feedback was that the system works effectively in sustaining web-supported learning (ClickUp Survey, 2008). There was nothing extraordinary that could be done on Facebook that could not be done on ClickUp. However, Facebook is an interface with which students are completely familiar with, an environment already utilised by students, in which they operate with ease and confidence (Fontana, 2011).

In June 2010, a Facebook group (hereafter "the group") was created in order to test whether it could work as an additional communication tool. Groups, like individual pages, have walls, but an added function on groups is the availability of the discussion forum (Van Rooyen & Pieterse, 2010). This is an informal discussion forum. The Blackboard system provides a formal discussion forum. A comparison between formal and informal discussion tools completed by Van Rooyen and Pieterse (2010) showed that the participants in the informal discussion group (Facebook) formed a closer community, a place where students were familiar with each other which contributed to higher educational value. The group 'wall' is a space on the groups' profile page that allows members to post messages for the other members to see while also displaying the time and date on which the message was written (Wikipedia, 2011). The groups' purpose was described as follows: "This group will be used by lecturers to communicate with students and serve as a social interface during the semester. The basic purpose is to make us a proper class instead of just a group of random people that occasionally gathers in a lecture hall!"

The Facebook group was created using the 'How to' guidelines on the Facebook website. The rules and regulations (pertaining specifically to privacy) are clearly explained on the Facebook web site (Facebook.com, 2011). The creator of the group is called the 'group admin', and can appoint other group 'admins' to assist with the administration of the group. When creating the group, the privacy settings are set as 'closed', so that everyone on Facebook can see the name and members of the group, but only the members are able to view its content. When a group is created, its privacy can be controlled, and can be changed by the group administrator at any time. For example, you can also use the 'secrecy' setting when creating the group so that only members can see the names of other members as well as the content. This is crucial, as the most common criticism concerning use of Facebook as an academic tool is the concern of privacy (Visagie & De Villiers, 2010).

Students registered for the module were invited to join the group (via a function on Facebook) using their student e-mail addresses, which are included in the students' class list, obtained from the faculty administration. The students had to follow a link, which they received via e-mail, and were asked to accept the group invitation. Alternatively, if students did not access their student e-mail accounts, they could search for the group using the Facebook search function, and request to join the group. Instructions for using the group were communicated in the module study guide (University of Pretoria, 2010) as well as in regular class announcements. Registered Facebook users can be members of the same group without being a friend of other group members and therefore not compromise privacy.

The group was used as an additional communication tool, and no grades or other sensitive data were posted on its wall. Because ClickUp was already functioning, it was not necessary to use the Facebook group for the publication of sensitive data, and ClickUp was still used as the formal learning management system. The most important uses of the Facebook group can be stated as follows:

- When documents like, inter alia, class notes, homework questions or marks were uploaded to ClickUp, a message was sent to all the group members. Most students have internet on their cell phones (close to 80% of respondents as per the ClickUp survey, 2008) and would be able to access Facebook in this way. Students using smart phones would receive immediate notification, so they would know instantly when important academic information has been published on ClickUp.

- No documents were uploaded onto Facebook, and it should also be noted that every formal announcement posted on Facebook by a lecturer was also posted on ClickUp, so students who were not using this tool were not adversely affected.
- The group facilitated communication between the lecturer and individual students. Messages (similar to e-mail messages) can easily be sent by lecturers to specific students, and vice versa. These are not public, since only the lecturer and a specific student have access to them. Due to the profile pictures identifying students, it was fairly easy for the lecturers to identify specific students which they wanted to contact, even if they were not sure about their names.
- The group facilitated communication among students by means of postings on the group 'wall'. These short messages could be written by any group member, and 'liked' (function of Facebook) or commented on by any other member.

An academic communication survey was used to evaluate the effectiveness of the Facebook group. The method followed to conduct the survey is discussed below.

Academic communication survey

A study conducted by McCarthy (2009) on the use of Facebook in integrating first-year students into the university culture was used to establish the categories and modified items in the computer-delivered, self-administered survey. McCarthy's study (2009) was chosen as the basis for the survey in this article, as their problem statements and research objectives were similar. In the current version of the survey, there are 29 questions, three of which are open-ended. An electronic survey was chosen as the method of data collection, owing to the large number of respondents to be reached, the ease of analysis associated with survey research, the cost-effectiveness compared with that of paper-based research and, most importantly, the speedy transmission time (Kelly, Clark, Brown & Sitzia, 2003). The UP learning management system (ClickUp) was used as the medium through which the survey was distributed. The researchers chose this medium because it was the most cost-effective and easy way of reaching the large number of respondents in the time available. The Facebook group was not used as the medium for the survey as the researchers were interested in the responses of all the students, irrespective of whether they were part of the group or not. Ethical clearance was obtained from the Committee of Research Ethics, Faculty of Economic and Management Sciences, UP. The survey was uploaded onto ClickUp, and participation was voluntary. Of the 820 students registered for the course, a total of 293 students completed the survey. This represents a response rate of 36%. As per Kelly *et al* (2003), a response rate of 30% is acceptable as an average response rate when compiling online surveys. This was the response rate without reminders. The researchers accepted the response rate for the purposes of this study. The survey was titled: 'Academic Communication in BEL220'. As researchers, we were interested in the way in which students experienced the use of Facebook as a communication tool, but deliberately excluded the name 'Facebook' from the title of the survey, as we did not want to exclude the students who were not part of the Facebook group in the study.

The results from the survey were statistically analysed using Microsoft Excel. The results seen by the researchers as relevant to the research objectives of this specific article are reported in the following section.

Discussion of Results

Facebook group

About 35% of the students (290 members out of 820 students) joined the Facebook group created. Participation was voluntary, and no additional marks were awarded. The researchers accepted this joining rate as this was also the first time that these students were confronted with using Facebook as an academic interface. And although the response rate as a percentage may seem low, a large amount of students (290) were still participating.

As part of the action research process, the perceptions of students were continuously assessed. The qualitative feedback on the group wall by the students using it was very good. For example: "*Thank you for this*

group,makes it alot easier to know whats going on!I think it is an awesome idea to integrate a Social-interaction platform with an academic subject,well done guys."

The group wall was used by both the lecturers and the students for the duration of the semester to post messages, comments on tests, and other general information. The wall was specifically used by the students at the end of the semester to express their feelings about the subject and its presentation. For the lecturer, this feedback has proved just as valuable as the feedback gained through the formal feedback process offered at the UP.

Academic communication survey

Of the respondents in the study, 38.4% were male, and 61.6% female, with an average age of 21 years. The respondents were ethnically diverse: 52.8% were White, 37.8% Black, 8.2% Asian and 1.2% Coloured. These statistics are relatively in line with statistics released by the South African Institute of Race Relations (2009), stating that 40% of the graduates from the University of Pretoria were White, 44% African, 8.7% Indian/Asian and 6.3% Coloured.

When asked whether they were a member of Facebook (not including the specific Facebook group), 90.4% of the respondents replied in the affirmative, as opposed to only 9.6% who were not Facebook members. The respondents were asked to supply a reason for not being a member of Facebook. The two main categories of response were that the respondents were not interested in Facebook, or did not have time for it. This result is in line with those of other studies investigating the reasons why people are not involved with Facebook. In these studies, it was found that 69.5% of respondents were not interested, and 33.3% of respondents did not have time (Van den Boogart, 2006). In the present study, of the respondents who indicated that they were members of Facebook, 3.2% were not members before the Facebook group was established. That indicates that 3.2% of the respondents joined Facebook specifically because of the Facebook group.

The following table [Table 1] illustrates the method used by the respondents to access Facebook. Respondents were allowed to choose more than one option.

Table 1: Methods used to access Facebook

Access Method	Percentage of use by respondents
Cell phone	81.4%
Personal computer	70.9%
University labs	55.4%
Other (of the respondents who indicated 'Other', most were referring to internet cafés)	10.2%

From the above, it is evident that a significant number of the respondents were able to access Facebook by using their cell phones. This statistic is in line with the results of the 2008 ClickUp survey, which indicated that close to 80% of respondents had cell phones with internet access. This is a positive indication, as the Facebook group application makes it possible for students to receive notifications on their phones, initiating immediate interaction, even outside of the traditional classroom.

The following information was obtained pertaining to usage intensity and intensity per visit [Table 2].

Table 2: Facebook usage intensity and intensity per visit

		Facebook in general	Specific to the Facebook group
Usage intensity	Several times a day	47.7%	5.9%
	Once a day	17.1%	16.5%
	Several times a week	20.6%	20.8%
	Once a week/ month	5%	10.2%
	Rarely	9.6%	46.7%
Intensity per visit	0-10 minutes	61%	93.9%
	11-30 minutes	33.7%	4.9%
	31-60 minutes	4.3%	0.8%
	60 minutes +	1.1%	0.4%

This indicates that more than half of the respondents accessed Facebook on a daily basis. This high percentage is probably because Facebook can be accessed on cell phones (refer to Table 1), and is supported by the low intensity per visit for almost all of the respondents, as students' have their cell phones on hand at all times. This result is in line with the ECAR (2008) results, which showed that more than half of the respondents accessed SNSs on a daily basis, and for less than five hours per week. The results show that the Facebook group was not accessed as frequently as Facebook itself. This can be attributed to the fact that students were notified exactly when something happened in the group, and would then only access the group for a specific purpose. From the results it is evident that, despite the reservation that SNSs have become all-consuming for students, most of them have integrated SNSs into their already technology-rich lives in a reasonable, moderate way (ECAR, 2008).

Of the total respondents, 56.1% were part of the Facebook group, as opposed to 43.9% who were not. The latter were asked to provide reasons for not joining, with 99 responses received and coded [Graph 1].

Graph 1: Reasons why respondents did not join the Facebook group
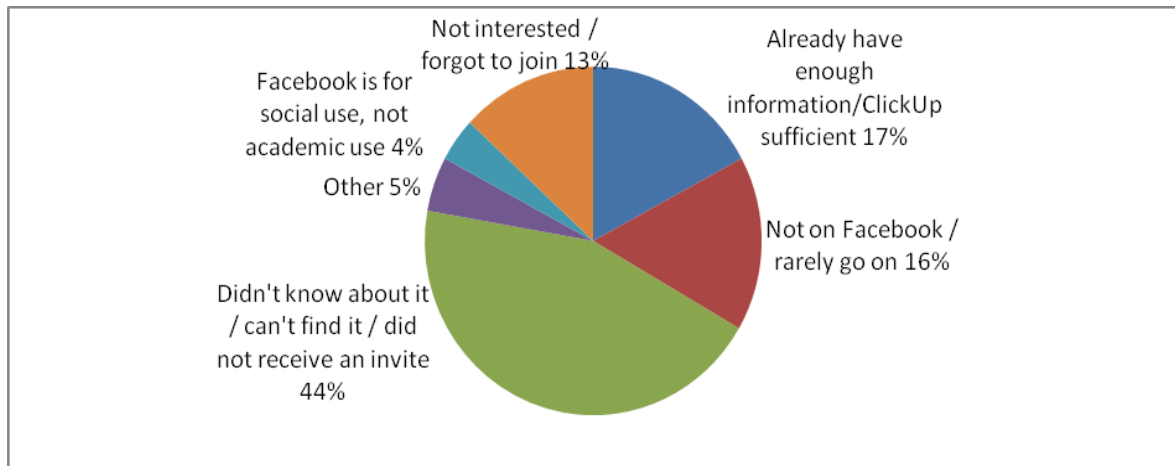
The main reasons for respondents not joining the group were that they did not know about the group, could not find it or did not receive an invitation to join. Although every effort was made to communicate information on the existence of the group (refer to the discussion above), this is noted by the researchers as a future point of development. With hindsight, it is clear that communication about the group and its purpose should be more extensive, especially when working with a large group of students.

When asked whether becoming a member of a class group on Facebook would violate the privacy of the respondents, only 8.5% said it would. They attributed this mainly to the fact that they did not want 'people we do not know to access personal information'. As mentioned in the literature review, privacy is one of the main concerns about using Facebook in the academic environment. However, it should be noted that privacy settings on Facebook (Facebook, 2011) can be controlled and, as discussed above, being part of a group does not make an individual's profile more accessible to other members in the group. The researchers note that, in future, when communicating the use of the group, it should also be communicated that being a member of the group does not affect one's individual privacy.

The following table illustrates the Facebook usage-type of the survey respondents [Table 3].

Table 3: Facebook usage type

	Yes	No
I use Facebook to learn more about people socially	75.4%	24.6%
I use Facebook to learn more about people in my classes	16.4%	83.6%
I use Facebook to stay in touch with my close friends	89.7%	10.3%

The majority of the respondents used Facebook to stay in touch with close friends and learn more about people socially. This concurs with literature that says Facebook is used primarily to connect with friends and stay in touch with them. Students do not really use it to make friends with people they have never met, and they are much more likely to connect with those with whom they share an existing offline connection (ECAR, 2008). It is difficult to learn more than one does not already know about people on Facebook, probably because of the privacy restrictions placed on their profiles by most Facebook users (Friendship, 2.0). This enhances the use of a group for academic purposes, as its members do not have to be 'friends', and therefore are not forced to meet or have a closer relationship than what they feel comfortable with. Also, the 83.9% of the respondents that indicated that they do not use Facebook to learn more about people in their classes indicates that, even when part of a group on Facebook for academic purposes, it is unlikely that one would feel like one's space is invaded.

Table 4 describes the academic and social interaction of the respondents, specifically relating to the Facebook group. The 43.9% of the respondents who did not join the Facebook group were not included in these results.

Table 4: Facebook group – academic and social interaction

	Agree	Unsure	Disagree
The Facebook group helped me to develop social relationships with other students	14.3%	28%	57.7%
The Facebook group helped me to develop academic relationships with other students	19.3%	24.2%	56.5%
The Facebook group increased my interaction with the lecturer	46%	25.5%	29.5%

From the statistics, it is clear that the respondents did not regularly use the group to interact with their peers, but did use it quite extensively to increase their interaction with the lecturer. The aim of the group was to establish an academic communication tool only, and the applications available within a group (for example the group discussion tool) were not used to their full potential. Most of the interaction that took place within the group was thus between the lecturer and the students. It was, in fact, remarkable to observe the increased interaction between the lecturer and the students throughout the duration of the module. This was observed by the lecturer (who is also one of the researchers) as part of the action research process. This increased interaction was effected through private messages between the lecturer and individual students as well as postings on the group wall. As is shown in the literature (Van Rooyen & De Villiers, 2010), the use of discussion tools will contribute significantly towards the interaction among peers.

When the respondents who had been part of the Facebook group were asked which application was preferred for academic communication, 65% chose ClickUp, whereas only 35% chose Facebook. This is in line with the researchers' expectations. The use of a Facebook group definitely has limitations (as discussed above), and the learning management system of the university should be the first portal of academic communication. However, using Facebook as an additional communication tool is beneficial. This became evident when students were asked whether Facebook should be used as an additional academic communication tool in all subjects, to which 58% of the respondents agreed, 20% were uncertain, and 22% disagreed. The high agreement rate is probably attributable to the ease and confidence with which students use Facebook, and have integrated it into their daily lives. The results show that although most of the respondents prefer ClickUp as a communication tool, the respondents mainly felt that Facebook should be used as an additional academic communication tool. Students form a closer community on Facebook and the discussions amongst peers and with lecturers contains powerful educational value (Van Rooyen & Pieterse, 2010).

Conclusion

Today's undergraduate students learn in a different way from that experienced by most academics due to the significant incorporation of technology into their everyday lives (ECAR, 2008). Because Facebook plays a major role in students' lives, it is one of the easiest and most efficient ways in which a lecturer can interact with them on a daily basis (Fontana, 2010). In the current volatile teaching and learning environment, it is vital to create an educationally dynamic environment for students. In making use of familiar technologies like Facebook, educators could create a powerful learning environment, merging the students' creative, collaborative, social and interactive capabilities. Access to Facebook via cell phones, coupled with the fact that most students use their cell phones regularly for Facebook anyway, makes it an even more viable additional communication tool in the university environment. Students and lecturers could be more closely connected within an online academic environment, which could benefit relationships from both points of view (Visagie & De Villiers, 2010).

There are some challenges in incorporating Facebook into the academic environment. However, the advantages far supercede any initial challenges or small disadvantages. Lecturers should recognise the pedagogical potential of the tool and incorporate it into their teaching environment. Students are already there, lecturers should get on board.

It is evident from the results of the survey that the use of such a group as well as the privacy implications should be clearly communicated and explained to students to ensure that they all know that such a group exists and can understand its intention. Further, a Facebook group cannot in any way be a substitute for the university's formal learning management system. However, it could work effectively as an additional communication tool. The feedback from the students who joined the group indicates that they generally felt that the group was effective in enhancing communications between students and lecturers and students and their peers, and that Facebook should be used as an additional communication tool across all of their modules. Students are involved in classroom networks, and use Facebook as an academic tool daily, with the social network as its foundation (Cloete *et al,* 2009). Lecturers will therefore have to learn how to use the interface to the best possible advantage in the academic environment (Visagie & De Villiers, 2010).

Limitations and directions for future research

The intention behind the Facebook group created as part of this study was to use the group as an additional communication tool, but the discussion tool available in the group was not used as well as it could have been. Future research could be done after its full implementation to establish whether students are more willing to make use of such a tool on Facebook rather than the discussion tool available on the university's formal learning management system. This study was carried out with a very large group of students, and the researchers are of the opinion that it would be viable to investigate the appropriateness of using this tool among a smaller group. Comparisons between the effectiveness of the tool when used in a large group with its use in a small group would also be a contributive study.

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