

Rethinking the usefulness of Twitter in higher education

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ABSTRACT Universities in South Africa continue to experience low levels of students' success and throughput rates. Research has been abundant in generating studies on pedagogical revolution and innovation via technology in higher education Institutions, specifically the incorporation of the social media in pedagogical practice. University lecturers therefore need to explore new and innovative ways of teaching. The potential for using social media has been proved in studies done in other parts of the world. This focus of this study was to examine the usefulness of Twitter as a communication tool in Information Technology Courses by students at the University of KwaZulu-Natal (UKZN) in the Durban region of South Africa. The methodology for this qualitative study is known as Design-based research. This method involved the development of successful learning environments and using these environments as natural laboratories for the purpose of studying teaching and learning. Findings overall showed that students or "digital natives" preferred more traditional ways of academic support such as face-to-face conversations, telephone calls and emails rather than using Twitter to communicate with each other or their peers. Additionally it was found that the students who did join the Twitter page were passive in their interaction with the page. Conclusions drawn from the study were that the way in which social media is used in higher education should be rethought and used to complement traditional practices.

INTRODUCTION

“Digital natives” are young people who have grown up using information technology to process information and to communicate. Consequently it is argued that they think differently, when compared to the older generation (Prensky, 2001). As a result the digital natives entering higher education have caused these institutions to implement, for example, more online courses and to include and promote social media usage in academia (Helvie-Mason, 2011). Furthermore, some scholars in higher education promote the incorporation of social media technologies in university courses in order to meet the perceived learning styles and needs of the digital natives (Helvie-Mason, 2011; Levine, 2010; Selwyn, 2011; Tay & Allen, 2011). This is done because a cornerstone in the lives of digital natives is social media. Social media technologies in themselves have grown, both in terms of public and academic use, into a phenomenon with wide-ranging conceptualizations. The term social media commonly means media used to support and facilitate social communication and collaboration and can include blogs/vlogs, wikis, podcasting and game modding (Collin et al, 2011). Social media technology in turn refers to the actual web-based technology and mobile applications that enable organizations and individuals to create and share new or existing user-generated content. With regards to usage, social media access via computer and mobile devices, such as cell phones and iPads, has become fairly widespread. Presently, the two most popular social media websites are Facebook and Twitter (Roblyer, McDaniel, Webb, Herman, Witty, 2010).

In the South African context, statistics have shown that Twitter is the third most popular social media website and is used by 5.5 million people. This makes it the thirteenth most popular website in South Africa (Meier, 2013). The attraction of Twitter as a social media website is that it allows users to employ 140 characters of text, and in some cases pictures, to share a message, in a fast and simple manner, with numerous other users. This makes Twitter, as a microblogging platform which allows users to publish brief text updates online in the form of tweets, for the most part, open to uncluttered public dialogue (Ebner et al, 2010). The latter is possible because each individual user has a set of users that follows him/her, known as followers, who can receive tweets and messages from the people that they are following. This is achieved by the follower clicking on the follow button of the user they intend to trail. However, if a user has opted to

make their account private or protected, authorization is required by the followee. Although primarily a social media technology, Twitter has been successfully implemented and used in learning spaces in higher education institutions in numerous countries in the developed world (Ebner, Lienhardt, Rohs & Meyer, 2010; Junco, Heibeigert & Loken, 2011; Rankin, 2009).

The primary aim of this study, in the light of the above, was to understand how students used Twitter to communicate with their Academic Development Officer (ADO), and each other, about academic content covered in Information Technology courses. In terms of academic monitoring and support, the role of the ADO was primarily to provide students, who are deemed at-risk of not completing their degrees in the stipulated university time frames, or being at-risk of academic exclusion, with support. However, the role of the ADO has expanded over time to assisting all students in the discipline in their areas of difficulties. The focus of this study was to examine the usefulness of Twitter as a communication tool in Information Technology Courses by students at the University of KwaZulu-Natal (UKZN) in the Durban region of South Africa. In the course of 2013 the ADO created a Twitter page as a blogging platform to facilitate easier communication with all students, including those identified as being at risk. The rationale behind using Twitter to help students engage in and create discussions, not only with the ADO but also amongst themselves regarding course content, was based on the reasoning that Twitter is the third largest social media website in South Africa and that, as such, the student population as digital natives in all probability had access to it on their mobile devices and used it for communication in their personal social spaces. It was therefore argued that they could extend this use to their academic work. Furthermore, the literature has revealed that Twitter has been successfully used elsewhere to communicate with students resulting in space, place and time becoming less significant (Ebner, Lienhardt, Rohs, Meyer, 2010; Junco, Heibeigert & Loken, 2011, Rankin, 2009). Against this background this article explores, and aims to understand the usefulness of Twitter as a means of communication with and amongst higher education students in an South African higher education setting. Ethical clearance for this study was granted (Ethical Clearance number: HSS/0726/014) by UKZN on condition that the anonymity of the students was preserved. Anonymity was consequently ensured by blocking out the Twitter usernames and pictures of the students on the tweets that they made.

LITERATURE REVIEW - SOCIAL MEDIA IN HIGHER EDUCATION

A substantial body of research shows that higher education institutions still predominantly rely on traditional platforms, such as course and learning management systems, to engage with their students (McGloughlin & Lee, 2010; Mohamad & Mohamad Shariff, 2011, Selwyn, 2007). These systems do not exploit the pedagogical affordances of social media which it is argued has the potential to allow students to manage and maintain a learning space that enables their own learning while fostering connections to peers, academics and social networks across time and space (McGloughlin & Lee, 2010; Selwyn, 2007; Valjataga, Pata, & Tammets, 2011; van Harmelen, 2006). The movement towards online courses has, in recent years, successfully challenged views of the non-adoption of the online technologies lobby. Consequently, large numbers of higher education institutions now offer some online courses (Allen & Seamen, 2008) and have also incorporated a variety of technologies, including learning management systems and social media in order to enhance the academic performance of their students (Ivala & Gachago 2012, Junco, Heibeigert & Loken, 2011)

Social media technologies such as Facebook and Twitter have been quite widely adopted in the higher education context. A reason for this is that social networking websites such as Facebook and Twitter are the fastest-growing and most widespread of the internet-based technologies used by digital natives (Roblyer, McDaniel, Webb, Herman & Witty, 2010). The adoption trend in terms of using social media in higher education therefore mirrors the growth in this phenomena in general (Davis III, Deil-Amen, Rios-Aguilar, & Gonzalez Canche, 2012).

Higher rates of acceptance and adoption of social networking sites often depend on the type of networking sites being considered. One of the main features of social networking sites is that they function predominantly as communication tools. Hence, higher education institutions sometimes view social networking sites as similar to, for example, emails. This is the case because an enormous amount of communication between students and staff takes place, be it about courses, logistical concerns and queries regarding academic content, via e-mail. Therefore it is argued that higher education institutions may be more inclined to adopt a technology if they observe it as a means to simplify mass communication with students (Roblyer et al,

2010). However, there is also a social aspect involved, and this is based on the notion that higher education institutions see teaching and learning as forming a relationship with students. Social media websites are therefore treated as an efficient way to achieve such a relationship (Roblyer et al, 2010). As a result a growing number of higher education institutions view communicating with students by means of social media in a positive light (Flynn, 2009). The bottom-line is that social media has been adopted by some higher education institutions as a means to communicate with students as individuals or in mass.

Some research does exist that reveals the successes in using social media websites like Facebook and Twitter in the higher education context to aid communication with students (Ivala & Gachago, 2012, Junco, Heibeigert & Loken, 2011, Mohamad & Mohamad Shariff, 2011). However, there has been limited research conducted on the applications of social networking websites (Boyd & Ellison 2007, Greenhow 2011) in higher education contexts and the emerging literature in this field mostly focusses on examining the potential of social networking website usage in education (Hew, 2011).

One such study, conducted by Churchill (2009) with higher education students revealed that a blog-based environment can help in nurturing a learning community which made students feel that they were a significant part thereof and that their opinions mattered. Additional findings showed that blogs are most effective when they are designed to enable student access of course material, posting reflections on artefacts created through the learning tasks, and commenting on peer contributions. A study conducted by Harrison (2011) examined whether higher education student participation in a blog assisted lecture room learning by extending communication to beyond the allocated academic time. The results of this study revealed that students used the blog as an outlet, in collaboration with their peers, to think about classroom topics, outside official academic time. What was also learnt was that blogging assisted students in directing their own learning, increased their engagement in the course material and endorsed the expansion of informal learning communities.

These positive studies showed that blog-based environments can be successful amongst students in a higher education context. In the South African context there has been some research

conducted that investigated using social media, specifically Facebook, for teaching and learning (Bosch, 2009; Ivala & Gachago, 2012). The results of these study showed that using Facebook did enhance students' engagement with courses both on and off campus. In these studies it was concluded that the social media technologies that students used in their daily lives, like Facebook, should be utilised by higher education institutions. The reason presented for this was that an increased engagement with students could result in better academic performance.

Some research work on the use of Twitter as social media in higher education has also been done. Results of a study done disclosed that using Twitter in an educational context increased students' academic engagement and even led to an improvement in their marks (Junco, Heibeigert & Loken, 2010). The mentioned study showed, using Chickering and Gamson's (1987) seven principles for good practice in undergraduate education as a framework, how Twitter could be used to support students' academic engagement and psychosocial development by means of student/higher education contact; cooperation amongst students; active learning; prompt feedback; emphasizing time on "task"; communicating high expectations and respecting diversity. Other studies revealed that Twitter has been used as a discussion medium between academic staff and students in online courses (Dunlap & Lowenthal, 2009), to create live notices for events and live chat sessions (Willburn, 2008) as well as campus emergency alerts (Swartzfager, 2007).

Further evidential support of the mass appeal of Twitter as a communication tool in higher education was revealed by a large scale quantitative study undertaken in 2014. An analysis of university Twitter accounts showed that the United Kingdom's top 10 universities had more than 400 000 followers in total of which the vast majority are in all probability students. Results of this study also indicated that these Twitter accounts were on average sending out four tweets per day. The predominant use of these accounts was for broadcasting university-specific as well as industry news (Parr, 2014). Therefore, what does emerge from the literature is that Twitter has, for the most part, been successfully implemented and used in higher education in developed countries (Ebner, Lienhardt, Rohs, Meyer, 2009; Junco, Heibeigert & Loken, 2011, Rankin, 2009) as a useful manner of engaging and communicating with students in higher education. Collectively the reviewed research revealed that Twitter has proved useful and

successful, not only as a communication medium, but also as a tool to enhance students' academic engagement and performance.

Much of the research reviewed above paints a very positive picture of the use of social media in general, and Twitter specifically, in communicating with students in higher education institutions. However, all is not that positive when it comes to the use of Twitter and other social media by higher education institutions. Students primarily use social networking sites for social interactions. For example, certain Twitter users have multiple accounts to differentiate professional and personal interactions and comments (Siemans & Weller, 2011). The idea of multiple accounts points to many students being strongly opposed to higher education institutions making use of social networking sites as part of formal instruction as this is seen as an invasion of their private social spaces (Madge et al., 2009). Although being viewed as having enormous potential for communication many students do not want social media to become the next "Learning Management System" which is organizationally controlled, bland and singularly focused on teaching and learning (Siemans & Weller, 2011). Additionally another research study showed that students did not think social media websites like Facebook, YouTube and Twitter should be used in an academic space (Hayto & Parker, 2011). What this points to is that the adoption of social media in higher education spaces could possibly be limited because students could be reluctant, despite the positive studies to the contrary, to mix their social and academic spaces by means of social media. They could therefore resist the intentions and usages of higher education in this regard and perceive it as an intrusion into their personal spaces. Additionally a recent study showed that, despite this being a digital era, many students still preferred phone calls, face to face conversations or letters when communicating with their higher education institutions (Lee, 2014).

Our study was conducted against the backdrop of the literature reviewed and investigated the usefulness of Twitter, as a contemporary communication phenomenon, as a means of communication with and amongst students in a higher education setting. The need for this study is based on the paucity of research on Twitter use in higher education contexts in South Africa, which in many ways is different to the developed world contexts of studies referred to earlier.

METHODOLOGY

This qualitative study took place in the Information Systems and Technology Department at the Westville Campus of the University of KwaZulu-Natal. A Twitter page was created by the ADO. The Twitter handle was IST_ADOSupport and the name was given to the students in tutorials, practical sessions and advertised on Moodle, the University's official learning management system. The potential participants in the study were Information Systems and Technology first-year students who totalled 1586. The study focused on first year students because these students were not necessarily majoring in Information Systems and Technology but did have to use technology to obtain course data via Moodle. Students were informed about the existence of the Twitter page by means of various fora, as explained earlier in the article, as well as of the thinking behind the creation of the page namely that they as Information Systems and Technology students could follow the page, see the tweets and interact with each other and the ADO on academic matters. Students additionally could remain "anonymous" at a level by creating another account (other than their personal Twitter account) and follow the page and ask questions.

When the Twitter page was launched a total of 21 students (less than 2%) volunteered to follow it. All students who followed the page used their own personal Twitter accounts. Of the 1586 students, 1565 (or 98%) did not join the platform. This transpired despite the extensive promotion of the Twitter handle. Ultimately we would describe our sampling method as convenience in nature since the selection was based on the availability of the tweets of the students who had volunteered to join the page (Latham, 2007).

The development as outlined above left us as the researchers feeling disappointed in the sense that we were banking on rich thick data emerging from the tweets posted by the digital natives whose lives were seemingly intertwined with Twitter (Meier, 2013). This was clearly not going to transpire. Despite this setback we decided to continue with the project primarily based on three reasons: Since this was a qualitative study the existing data was deemed sufficient in nature (Hancock, 1998) and secondly we adopted the notion as espoused by Neill (2009) that limited data, in the case of this study meaning a limited number of tweets, are in fact rich thick data as it

reveals much about mind-sets. We were also confident in our data generation approach which was design-based based in nature as it aimed to concurrently, alongside conducting research, develop learning environments and using these environments as natural laboratories for the purpose of studying teaching and learning (Sandoval & Bell, 2004).

In the end our data comprised all the tweets on the page. The tweets (see Table 1 below) were reread several times in an open-coding manner and then organised thematically into three themes (Zhang & Wildemuth, 2009). By reading these tweets against the grain (Shapiro, 2014) much was garnered from them. Much was also gleaned from the silences emanating from the fact that the vast majority of students had decided not to join the Twitter handle. The latter development had in our view, turned into a major strength of the study as silences in itself revealed much (Neill, 2009). The tweets found in the three themes, as depicted in Table 1 below, were further analysed by means of Ebner et al (2009) list of basic functions in communicating by means of social media which are: asking questions; giving opinions; changing ideas; sharing resources and reflection. What emerged from these first and second levels of analyses were then used to describe and theorise the findings.

ANALYSIS AND DISCUSSION OF RESULTS

Of the 26 tweets found at IST_ADOSupport, 19 were sent out by the ADO who had initiated the tweeting, while seven tweets were initiated by four different students (See Table 1 below). In analysing these tweets three themes clearly emerged, namely “logistical tweets”, “academic tweets” and “social tweets”. What clearly emerged from the analysis of the data as depicted in Table 1 was that all the tweets that were sent out by the ADO were logistical in nature and dealt with issues such as when revision classes were scheduled and when tutorials and practical sessions were due to start. This formed the bulk of the tweets – 19 in total. The majority of the tweets coming from the students were in response to those posted by the ADO.

Applying Ebner et al’s model (2009), namely asking questions, giving opinions, changing ideas, sharing resources and reflection, allowed us to determine the types of interactions that were taking place on the page. As such the tweets the students sent revealed insights into what they

used the page for and what they felt comfortable tweeting about. But it also provided clues to why the page had failed.

What is clear is that the students used the Twitter page merely to ask questions about logistical issues such as when practicals and tutorials start, the length of the examination paper, when examination results would be released, and the opportunistic “any 'tips ' for tomorrow's 102 test??.” Some of these tweets were clearly in response to what was absent from the tweets sent out by the ADO. For example, Student A enquired about information that was missing from the tweet related to starting time and similarly Student D tweeted about examinations, an enquiry about which no tweets went out from the ADO. Most of the information enquired about was available elsewhere.

The exception was the academic questions emanating from Student C who asked about how to work out optionality and how to count the number of information sinks. This resulted in a conversational exchange of tweets between the ADO and the student until the latter felt her/his questions were answered. Thus student C was the only student to engage in a conversation with the ADO and this interaction was the exception to the rule. In this conversation the student enquired about academic content and obtained answers from the ADO in real time. Student C also made two of the tweets from the ADO public on her/his Twitter profile so that her/his followers could see it. This could be linked to the sharing resources factor in the Ebner et al (2009) model. Interactions like this spoke to the original thinking behind the Twitter page so as to allow students to interact and create discussions around topics they found difficult to grasp.

What the students did not use Twitter for as per the framework of Ebner et al (2009) was to give opinions, change ideas, share resources and reflect on the module. Even the use of the Twitter page to ask questions was the exception rather than the rule as most of this information was available elsewhere on noticeboards, in course packs and on Moodle. Those students who did use Twitter did so to communicate with the ADO and not each other and they were the minority – four out of a possible 1586.

From the above it is clear that Twitter failed to attract students with the promises of obtaining module information and communicating about related matters with the ADO and each other regardless of space and time. Why then did this happen?

Firstly, the manner in which the ADO communicated on Twitter was problematic. Tweets from the ADO were sporadic and related primarily to logistical matters – see Table 1. This did not serve to enhance the Twitter page to do what Ebner et al (2009) suggested. The manner of communication by the ADO was coupled with a naivety that the digital natives (Prensky, 2001) would join Twitter for the course because the evidence (Roblyer, McDaniel, Webb, Herman & Witty, 2010) showed that they do use it in large numbers globally and in South Africa (Meier, 2010). What was also not factored in by the ADO was the nature of who gets followed and why by the large numbers of people using Twitter. Celebrities with millions of followers attract them for vastly different reasons than an ADO would. While following a celebrity provides a status symbol and a sense of community following an ADO, be it under a real name or an alias, might only serve to bring academic weaknesses that students want to keep private and personal into the public domain.

Another issue was the total underestimation of what digital natives use social media for. It was assumed that students would communicate via Twitter with the ADO and their peers on academic matters by means of discussion and engagement as pointed out by the literature (Dunlap & Lowenthal, 2009; Junco, Heibeger & Loken, 2010; Willburn, 2008), but this did not occur. In instances where Twitter does work at higher education institutions it is invariably when it is used as a means of mass communication in real time about events that are unfolding (Swartzfager, 2007). The literature reviewed revealed that the top universities in England sent out at least four tweets per day and had huge followings (Parr, 2014). Much of this is one way communication from the higher education institution and uses Twitter in a digital noticeboard manner. In such a case students are happy to join the Twitter page so as to stay informed.

The students could also have been reluctant to use Twitter in the manner envisaged by the ADO as they were concerned about potential privacy risks and did not want their personal information accessible in an academic space. Such a positioning speaks directly to the literature where

interventions by universities to use social media in formal instruction were at times seen as an invasion of the social spaces of students and even a potential invasion of their privacy (Madge et al., 2009; Siemans & Weller, 2011). To combat an invasion of their privacy and social spaces students as Twitter users have in other contexts created multiple accounts to differentiate professional and personal interactions and comments (Siemans & Weller, 2011). However, none of the small number of students who did join the Twitter page in this study was concerned about asking questions under their own personal profiles. This ran contrary to the literature in the sense that the 2 percent who joined the page did not mind mixing their social and academic spaces and did not feel the need for anonymity. But since a very low percentage of the overall class followed the Twitter page it may be assumed that to the rest of the class keeping academic and social spaces separate was an issue.

Coupled with the above is the large body of literature showing that digital natives want to separate their real lives on social media from their academic lives. This is especially the case since attempts by higher education institutions to use it for purposes it was not originally conceived for are treated as invasions of personal and private spaces which digital natives want to bar adults and higher education institutions from (Madge et al., 2009). The majority of students in this study who did not join the Twitter page served to provide credence to this. The apathy towards using Twitter confirms research done in a different context namely that students primarily use social networking sites for social interactions and therefore do not want to use it for actions related to formal instruction or communication (Siemans & Weller, 2011).

Space and place did not disappear as students did not really ask questions via Twitter from their mobile phones so as to receive immediate feedback in real time. The students preferred to still use email and face to face communication with the ADO. In fact the students preferred an old-fashioned face-to-face conversation or email in which they could, at length in a very personalised space, do what Ebner et al (2009) has mentioned, namely to ask questions, give opinions, change ideas, share resources and reflect. It must be pointed out that such communication always centered on the ADO and her office space and hardly involved other students. Hence asking questions, exchanging ideas and opinions, and reflecting and sharing resources are not what

happened among students but between the ADO and individual students in the private safe sanctum of her office or via email or by means of telephone.

While this kind of support was still offered alongside Twitter, students had no real incentive to join the Twitter page which was viewed as being unable to deal with complex academic ideas and problems. The primary way students communicated with the ADO was via e-mail which speaks to the known body of knowledge which states that a huge amount of communication between academics and students takes place in this manner (Roblyer et al, 2010). Underpinning the above, is the notion that students prefer communicating with their higher education institutions in a more traditional manner, such as by telephone or even letters, as found in a recent study by Lee (2014). Although the preconceptions are that digital natives prefer social media to communicate in all areas of their lives, including academic spaces, this was contradicted by what transpired in this study and the literature with traditional personal ways of communication being preferred.

The Twitter page was further compromised by the fact that much of the logistical data, which attracted the bulk of Tweets (see Table 1), was available elsewhere on a range of other platforms. Since the page offered very little new in this regard by means of regular postings one of the primary uses of the Twitter page, namely to dispense information that was otherwise unavailable by means of, for example updates, was negated and did not serve to lure students in.

Furthermore, the actual nature of Twitter in all probability also proved to be a reason it was not deemed useful by students as a means of communication. While the 140 characters allows for logistical and organisational information to be communicated, large conceptual issues are more complex and students might well feel that the 140 characters allowed per interaction were insufficient for sharing the multifaceted ideas that many students wanted to communicate to the ADO.

Tied in with the above is the fact that Twitter has developed its own communication culture and language which is not necessarily suited to academic communication in a formal setting. The students who did join the Twitter page seemed unsure about how to communicate with the Twitter in an academic manner. The exception proved to be the single student who engaged in an

academic conversation which also included smileys as part of her/his tweeting. The language used by the rest of the students when they posted on Twitter was more formal and structured than shortened English or “sms” language. This shows that students who posted felt the need to be formal because it was an academic space. This formal manner of communicating occurred despite language use not being specified.

Much of our argument on why Twitter failed thus far has centered on the role of the ADO and the positioning of the students, however, some researchers believe that staff within higher education institutions should acquaint themselves with social media technologies so as to aid and educate students to use social media in ways that are useful to their overall academic experience (Junco, Heibegeit & Loken, 2010). The key to such an institutional positioning would be that all staff should firstly know how to use the social media (Shapiro, 2014). Placing the onus on higher education staff as a whole is also premised on the fact that they must consistently and continuously communicate with the students. In a nutshell the argument is that the onus of getting students to embrace or be socialized into using social media in academia, Twitter in the case of this study, rests on the higher education institution and its employees and not the students per se.

CONCLUSION AND RECOMMENDATIONS

As higher education staff, we prefer reporting on success stories but this article reports on a failure and specifically why Twitter, as a means of communication with and amongst higher education students in a South African higher education context, proved less than useful. This happened despite Twitter being a recognised means of communicating amongst the digital natives who were the focus of this study. The vast majority voted with their “thumbs” not to join the Twitter handle developed by the ADO and to remain unconnected to the IST_ADOSupport page. As such this study contradicts similar studies in different contexts which found Twitter useful in communicating with higher education students (Ebner, Lienhardt, Rohs, Meyer, 2009; Junco, Heibeigert & Loken, 2011, Rankin, 2009).

Proof for this was the fact that despite the well-publicised existence of Twitter for the course in question, the ADO, who is also the primary author of this article, was inundated by the above

means of communication for both mundane and intricate academic issues. As such it can be concluded that digital natives do not necessarily think that differently when compared to older generations when it comes to communicating about academic matters. This trend speaks to the study by Lee (2014) which likewise foregrounded the preference of old-fashioned personal support by digital natives. Hence, the usefulness of Twitter as a contemporary mass communication phenomenon should at best be used alongside other more traditional approaches. Higher education institutions would, therefore, do well to rethink abandoning communication methods that stood the test of time in favour of social media. More specifically Twitter should merely be used, in a blended manner, as part of a multipronged academic support approach, to strengthen those means of communication that have stood the test of time.

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TABLES

Table 1: Types of Tweets sent to the Twitter page by students in order of reception

Student	Original Tweet from @IstAdo	Tweets that student sent	Reply from ADO	Type of Tweet
Student A	Tutorials for ISTN100 start Friday 2nd August 2013 in L23	@IstAdo When do Practicals And Tuts for ISTN102 start? :)	hi there! Tutorials for Istn102 will start from Friday and pracs will start from the 12th August	Logistical
Student B		@IstAdo when will ISTN103 practicals start?		Logistical
Student C	Hi there guys, there will be a revision workshop for istn103 and istn102 on Sept 13th, 3rd - 4th period, venue: L16	@IstAdo hi, how do you work out optionality?	optionality defined is “whether you must have something”e.g How many orders can a customer place? 0, 1 or many	Academic
Student C		ok, so then does it mean if its 'mandatory' you have to have it.?	Exactly :) It has to exist when you form the relationship	Academic
Student C		"@IstAdo: @ShweetShuga Exactly :) It has to exist when you form the relationship" awesome.	your welcome :)	Academic

		Thank you 😊		
Student C		"@IstAdo: @ShweetShuga Your welcome, all the best for your test tomorrow! :)" its all thanks to you guys! 😊	Your welcome, all the best for your test tomorrow! :)	Social
Student C		one last question, how do you count the number of information sinks?	its info goin from the system to ext entities, so how many entities information is goin to from the system is the no of sinks	Academic
Student C		thank you once again 😊	your welcome :)	Social
Student A		@IstAdo any 'tips ' for tomorrow's 102 test?? :)		Academic
Student D		Hi @IstAdo ... Is our exam 2hrs(as per the scope on moodle) or 3hrs(as per the timetable)?	hi there, the exam is 2 hours	Logistical
Student D		thank you :)		
Student A		@IstAdo hi there, any idea when the results will be released??		