

Twittering informal learning and student engagement in first-year units

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Abstract This chapter outlines an investigation into the utility of the online service Twitter as a tool for facilitating informal learning amongst first-year university students. Twitter was introduced to two first-year student groups, both taking the unit Web Communications 101; one group in a campus-based blended learning mode, which utilized traditional face to face tutorials, while the second version was delivered fully online via Open Universities Australia. The ways in which students used Twitter was recorded and examined, highlighting three main uses: socialising, resource-sharing and posing questions. Students' perception of Twitter and its effectiveness as an informal learning tool was examined via a quantitative survey and a number of qualitative follow-up interviews. Notable differences emerged between the blended learning group and the fully online learners in terms of their attitude regarding Twitter use for facilitating informal learning. The chapter concludes with four recommendations regarding the implementation of Twitter as an informal learning tool for students.

Introduction

While universities now routinely offer and frame educational experiences via the internet, the implementation of online learning is often predicated on, and driven by, the choice of specific types of software, often referred to as Learning Management Systems (LMSs). While increasingly complex in the tools they offer, in general, LMSs attempt to digitally replicate the design and experience of a traditional classroom environment. At first glance, offering an approximation of the classroom would seem the logical approach as it brings familiar notions and expectations, reassuring institutions, educators and learners that whilst online they are still getting a 'real' university experience. Indeed, for online learning providers such as Open Universities Australia (OUA), the contributing educational institutions are contractually obligated to ensure that their online units match the on-campus equivalents as closely as possible. To facilitate online learning, lectures are now routinely captured as recorded audio and/or video streams; readings, unit notes, and other learning resources which are delivered via electronic repositories in university libraries; and synchronous tutorial discussions are replaced by asynchronous discussion

boards or sometimes synchronous interaction via chatrooms or other real-time discussion tools. However, while LMSs offer a recognisable simulation of many of the formal elements of university education, with its own challenges and differing levels of success (Lane, 2009; Leaver, 2003), the informal learning opportunities are less widely addressed.

While there is considerable debate about the exact definition of informal learning, for the purposes of this chapter, informal learning is used to mean those unplanned interactions, exchanges and connections which broadly contribute to meaningful learning without being explicitly driven by curriculum (Greenhow & Robelia, 2009). These might be conversations between learners in common spaces such as coffee shops, libraries, study groups or even just comments made on the way out of a tutorial room. Informal learning includes the development of social ties, bonds and a sense of community between learners, as well as more learning-centred activities such as mutual support in completing assignments, sharing experiences and resources, and dealing with educational policies and procedures. Informal learning is also part of the broader area of student engagement, which emphasises the social and cultural contexts that encourage learning beyond the classroom and curriculum. For on-campus students, a great deal of student engagement and informal learning occurs simply because learners are physically in the same room, without any explicit pedagogical driver. If informal learning opportunities within education are to be similarly available to online learners, then the shift away from shared physical spaces needs to be matched with an increase in potential online interactions which are somehow related to, or spring forth from, formal learning, but are not contained by formal moments or the tool of formal education, the LMS. Given that impetus, this chapter outlines an investigation into the utility of the online service Twitter as a tool for facilitating informal learning by examining its use by two first-year student groups, both taking the unit Web Communications 101; one group in a blended learning mode, which utilised traditional face to face tutorials, while the second version was delivered fully online via OUA.

What is Twitter?

Launched in 2006, and becoming increasingly popular since 2007, Twitter is an online platform which describes itself as “a real-time information network that connects you to the latest information about what you find interesting” (Twitter, 2011). Beyond the corporate speak, Twitter is generally regarded as either a micro-blogging tool or a scaled down social networking service. At a basic level, Twitter allows users to create short messages – called tweets – of up to 140 characters in length, shared publicly¹; with the most recent tweet displayed at the top of a user’s Twitter page, hence the micro-blogging description². Tweets may contain links, are usually shared publicly, may be directed to

¹ It is possible to create a ‘private’ Twitter account, only visible to specified Twitter users, but the general use of Twitter leans toward public accounts to be useful. There are no publicly available statistics on the number of private Twitter accounts, but the presumption is that it is a very small percentage of overall Twitter users.

² Blogs, like many other forms of social media, display the most recent posted entry at the top of the blog, with the content thus displayed in reverse chronological order.

another Twitter user (using the '@username' convention to specify a recipient), and may also be sent privately between individuals using a direct message function. Twitter meets the basic definition of a social networking site established by boyd and Ellison (2007) in that it is an online platform which allows users to "(1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system" (boyd & Ellison, 2007, p. 211). However, the ways individuals use their Twitter accounts tends to determine whether it is more social, more about sharing information, or more task specific. Given that Twitter as a company emphasises information sharing, this tends to be the way most users conceptualise their use of the tool. Whilst much smaller in terms of users than the social networking giant Facebook, as of July 2011 Twitter still had more than 200 million users, generating over 350 million individual tweets every day. Significantly, in 2010 the US Library of Congress announced that they had formed a partnership with Twitter and would archive all public tweets (Lohr, 2010). While a valuable resource, this partnership also explicitly indicates the presumption that most Twitter activity is public, in comparison with other social networking services which have a higher proportion of content shared with limited numbers of people using privacy controls.

Twitter in higher education

Twitter has been deployed in a number of ways in higher education, in most cases harnessing the service as a way to increase communication and connectivity between learners and educators. In a large-class undergraduate unit, for example, Twitter was explicitly introduced and students were formally required to use it weekly; assessing its use, it was found that Twitter "offered an important alternative avenue for the students to develop interpersonal connections and rapport with their classmates and the instructor" (Elavsky, Mislán, & S. Elavsky, 2011, p. 225). Similarly, Stieger and Burger (2010) found that Twitter was particularly useful in asking students to provide ongoing formative evaluation of a unit, leveraging the close to real-time feedback the platform can provide. Moving away from the campus, practicum students have used Twitter to successfully maintain contact with one another and with teachers (Wright, 2010). In a relatively small scale but important study, Junco, Heiberger, and Loken (2011) examined the impact of Twitter in 'educationally relevant' ways, including enhancing student engagement. Their study not only demonstrated increased contact and sense of connection between students and teachers due to Twitter use, but also, significantly, saw students increase their sense of connection and cooperation with one another.

While many educators are far from early adopters of technology, Twitter is becoming increasingly familiar in higher education. A US survey conducted in August 2010 of 1400 higher education professionals found that over 35% of the respondents use Twitter (a rise of 5% since 2009); of those using Twitter, less than 3% expected their Twitter use would decline; but, significantly, a number of respondents who used Twitter indicated that they saw little or no evidence that their students used Twitter at all (Faculty Focus,

2010). Kirsten Johnson (2011) discovered that for students who are on Twitter, when teachers tweet, those that share appropriately chosen social information are more likely to be seen as credible by students as opposed to teachers who only share resources. In terms of student engagement, this finding suggests that a sense of social connectivity, even on a relatively limited scale, makes teachers appear more credible. Unlike Facebook, for educators Twitter use is not just a question of shaping student use, but also, in many cases, getting students onto Twitter in the first place.

Deploying Twitter in Web Communications 101

Web Communications 101 (Web101) is a first-year unit run at Curtin University. It can be taken as part of the Bachelor of Arts (BA) degree, in the Internet Communications major, as part of the Mass Communications degree, or as an elective unit across a range of other majors and degrees. The unit runs both semesters, with a typical enrolment of about 175 in first semester and 60 in second semester. The vast majority of Curtin students take the unit in an internal mode (i.e., with face to face tutorials and lectures) but it is available externally. The unit has traditional lectures, which are also recorded and available as streaming or downloadable audio or video files, the unit content is provided online via the Blackboard LMS, and internal students attend weekly face to face tutorials, while external students have their discussions asynchronously using Blackboard's discussion board tool. The unit also runs in an entirely online mode through Open Universities Australia (OUA) which has no face to face component and students are spread across Australia and, indeed, a number of other countries. OUA runs four consecutive 13-week study periods each year, and Web101 is offered every study period, with enrolments typically ranging from 140 to 200 each study period. OUA students access their lectures and unit material online using Blackboard and their tutorial discussions are initiated on the Blackboard discussion boards.

The Internet Communications degree, of which Web Communications 101 is part, is driven by the idea of 'knowledge networking', which emphasises that learning and teaching increasingly happen in networked environments, often utilising networked approaches, but here networks do not refer to specific online tools but rather a broader sense of connectivity which is typified by, but not limited to, online communication. As Allen and Long (2009) argue: "Knowledge networking involves knowledge work that is shared, distributed and fragmented. Increasingly, students come to university education already involved in knowledge networking . . . though their conscious understanding of this kind of work can vary significantly from naïve to sophisticated." Despite the still popular but highly overblown myth of the digital native (Bennett, Maton, & Kervin, 2008), the unit introduces students to knowledge networking and frames online communication in terms of the concepts of collaboration and identity, but has to be broad enough to allow for the full spectrum of student familiarity, ranging from online aficionados through to students for whom anything beyond basic email is alien. Thus part of the weekly learning in Web101 includes the introduction of various online tools,

ranging from blogs, to social bookmarking, to content sharing and manipulation, through to the use of Twitter.

Web101 is taught in three modules: the first examining the early history of the internet and the emergence of the World Wide Web; the second exploring the shift to what is broadly called Web 2.0 or the shift to participatory culture; and finally a third module exploring issues of identity in relation to social media. In order to integrate Twitter into the unit, but not as a tool which is formally mandated or assessed, Twitter is explicitly introduced during the second module, in the unit material and lecture relating to social networks, which takes place half way through the unit. In introducing Twitter, students are encouraged to sign up for the service (if they have not done so already), to try making at least one tweet, and to search for other tweets which are marked with the unit hashtag #web101. A hashtag is simply a shared piece of text, beginning with the # symbol, which, initially set up through social convention among Twitter users, serves to group tweets together in a manner easily searchable. So, most tweets which are marked #web101 are made by students or teachers in the Web Communications unit.³ (See Figure 1 for an example of tweets using the unit hashtag). Prior to the explicit introduction of Twitter, both myself as unit coordinator and one of the tutors started using the #web101 hashtag to share resources and mention the unit, and any existing Twitter users enrolled in the unit quickly noticed and could engage before the mid-unit introduction.



³ At least one other group, a US based 1-day technology course, used the #web101 hashtag concurrently with Web Communications students. While I was concerned this might lead to some confusion, students were universally able to identify which tweets related to the unit, using the hashtag, and which related to the other course. (The time difference between the US and Australia helped since the bulk of the US tweets took place during the Australian night and early morning.)

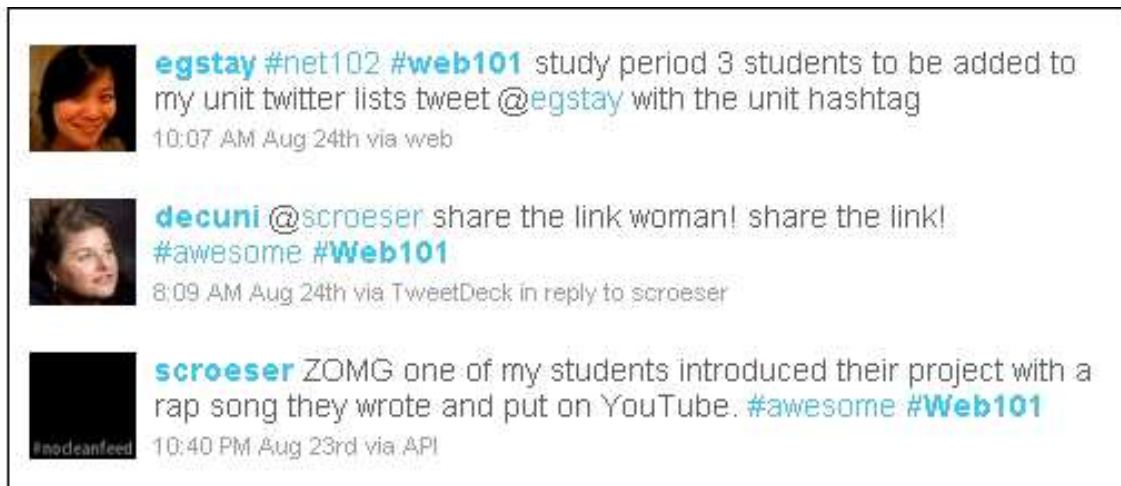


Figure 1: Screenshots of Twitter feed searching for the hashtag #web101

In order to gauge the effectiveness of Twitter in encouraging informal learning and enhancing student engagement, the way Twitter was used by two concurrent cohorts of Web Communications 101 was tracked in semester one, 2010. The first cohort was based on the Curtin campus, in a blended mode, including traditional face to face tutorials, combined with lectures, online resources, readings and course material, while the second cohort took the unit via Open Universities Australia and all of their interactions were online. All tweets made using the #web101 hashtag were tracked during the 13 weeks of the unit and notes were kept about the frequency and type of tweets being shared. Both cohorts were asked to complete a short quantitative online survey to broadly measure the ease, depth and relevance of Twitter use in the unit. Lastly, a qualitative follow-up email interview was conducted with a small group of the more active Twitter users, all of whom were enrolled in the OUA version of the unit.

Evaluation, analysis and discussion of Twitter use

In order to evaluate the use of Twitter by students across two concurrent cohorts, a number of methods were employed. Firstly, all tweets with the #web101 hashtag were tracked using Google's real-time search function⁴, from the first day of the unit until two weeks after the unit ended. The types of tweets were analysed in order to see what sort of activities and tweets were most common. Secondly, students were asked to complete a quantitative online survey. For the OUA cohort, 53 students completed the online survey, from a unit with an enrolment of 144 students, with thus a 37% response rate. For the Curtin campus based students, 74 students out of 155 enrolled completed the survey, with a 48% response rate. The higher response rate from campus based students was likely due to the fact that the survey was available to complete in hardcopy during tutorials or online, while OUA students only had the online option. Thirdly, eight of the most frequent Twitter users were identified and invited to respond to a qualitative

⁴ Unfortunately due to contractual changes in the relationship between Google and Twitter, this service no longer tracks tweets so is no longer a viable Twitter research tool. However, other tools are available which can track Twitter and other social media more methodically (see Bruns, Burgess, Highfield, Kirchoff, & Nicolai, 2011).

interview about their use of Twitter by email; four students responded, with a response rate of 50%.

One of the initial concerns when integrating any technology or online tool into teaching is the time needed to situate and explain that tool. That said, 86% of OUA students surveyed indicated that they found Twitter straightforward and understandable to use, while 77% of the Curtin campus students reported the same results. Comparatively, less than 10% of the OUA students indicated some challenge in using or understanding Twitter, whilst under 20% of Curtin campus students indicated similar issues (several students offered no opinion, possibly those who avoided using Twitter altogether). For a relatively new technology that was introduced using one paragraph of course notes and 10 minutes of explanation in a lecture, the very high numbers of students who found Twitter easy to use and understandable is definitely a positive feature of the service. Twitter has always been deliberately streamlined and this approach makes it less threatening and relatively easy for students to understand.

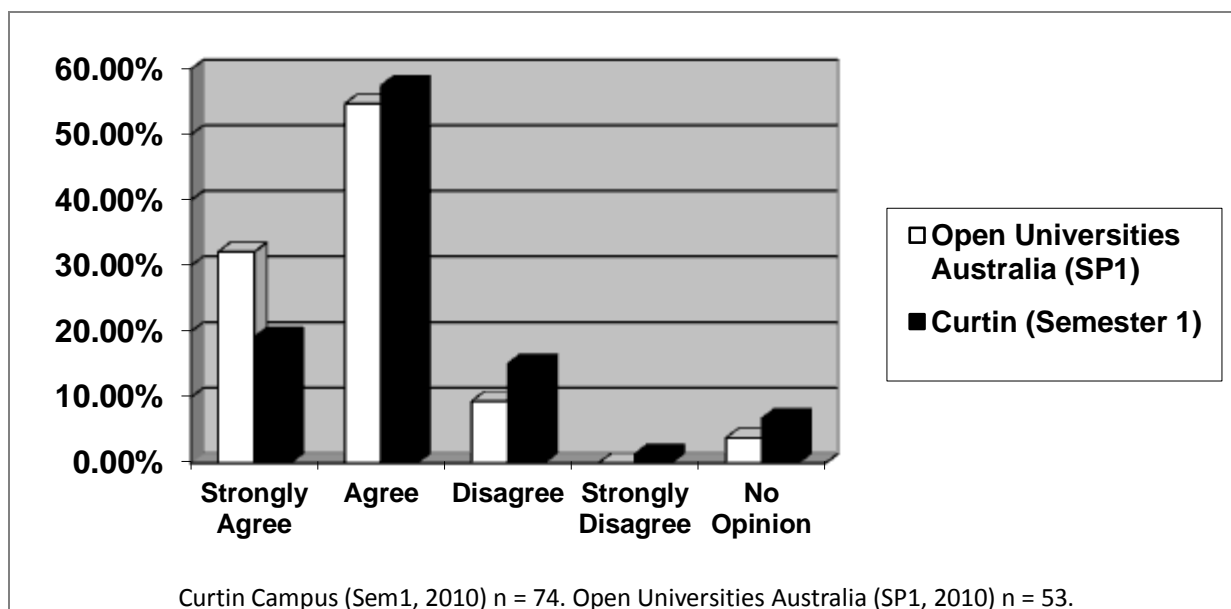


Figure 2: I found Twitter straightforward and understandable to use

Having established that Twitter is relatively easy to use, the number of tweets is also highly important. The archive of tweets using the #web101 hashtag for the duration of the unit ended up containing 242 tweets, with approximately a quarter of those made by the unit coordinator or tutors in the unit. When surveyed, 64% of OUA students found the hashtag useful in locating their fellow students (15% did not, while 21% had no opinion) while only 45% of Curtin campus students found the hashtag useful, with 20% responding negatively and 35% having no opinion – quite possibly this group did not use Twitter at all (see Figure 3). Tweets by students were generally one of three types: **social**, introducing themselves, chatting about life outside the unit, or even arranging face to face meetings in cities with a significant number of students; **resource-sharing**, mainly with students highlighting links to current resources, news items, blog posts or other material

relevant to the unit; or **questions** either asked of anyone listening, or specifically directed at tutors or the unit coordinator. While 242 #web101 tweets ostensibly appear a very small number, closer observation revealed that most students who used Twitter over a sustained period stopped using the hashtag when having social discussions, reserving it for sharing of relevant links or for flagging messages intended for tutors or the unit coordinator. After an initial flurry of social and introductory messages in the first two weeks of the course, mainly from OUA students (and two Curtin campus students), social exchanges rapidly stopped using the unit hashtag. A second set of social and introductory tweets occurred in the week that Twitter was formally introduced in the teaching material, but again use quickly shifted toward link sharing and tutor-directed questions, with social conversations not using the hashtag.

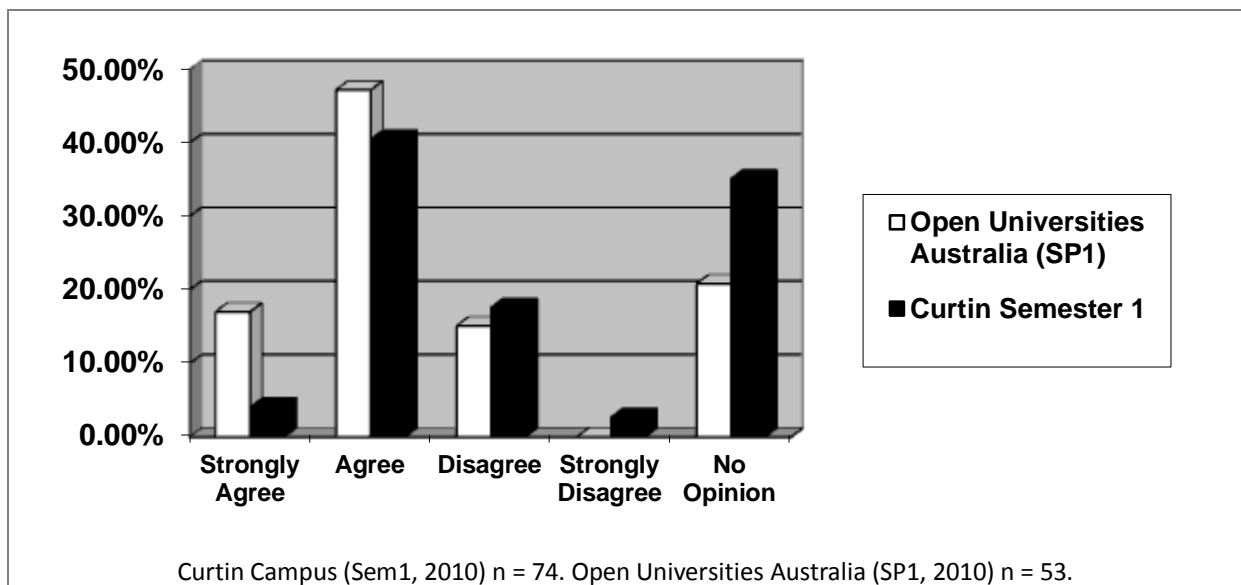


Figure 3: I found the #web101 hashtag useful in locating my fellow students on Twitter

One Twitter function that was not emphasised in the unit material, but students deployed on their own terms, was the use of Twitter lists. A list allows any Twitter user to build a list of other Twitter users and to view the resulting tweets by themselves. In some ways this is similar to a hashtag, but rather than indexing specific tweets, a list combines the tweets from a specific set of twitter users. Both the unit coordinator and some of the more prolific Web101 twitter users set up lists of all self-identified Web101 students (i.e., anyone who had used the hashtag); since public lists can be viewed by anyone, not just their creator, lists became a default view for many of the active Twitter users. This was positive in terms of informal learning for many students, since this grouping allowed social bonds to form more easily. As one student commented:

I got a sense of community. By using Twitter . . . I didn't feel I was working alone online. The sense of community and the support of groups I joined was very helpful, in terms of sharing ideas on the course, and in voicing our concerns for various assignments. (Student 4)

A rough count indicated that there were at least ten times more tweets (in excess of 2000) made by students chatting with each other, having found each other using the hashtag, but only using it once or twice socially and thereafter only, if at all, when sharing relevant resources. From the qualitative responses, one student specifically highlighted that while this social interaction had benefits, it could also be overwhelming:

There were several people who used it [Twitter] as a chat channel which resulted in a flood of tweets that made it hard to keep up, and resulted in only about 10% of what appeared in that account being actually useful/interesting. . . . As the lecturer and tutors were all active on Twitter, and some students were asking questions that were being answered via Twitter, I felt I couldn't ignore it but I didn't feel that the #web101 hashtag was actually used enough to make it worthwhile following, too many Q&As didn't use it so I waded through the lot. (Student 3)

Having not explicitly established that any new information would be replicated on the Blackboard discussion boards, some students felt they had to track the Twitter conversations. While the tutors and I (as unit coordinator) never released information exclusively on Twitter, this response makes it clear that any communication practice needs to be explicitly stated, not left implicit.

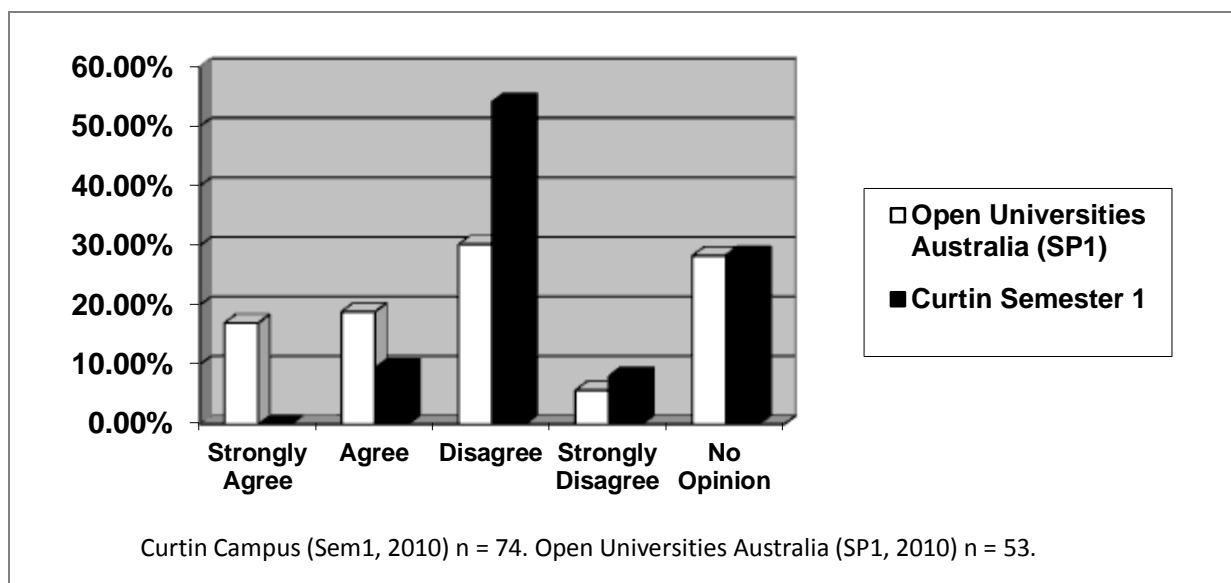


Figure 4: My use of Twitter during this unit strengthened the sense of community between myself and my peers (fellow students)

When responding to the statement “My use of Twitter during this unit strengthened the sense of community between myself and my peers (fellow students)” 36% of OUA students responded positively, 36% responded negatively, while 28% had no opinion. Amongst, the Curtin campus students only 10% felt Twitter had increased their sense of community, with 62% responding negatively and 28% having no opinion (see Figure 4). The mainly negative or indifferent response from campus based students is not surprising since their face to face tutorials would almost certainly provide more regular and sustained opportunities for engaging with each other and forming a sense of community,

if one is to emerge. While 36% might at first glance appear relatively low for the OUA students, with more than a third of the students in the unit stating that Twitter did strengthen their sense of community with their peers in the unit – and keeping in mind that Twitter use was entirely optional – this is actually quite a positive response. Given the wide range of people who study online through OUA, there will always be a significant number of time-poor students who do not wish to engage beyond the immediate unit material and assessments. For 36% of responding students to enhance their sense of community, this suggests that for those who are after a richer student experience, Twitter is definitely a tool which makes a significant contribution in facilitating that connectivity. More to the point, for those students who did engage, they appeared to engage deeply, using Twitter frequently for informal learning and social interaction more broadly. As one student explained:

Twitter was my 'first port of call' in learning online. Having direct access to the tutors and lecturer was invaluable and felt tantamount to the same kind of physical access one would have on campus. I was able to ask simple questions and reliably get almost immediate responses from both faculty and students. It also made everyone more approachable by adding a social element. When your entire interaction takes place with people on an asynchronous message board, it's near impossible to develop any kind of friendship but on Twitter, everyone is friendlier so I got more out of the discussions. In my experience, having a casual, informal place to explain to each other, in layman's terms, the content of the unit, made learning possible where it wouldn't have been otherwise.
(Student 2)

Reinforcing this point, in the responses to a similar statement - “I found Twitter a useful communication tool for engaging with my peers (fellow students) and/or the tutors and unit coordinator” – 53% of OUA students responded positively, 35% negatively and 12% had no opinion, while only 26% of Curtin campus students responded positively, the majority, 57% negatively, with a further 17% having no opinion. From the survey and qualitative responses, it appears that Twitter use can definitely enhance student engagement for those students studying online who seek or value the more social elements relating to learning experiences. Conversely, students who meet face to face on campus tended to see less value in Twitter socially since they (presumably) had sufficient access to social interaction in tutorials and other face to face interactions on campus.

While Web Communications 101 introduces a number of different web-based communication tools, we deliberately set the parameters for students’ exploration as broadly as possible, encouraging them to embrace knowledge networking and seek out any web-based tools that may be useful, beyond those explicitly mentioned in the unit materials. This was encouraged by the assessment which required the demonstration of some web-based tools as nodes in a personal website, and also a learning portfolio where students could reflect on any web-based communication. For some students, especially those who were active socially on Twitter, the freedom to explore opened even further opportunities for informal learning and knowledge networking. As one student explained:

During my discussion with one student, we ended up going into Donut [an alternative chat-based social media tool] to complete the discussion because the 140 character limit was an issue. . . . The chatroom was a fantastic place for brainstorming assignments, discussing module and lecture information on a weekly basis and touching base in 'real time' with other students who were often as lost as me at times. (Student 1)

When these students sought out and discovered alternative online communication tools based on the exact affordances they needed, they embodied the unit philosophy about individual exploration of these tools, an important element of self-propelled learning. Anecdotally, having followed the trajectory of a number of these students for over a year, these students have embraced other tools as well, creating their own Facebook discussion groups, Facebook and Twitter groupings for other units and so forth. While investigating these in depth should be the subject of future research, it is nevertheless key to evaluating Twitter in this instance to see that it inspired students to embrace informal learning opportunities which were not restricted to a single unit, but persisted for many students for the duration of the degree which they are studying. In many ways, this is the most important thing about student engagement; these ties can last far longer than any single unit, and seeing online students self-organise social and support opportunities that persist is highly significant in them helping each other enjoy learning online with the same opportunities as campus based face to face students.

While there are a number of positive aspects evident from student responses, the clearest area which needs more work and attention in future versions of the unit, is the setting of clear boundaries. As noted above, even though Twitter use was optional in the unit, some students presumed information might be released by the unit coordinator or tutors that was not available on the official Blackboard discussion boards. This was not the case, but the fact that a student might presume this is a clear indication that an explicit statement is needed about the bounds and nature of use of Twitter, or any other communication tool, in the unit (especially since the teaching staff were present on Twitter). Similarly, most of the tutors and I used our regular Twitter profile to interact with students, but it quickly became evident that it was impossible to escape student contact at any point we used the Twitter service. For example, if I was using Twitter to interact with colleagues or share professional resources on a Sunday evening, then a student may notice my tweets, then ask a quick question; at first, one or two quick replies does not feel like a lot of work (especially since they could be no more than 140 characters), but quickly over the duration of the semester, Twitter became a place where students were always present. As unit coordinator, with a full-time position, this was manageable, but for tutors who are paid for a set time or amount of engagement, the boundaries were harder to identity and maintain. In future uses, either specific times for engaging with students, or possibly creating a second account specifically for interactions with students might be a good idea. That said, as previous research suggests tweets with some social information lead to more credibility (Johnson, 2011), a second account may lose this element. Indeed, the tension

between sharing social information while trying to maintain a professional approach is also evident in this student comment:

The only thing that got me thinking, towards the end of the unit, was a situation I was in where I disagreed with one of the tutors via one of the informal social media tools, about something that was completely outside of the course outline. I alternated between wanting to fully express myself, and being worried that doing so would impact on what was happening within the course. Probably it didn't but that's one of the issues with entirely-online communications - it's sometimes difficult to gauge how far you should go in certain situations without seeing faces and expressions. (Student 3)

Here the student's comment is a clear reminder, that while social elements may be important for credibility and engagement, they need to be carefully managed and considered if Twitter is a tool for discussions with students. Students can generally self-police what they choose to share, but having clear boundaries and expectations from tutors and the unit coordinator will likely contribute to a smoother and more sustainable use of Twitter and similar tools in this and other units.

Conclusion

Twitter is not a single solution in the quest to enhance student engagement or increase informal learning opportunities, but from the responses outlined above, it is a tool which, when deployed successfully, can make a valuable contribution, especially for students studying online. This small study suggests that in terms of student engagement, Twitter uptake will be higher amongst students who lack face to face opportunities to interact. In addition, four clear guidelines have emerged for effectively setting up Twitter use in a unit with the intention of encouraging informal learning:

1. **Use a hashtag.** Establish a hashtag before integrating Twitter into a unit, and check that your chosen hashtag is not already being used. While students may only use a hashtag initially to introduce themselves, it is vital as it allows every person using Twitter in a unit to identify themselves and find each other. However, in terms of tracking students using Twitter, just archiving tweets with the hashtag will probably be inadequate since social interaction between students is unlikely to use an established unit hashtag.
2. **Model Twitter use.** As many students will be unfamiliar with Twitter, having the unit coordinator or a tutor model Twitter use – sharing resources, welcoming new unit users to Twitter and so forth – establishes and reinforces best use in relation to a unit or course.
3. **Encourage students to explore other tools.** If the aim is to encourage student interaction, then giving them the freedom to explore other tools, and use them, may allow other spaces for student engagement to emerge organically.
4. **Set clear boundaries and parameters.** How often will tutors or unit coordinators tweet? Will they always reply to students or only at specific times? When should a comment be directed back to the official discussion boards so

students not using Twitter can see the answer? Should teaching staff use a new Twitter account or use an existing one? Answering these questions in advance, and sharing that information with students, will ensure that Twitter (or any other communication tool) is used in a way that suits teachers and learners. Clear expectations are always paramount in clear communication.

While the use of Twitter will always be context-specific, these guidelines will assist in thinking through the appropriateness of this or other communication tools. Broadly, though, in gauging whether Twitter can be a useful tool for enhancing student engagement and facilitating informal learning, the final word has to come from a student:

Learning online is excellent for the academic side of things, but a large part of the university 'experience' comes from the friendships that are made. This aspect of university online isn't really dealt with in any way through the official communications which, for me at least, seems like an enormous waste. I know that many students seem to learn better when they are connected to others and are learning with friends. Encouraging or requiring some kind of social interaction through social media tools would be a big step towards achieving this. (Student 2)

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