Lessons learned from introducing social media use in undergraduate economics research

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ABSTRACT

The research process and associated literacy requirements are often unfamiliar and daunting obstacles for undergraduate students. The use of social media has the potential to assist research training and encourage active learning, social inclusion and student engagement. This paper documents the lessons learned from developing a blended learning model for undergraduate economics research incorporating social media blogging at a regional university in Australia. Student surveys, interviews with colleagues and students, in addition to a review of higher education literature highlight key issues associated with the choice of social media platform, need for clarity in assessment design, and assumptions of student proficiency with social media. The process of applying these findings to the design of a new subject are documented, highlighting a number of unanticipated institutional obstacles. It is hope that our findings will be practical and useful for instructors to consider when contemplating the introduction of social media to their teaching and learning practices.

Keywords: social media, blended learning, undergraduate research

INTRODUCTION

In 2012 the University of Wollongong (UOW), a regional university located approximately 100 kilometres south of Sydney in Australia, introduced a Bachelor of Economics as a niche degree to be pitched to relatively higher achieving students, with the intention of providing a stimulating challenging offering that would potentially retain local students and potentially attract others from the metropolitan Sydney market. There was a clear message in the development of the degree that we wanted to equip our graduates with independent research skills in order to compete with students graduating from the larger capital city based universities. After all, the ability to conduct research is deemed as an extremely important graduate quality for economics students, both for those going into industry as well as going onto honours and other higher degree research (Hansen 2001). However, the level of academic and literacy skills required for undergraduate students to complete a significant research project within the constraints of a single semester presented a formidable pedagogical challenge, complicated further by students' relative inexperience in conducting research, which can be a daunting and lonely task for those unaccustomed or ill-prepared.

However, higher education research literature indicated that social media may be a useful inclusion in our subject to capture salient features of students' research progress. Past research had established that the effective use of social media could potentially aid social inclusion, encourage active learning and enhance student engagement. However, other literature highlighted potential problems associated with instructors' relatively low levels of proficiency with

social media and digital technology which could result in wide divergence between student and instructor perception of what may constitute high quality academic performance.

The purpose of this paper is to share the process taken, and lessons learned, in incorporating social media into an undergraduate research focussed subject. The structure of this paper starts with a literature review of the use of social media in higher education. The methods used in the current research are discussed, followed by the findings from interviews of academics and students at UOW regarding the appropriate and effective use of social media. The process of developing the research subject incorporating social media blogging and the lessons learned in its initial years of operation are documented and discussed, followed by a summary and concluding remarks.

LITERATURE REVIEW

Social media can be defined as "a group of internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of User Generated Content" (Kaplan and Haenlein 2010, p. 61). Social media must satisfy some or all of the following criteria (Van den Dam 2010). First, it is participatory in nature, encouraging contributions from interested parties. Second, authority is decentralised where control is exercised by users, rather than the media owner. Third, it consists of two-way rather than one-way conversations.

Utilising social media in a tertiary teaching setting has been credited with encouraging student autonomy, catering to students from diverse backgrounds, fostering active learning and enhancing student engagement (Balakrishnan and Lay 2016, Joonsten 2012, Becker *et al*. 2007, Dunn *et al*. 2004, Cook 2001). An additional benefit is the ability to establish and encourage constant and instantaneous engagements and interactions between people, institutions and organisations (Okoro 2012). However, the literature also highlights a number of cautionary tales. First, a number of researchers warn against a sole reliance on social media and emphasise the need to find a balance between the use of social media technology and rich face-to-face communication (Cardon and Okoro 2010, Okoro 2012). To put it into simple economics language, social media and face to face communication should be viewed as *complements* rather than *substitutes*.

Second, a major hurdle to the widespread adoption of social media in an educational setting is that the instructor typically does not have the same expertise level as the student (Jones-Kavalier and Flannigan 2006), who are typically assumed to be familiar, proficient and comfortable with social media platforms (Zdravkova 2016). Barriers faced by instructors include a lack of formal guidance, lack of confidence, a perception that innovation creates more work, and uncertainty and lack of control over what students will contribute (Collis and Moonen 2008). Next, are the problems associated with comprehensive assessment design and lack of clear guidance for both student and instructor. This dilemma can result in a wide divergence between student and instructor perception of what constitutes quality performance (Zurita 2006), and introduce a level of anxiety to students Kivunja (2015).

Third, the assumption that all students are proficient in the use of social media and technology is often flawed. Even students that use social media frequently often need to be taught how to use it in an educational context. Therefore, in order to effectively integrate social media into the course curriculum, it is necessary to instruct students in social media critically and intentionally to optimise learning outcomes (Abe and Jordon 2013).

Fourth, Barczyk and Duncan (2012) highlight a number of ethical and legal considerations associated with social media being in a public domain. There may be unwanted consequences if private and personal information becomes intertwined with education, third parties posting messages to users' accounts, and inappropriate content or posts. For example, Facebook has been called a "weird twilight zone between public and private information" (Wankel 2009, p. 252). It is therefore recommended that available information should reflect the instructor or student in a professional light at all times. Furthermore, users need to be aware of, and educated on, privacy settings and legal issues.

Finally, a vast array of individual social media platforms have emerged over the years, which include, but are not limited to, Twitter, YouTube, Facebook, Google+, Myspace, LinkedIn, WordPress, Ning, Xing, Tumblr and Second Life. They generally differ by the level of media richness and the level of self-presentation or disclosure (Barczyk and Duncan 2012). Therefore, one must be mindful of choosing the appropriate tool for the task. For example, Twitter is limited to 140 characters which restricts the communication of in-depth thinking but is useful for gathering instant feedback (Tang and Hew 2017). In comparison, Pinterest is beneficial for the organisation of visual content (Drenten 2013). Facebook has been touted as helping to connect students with instructors and facilitating team-based learning (Ratneswary and Rasiah 2014), however, many are hesitant to use it in an educational setting, instead preferring to keep their social and professionals lives separate (Taylor *et al.* 2012). In comparison, blogging on platforms such as WordPress has been shown to facilitate students' expression of ideas and self, provide a platform for generating discussion, receiving feedback from classmates, and developing writing skills (Neier and Zayer 2015).

While social media use in higher education initially emerged in social sciences and humanities (Tang and Hew 2017) it is now widespread across other undergraduate teaching disciplines such as business studies (including economics) (Ratneswary and Rasiah 2014) and the sciences (Manca and Ranieri 2016). However, regardless of the teaching area, its use as a tool to aid students conducting academic research based projects or subjects is absent. Given that academic research is typically an individual and unfamiliar journey for undergraduate students, the utilisation of blogging via social media has the potential to be particularly useful in helping students reflect, discuss obstacles and common research problems with peers, and connect with external institutions and researchers.

METHOD

A number of different methods have been employed in past studies analysing the use of social media in higher education. Quantitative analyses have been conducted on *ex ante* surveys of students' attitudes toward (Mao 2014), or intentions to use (Balakrishnan and Lay 2016), social media. *Ex post* surveys of student satisfaction with social media following implementation in their subjects have been reported (Zravcova 2016) as well as controlled experiments measuring online participation using alternative assessment structures to estimate the 'optimal' level of social media use (Cann *et al.* 2006). Similarly, surveys of academics' attitudes to implementing social media are relatively common (Manca and Ranieri 2016, Sobaih *et al.* 2016). However, qualitative studies of instructors' experiences in using social media within their subjects are relatively less common (Veletsianos *et al.* 2013). In particular, the institutional, operational and practical challenges faced in the implementation phase is largely absent from the current literature.

The current research comprises a number of steps. First, an overview of the pedagogical issues an instructor should consider when contemplating the introduction of social media in higher education is presented. The conceptualisation of these issues was initially documented in the literature review component. However, to gain a deeper understanding of the benefits and

challenges inherent in embedding social media in teaching and learning we drew upon the existing knowledge base within our University. Lecturers already using social media in their subjects were identified across UOW and invited to participate in semi-structured interviews documenting their experiences. Five out of the seven lecturers using social media agreed to participate in these interviews. We were particularly interested in discussing the variety of social media platforms used, as well as issues associated with assessments such as marking criteria, and aligning social media use with subject learning outcomes. Next, the perspective of students was captured in a focus group of twenty-five students who had completed studies across different subject areas that had incorporated social media. Students were asked about their prior experience using social media, as well as what they liked and disliked about the use of social media in their studies.

Second, the process of implementing the introduction of social media in an undergraduate research subject is documented. Previous research has neglected the practical challenges at the institution level in the planning and approval process, flexibility of information technology systems, assessment design and aligning social media use with subject learning outcomes. Finally, we present an evaluation of the process from the perspective of students in the subject, relying on student survey results collected at the beginning and conclusion of the teaching session. This is accompanied by a brief account of the evolution of the subject since its introduction.

INSTRUCTORS' PERSPECTIVES

Social media at the University of Wollongong was mostly restricted to the Bachelor of Communication and Media Studies (BCM) program in the Faculty of Arts and the Bachelor of Digital Media program in the Faculty of Creative Arts. The range of social media used in these programs included Google+ and SkyDrive for sharing material, Twitter for frequent and short posts, YouTube and Vimeo for interviews and sharing video, WordPress and Tumblr for blogging, SoundCloud for sharing audio, and Facebook for collaborative projects. In comparison, social media use in Business related subjects was found only in Marketing and Public Relations subjects.

Rather than being embedded in subjects in an ad hoc basis, the use of social media played both an important and central role for BCM students throughout their degree in the Faculty of Arts. Students were required to create a blog site and obtain a Twitter account in their first year and continued to utilise it throughout their degree, with the intention of developing their public professional identity. Typical assessments in BCM undergraduate subjects using social media were based on mandatory weekly Twitter posts and WordPress or other blog platforms. The tweets were meant to convey short and frequent information, with the blogs typically meant for deeper critique and reflection. WordPress blogs were used throughout the Digital Media program in the Faculty of Creative Arts. In this case, a central blog site was created for each subject which all students were given access to. Contributions to the site occurred throughout the degree, with first-year students expected to read and comment, and third-year students writing and contributing content directly to the blog. As part of their creative practice, students were expected to upload and share examples of their photography to Tumblr, video production on Vimeo, and audio production on SoundCloud, which were then linked in the blog for peer review and assessment.

With regard to blogging assessments, one academic commented that it was important to provide students with specific reflective questions in order to give students direction for their weekly blogs. These blogs on common issues then had had the effect of creating a common community, with students writing both with and for their peers, not just their instructor. Furthermore, it was deemed as very important for students to be able to meet with their instructor often to obtain

frequent feedback in order to further scaffold this process. As assessment criteria was commonly based on the level of critique and engagement, and could therefore be relatively subjective in nature, a significant issue was developing the experience and trust of tutors, especially if assessments were being marked by different tutors.

The manner in which social media was utilised differed by the level of subject. The lecturer of a third-year project based subject commented that he was more interested in assessing the *process* rather than the *outcome*, with this aspect subsequently reflected in assessment weighting. In contrast to first and second-year subjects, some third-year and postgraduate subjects allowed students to choose which social media platforms they wanted to use and the criteria on how they were to be assessed. The intention was to empower students with a greater level of autonomy in order to allow them to shape and transform their course.

A common observation was that university systems and processes were not very well designed to accommodate the use of social media. It was not uncommon for co-ordinators to circumvent university IT policies and practices in order to introduce social media into their subject tailored for their specific subject purposes. For example, eLearning platforms such as Blackboard or Moodle were unable to handle rich media files produced by students because of file size, or default settings were too restrictive and unable to be customised. Similarly, collation of social media material for assessment was an issue, especially if multiple platforms were used. The University was encouraging the use of the ePortfolio package Mahara, but this was deemed inadequate and "clunky" by many academics and thus not widely utilised.

Finally, workload issues were a concern to many academics. While the instructors interviewed were passionate about their teaching and eager to innovate in their teaching practices they were also wary that the level of preparation and active participation may be to the detriment of their other research goals. In turn, some Heads of School were hesitant in approving non-standard practices where non face to face teaching hours were difficult to quantify. Subjects that did not have weekly two-hour lectures followed by one-hour tutorials and assessments consisting of a mid-session and final exam made the Heads suspicious as to what their teaching staff were doing with their allocated teaching workload hours.

STUDENTS' PERSPECTIVES

From a student's point of view, the first myth to dispel is that all students are already proficient with the use of social media and are "digital natives", as has been assumed in other social media research (Zdravkova 2016). Many BCM students were not formerly Twitter users and commented that it took several weeks to become familiar with the platform and how to use it for their subjects. However, students generally spoke highly of the informal and social aspects of both Twitter and WordPress blogs. According to one first-year student, these platforms allowed them to interact with their instructors in a way that was "less intimidating than email", as they were able to interact in a more social and casual way.

The need for clarity in assessment guidelines was a reoccurring theme and deemed of paramount importance to students. Those unfamiliar with using social media at niversity sometimes struggled to understand what was expected of them in assessments, finding some assessment criteria to be vague and subjective in nature. Some thought they had done more work than their classmates only to receive similar marks. While some subject co-ordinators were happy for students to "fail early and fail often" in an iterative process of learning, students used to high achievement were generally not comfortable with this practice and sought clear assessment criteria and boundaries. Past examples of student assessments, or exemplars, were often helpful

to students to guide their expectations. However, academics had mixed views on providing such material to students in advance.

Finally, most students enjoyed or did not object to having their work in an open forum. There was a specific case in Digital Media involving a student who refused to post his/her work online. This student eventually was persuaded to do so by the instructors but immediately removed the work once it had been assessed. Students in the BCM program spoke appreciatively of having their work made accessible online, as it demonstrated the progression of their ideas and knowledge of social media in a way that would benefit them in their future careers. In this sense, the students agreed that their blogs were of more value to them than a traditional assessment like an essay, which would only be read by the marker and not of interest to a potential employer. While some did not enjoy group work or having to comment or peer review each other's blogs, "unintentional teamwork" or the creation of a community of classmates was generally seen as a positive spillover of using social media.
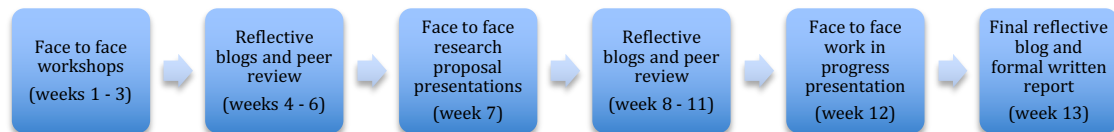
IMPLEMENTING AND EMBEDDING SOCIAL MEDIA IN AN UNDERGRADUATE RESEARCH SUBJECT

The use of social media within the subject *COMM330 - Economics and Finance Applied Research Project* was considered in the planning and development stage prior to the subject being introduced, rather than being an afterthought for an already operational subject. As such, the lessons learned from the literature and consultation process were firmly in mind at this inception stage. First, social media would only be used as an enhancement or complement to traditional instruction rather than a focus in its own right. Social media could be exploited to enhance social inclusion, active learning and to capture aspects of the research process. However, its role was alongside, rather than as a replacement, for that of face to face teaching and student written and oral presentations. Second, clarity of social media assessment structure and marking criteria required careful thought. Finally, as the use of social media in Faculty of Business as well as research based subjects was relatively new and unfamiliar at the University, some institutional and administrative obstacles were anticipated.

A blended learning model was developed with the use of social media designed to complement the face to face instruction and participation. The initial three weeks of the thirteen week session consist of workshop style lectures where students gradually conceive and then develop their chosen research topic. Lecture content covers various facets of research such as research paradigms, choosing a topic, conceptualising and scoping a research question, choosing an appropriate methodology, and plagiarism. After this point students are expected to conduct their own research projects in the ensuing weeks without any more formal face to face lectures. In order to encourage students to attempt challenging topics but at the same time relieve the pressure to produce substantial research outcomes in the limited time available, we emphasise capturing the research process, more so than the outcome. Thus, the use of regular social media blogging of general research progress as well on reflection on specific topics was intended to considered to be a potentially useful teaching and learning enhancement to students' research process.

Students produce five blogs on specific aspects of the research process throughout the session such as forming a mind map, refining research questions, conducting a literature review, selection of a methodology, and time management. The timing of these topics were planned to represent the various milestones students are expected to address at various points of the session. In addition to the reflective blogs, peer review blogs are utilised to introduce some comradery and community into the research process. Each student is allocated a "buddy" in week 1 who must provide constructive feedback as a reply to each of their peer's blogs.

The blogging assessments are interspersed by other face to face touchpoints throughout the session (see figure 1.). First is the presentation of a research proposal in week seven that requires formal feedback and approval for the research project to proceed. Next is the work in progress presentation of empirical findings in week twelve. Finally, students submit a final written report at the conclusion of the session. The final report, in effect a mini thesis, comprises literature review, identification of research questions, theoretical framework, methodology and quantitative analysis, and discussion of the implications of the findings.

Face to face workshops (weeks 1 - 3)	→	Reflective blogs and peer review (weeks 4 - 6)	→	Face to face research proposal presentations (week 7)	→	Reflective blogs and peer review (week 8 - 11)	→	Face to face work in progress presentation (week 12)	→	Final reflective blog and formal written report (week 13)

Figure 1: *Sequence of face to face and social media interaction*

Given that most students were third-year and in their last semester, initially we wanted to give students the freedom to choose their own media platform in addition to their own topic. However, given the vast array of platforms and students' relative inexperience in using social media use outside of Facebook, we ultimately advocated WordPress as the preferred platform. This selection was partly driven by one of our guest presenters from the Faculty of Arts who was able to demonstrate the potential benefits of using this particular platform in addition to providing us with many auxiliary online resources and ongoing support. Ironically given this internal support from an academic experienced in the use of social media in their teaching at UOW, we still had to circumvent the university's IT policy to allow students to blog in open public space rather than use the approved "lite" version of WordPress. However, this aspect proved crucial as students were able to connect with other academic researchers in their field, enhancing a sense of community and further motivating their research efforts.

We were careful to address clarity of assessment design and expectations from a number of angles. First, students were provided direction to reflect on a number leading questions within each reflective blog. Second, we facilitated a dedicated session in the lecture workshops devoted to discussing the marking rubric, particularly the "depth and critical nature" of reflective blogs and "practical and constructive feedback" for the peer review (see Figure 2.). In the ensuing years, students were provided access to past students' WordPress sites for further guidance.

We received very mixed signals from various levels of the University surrounding the development and implementation of what was at the time a non-standard subject. At both the Institution and Faculty level we were encouraged to pursue a blended learning model incorporating social media. The University was undergoing a curriculum transformation which included a number of phased "Digital Learning Thresholds." As such, academics were encouraged to make greater use of the University's eLearning platform and look to incorporate greater online content, delivery and assessment. As such, the development of the COMM330 subject attracted both University and Faculty competitive learning and teaching grants.

		Task 2 Weekly reflections that reflect on both process and topic of your research "depth and critical nature"	**Task 3 Peer review** "constructive feedback" – comment on process in small groups
HD	Excellent	Your posts are of a professional public standard. Your writing, your use of evidence and the bigger questions you're raising are able to engage intelligent general readers in the issues that you're researching without compromising your specialist knowledge.	Your replies are of a really high standard in a way that raises new questions for your group partner(s) – reframing issues in a new way, redirecting or resolving problems.
D	Impressive	Your posts are consistently evidence-based and demonstrate that you understand wider significance of your specialist research topic. You're asking questions that help both the specialist and expert reader think about why this topic is important.	Your replies consistently use both relevant questions and helpful links to demonstrably add value to what your group partner(s) *and their readers* are thinking about
C	Solid	Your posts are beginning to demonstrate that you're linking appropriately to other good quality sources, and offering basic to solid analysis of their significance	Your replies are beginning to contribute additional relevant links or resources, or introduce questions, that are helpful to your group partner(s)
P	Satisfactory	You have completed the required number of posts, writing at a basic and descriptive level, without evidence that you are using other sources than your own thoughts.	You have completed the required number of comments on your group partners' blogs, writing clearly and in a way that demonstrates that you really have read the posts

Figure 2: *Reflective blog and peer review marking rubric*

Unfortunately, the environment was not so encouraging or fostering at the School or departmental level. Some academic colleagues were sceptical of the merits of students blogging, with anything other than face to face teaching being viewed as shirking the traditional academic workload. In the initial peer review process for subject outlines approvals, the COMM330 outline was outright rejected by the peer reviewer who called for a dedicated textbook, standard face to face teaching hours and mid-session and final exam format. In the following year the School's Academic Program Leader conducted a unilateral review of the subject and rejected most of the curriculum, supposedly on pedagogical grounds. Similarly, they proposed an alternative lecture, tutorial and exam based format. Fortunately, both obstacles were overruled at higher levels.

EVALUATION

Week 1 student surveys were used to record students' research experience, quantitative expertise, as well as their experience and proficiency with use of social media in both social and

education settings. These survey results confirmed that students possessed little research experience and generally lack confidence to choose a topic and undertake a research project. Apart from Facebook and YouTube, students generally did not have any experience with other social media platforms, nor had they used social media elsewhere in their studies. Rather than feeling at ease with the relaxed communication style of social media, they were apprehensive about blogging for assessment purposes. To our dismay, many initially viewed the use of social media as an added stress to the research process rather than a support tool.

In contrast, student feedback from surveys in the final week of session has generally been extremely positive (see Figure 3.). Many students are initially forced outside of their comfort zones with the use of social media but ultimately appreciated the benefits:

> "It meant that I had to think about my project on a week-to-week basis, which helped in terms of coming up with new ideas for my project. I enjoyed sharing my progress and following others in their research. I particular liked connecting to other people commenting on my research and gaining valuable insights from other perspectives. Overall, I think social media use in a subject like this one is a great idea, as it forces students to keep thinking about their projects and be creative." Anonymous COMM330 student, End of Session Survey 2013.
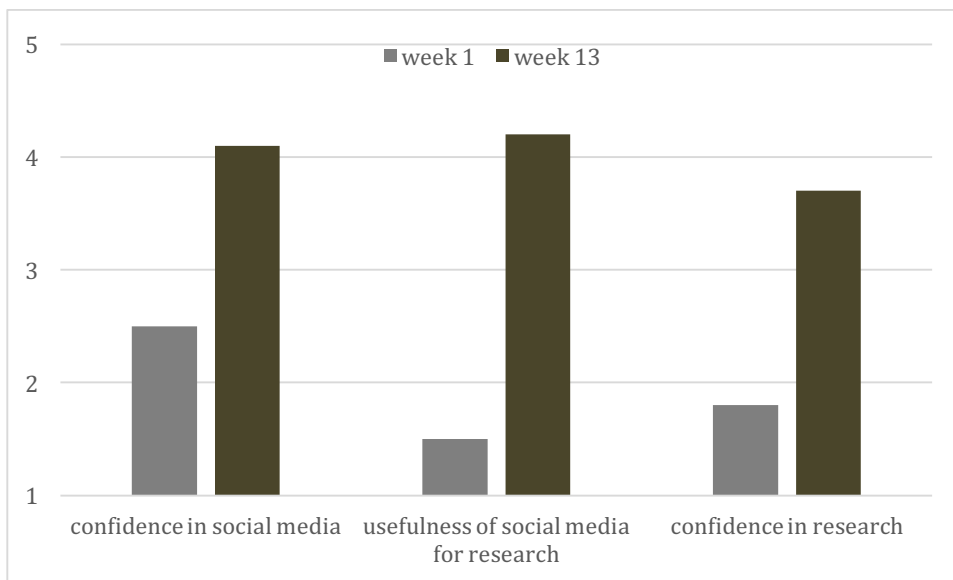
Figure 3: *Student survey results (2015, n=23)*

Students have tackled a vast array of challenging contemporary topics, from the standard economic growth and trade type of topics to climate change, indigenous employment, corporate morality, and the role of bitcoin in economics. The benefit of students focussing on the research process via reflective blogging rather than being preoccupied from the outset with the research outcome has ironically led to a number of strong research outcomes:

> "The research process in itself has been a great learning experience of a self-directed project. It has presented itself with great difficulties, forcing me to overcome them and

explore my sphere of thought via the reflective blogging assessment. The notion of applying my own research and knowledge in conjunction with existing data to fill a research gap is something that I would not have seen myself doing in the past." Anonymous COMM330 student, WordPress blog 2017

In addition to the standard delivery of the subject, the flexibility of the subject content and structure has allowed us to run the subject in work internship and overseas study tour formats. The work internship consists of a standalone defined research project negotiated with the host organisation which have included local council, regional development boards, national airlines and not for profit organisations. We have to be very mindful of privacy, so in some circumstances we steer clear of the public domain for blogging and this is done between student and instructor only. Similarly, oral presentations often occur in front of the organisation's representatives instead of other students and we are more flexible and tailored in terms of blogging topics and assessment deadlines.

In 2015 and 2016 we received student mobility funding to take students on a study tour of Thailand and Laos. In this case, students were directed to choose a topic related to the economic development of either country, and ideally linked to our research visits such as World Bank (Bangkok Headquarters), United Nations Development Programme (Vientiane), and various government policy departments and agencies. Reflective blogs were conducted while on tour and were more fluid in nature, tending to mirror the destinations and issues faced on a daily basis.

Slowly, the non-standard design and use of social media has gained acceptance by peers within the Faculty of Business and has been replicated within other subjects. On a national level the subject has been recognised as an exemplar case study in Australia (Office of Learning and Teaching 2017).

SUMMARY AND CONCLUSION

In summary, we embarked on an exciting but also potentially risky journey of utilising social media social media as part of a research-based economics subject. Many lessons were learned from the literature, academic colleagues and students that are of use to practitioners contemplating introducing social media to their classes.

A vast array of social media tools are available for instructors to consider. It is therefore important to tailor the appropriate tool to the task at hand. While Twitter is useful for short, frequent and instant communication, it is not appropriate for detailed discussion and reflection. A key requirement for our research subject was to capture research progress and reflection on aspects of the research process, thus requiring a blogging platform such as WordPress.

Both the literature and our interview data highlighted the need to use social media to complement, rather than replace, face to face instruction. Face to face instruction for both research training in addition to regular touchpoints for research proposals and work in progress presentations were thus embedded in our subject to scaffold the research journey. Social media is then used to capture essential features of both research progress and reflection while students are "in the field".

While research generally found that students were "digital natives" and both comfortable and proficient with social media, it also emphasised the need to incorporate student training of how to use this medium in a higher education context. Our interviews with students across Faculties as well as survey findings from our research students actually showed that many had little experience in using social media outside of Facebook and YouTube. In addition, our student

survey data indicated that students were initially apprehensive about the use of social media and as such viewed it as an additional stress to the research process. Workshops on the use of social media, online instruction on how to set up WordPress sites, as well as past examples of students' social media blogs were used to address this situation. End of session student evaluation results tend to show a marked improvement in their proficiency, confidence, and appreciation of the benefits of social media for research and higher education.

On a related issue, the need to clarify the expectations and marking criteria when social media is used as an assessment tool was a reoccurring theme within our research. Without this there was potential for divergence between instructor and student as to what constituted a high quality performance. This could be further complicated if multiple tutors, or teaching assistants, were responsible for assessment marking. For this reason, the marking rubric for blogging assessments was developed in a workshop with the assistance of student input. The ability for students to meet frequently on a frequent basis to obtain feedback, in addition to the availability of examples of past student work, are thus recommended.

Finally, a unique insight from our research was the various institutional obstacles that can impede the effective introduction of social media. These ranged from inadequate or ill-suited information technology components and policies, academic workload considerations, and sceptical and obstructive colleagues. Institutional support for social media use is required at all levels in addition to the determination of instructors to overcome potential obstacles.

Through social media, students can be encouraged to create a productive community of practice, sharing their research journey with both peers as well as making external connections. Social media can take some of the loneliness out of the research process and has the potential to aid and motivate students' confidence and proficiency in undertaking research. However, it needs be based on sound pedagogical foundations and supported by institutions and colleagues to be an effective complementary teaching tool.

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