

## TWITTER AND IMPROVING PROPERTY STUDENTS' LEARNING EXPERIENCE

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### ABSTRACT

#### Problem/Purpose

*This paper is to develop and experiment a technological strategy using Twitter not only to deal with students' questions by simple information changes but also to benefit as a deep pedagogical use. With the right kind of technologies is correctly implemented, students can develop a more informed, self-reflective and critical perspective on their own practices and to enable students to engage successfully in user led environments (Bruns and Humphreys 2007). In particular, use of Twitter in tertiary teaching and learning is tested having a positive impact on students' learning experiences (Ramsden 2009; Sinnappan and Zutshi 2011).*

#### Design/methodology/approach

*The developed Twitter strategy is implemented in a property undergraduate cohort in 2015 in Melbourne. The community of inquiry is used to evaluate the impact of the implemented Twitter strategy on the students. According to The Community of Inquiry components (CoI) (Garrison Anderson and Archer 2000), the three elements - cognitive, social and teaching - constitute the theory in supporting students' educational experience. This paper demonstrates how the three types of the CoI presence can be facilitated by the use of Twitter in teaching.*

#### Findings

*The finding shows that the presences of all three elements - cognitive, social and teaching – and how Twitter can be used to support and improve three elements of the CoI. It is also indicated that Twitter support to facilitate student led learning environments. This paper suggests a guide for an academic adopting Twitter as a part of learning and teaching and course development processes.*

#### Originality/value

*The research demonstrates the use of Twitter for pedagogy in tertiary education. The research illustrates how Twitter can be used to help students to engage in user led environments not limited to information exchanges.*

Keywords: Community of Inquiry, Twitter, Action Research, and Tertiary Education

### INTRODUCTION

This research is a part of a quest for a technological strategy to benefit students to engage in a good e-learning environment alongside the currently used virtual learning environment, Blackboard Learn at RMIT University. The paper introduces a technological strategy to effectively and efficiently deal with students' questions. It is also finding a different way of reaching out to students using digital micro contents, specifically course twitter feeds (a part of digital media) to distribute information and to encourage students to share their knowledge with other students.

It is expected that the successfully identified technological strategy could not only improve and assist educators' practices but also to enable students to participate in user led learning environment. This paper investigates the presence of three elements of the Community of Inquiry (CoI), namely cognitive social and teaching elements, when Twitter is incorporated as a part of a property undergraduate course curriculum.

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Action research is used to systematically review and reflect on the current practice. Several cycles of action research, plan, implementation, observation and evaluation, and reflection on incorporating Twitter as a part of a course curriculum will suggest a possible strategy to utilise Twitter to improve students learning experience.

The paper will discuss the CoI and technologies that could be used as a part of a course, next. Action research will then be discussed to elaborate the method used. There have been previous cyclical action research processes prior to the most current strategy which is being implemented. The individual cyclical action research processes will not be discussed in detail in this paper but it is important to note that the current strategy is a result of the plan, implementation, observation and evaluation and reflection on the previous strategies. The reflection of the current strategy will provide more insight to using twitter as a part of a course curriculum. It will also is expected to assist educators to develop informed practice using technologies in tertiary education.

## COMMUNITY OF INQUIRY

The Community of Inquiry (the CoI) is a theoretical model of e learning designed by Garrison and Anderson. The CoI is used as methodologies and approaches to course design and delivery. The CoI defines an e good learning environment through three components (Garrison Anderson & Archer 2000). The cognitive presence is that the participants are able to construct meaning through sustained communication. The social presence is that the ability of learners to project their personal characteristics. The teaching presence is to design and facilitate the above two presences for the purpose of realising worthwhile learning outcomes. Garrison (2007) also proposes that the elements of the CoI could be measured (refer to Figure 1). For example cognitive presence is define as students going through the cycle of understanding issues (Triggering Event) through to exploration, integration and resolution and finally to application (Garrison 2001).

**Figure 1 The elements of the CoI measuring framework**

Elements	Categories	Indicators
Social presence	Open communication ↓ Group cohesion ↓ Affective expression	Risk-free expression ↓ Encourage collaboration ↓ Emoticons
Cognitive presence	Triggering Event ↓ Exploration ↓ Integration ↓ Resolution	Sense of puzzlement ↓ Information exchange ↓ Connecting ideas ↓ Apply new ideas
Teaching Presence	Design and organisation ↓ Facilitation Discourse ↓ Direct Intrusion	Setting curriculum and methods ↓ Sharing personal meaning ↓ Focusing discussion

(Garrison 2007:65)

## **TWITTER AND OTHER TECHNOLOGIES IN HIGHER EDUCATION**

Students now respond well to active learning and engage well in networked communities for professional lives as well as social lives (Doiron & Asselin 2011). Doiron and Asseline (2001) identified that it is educators themselves often limit their use of digital technologies.

Fortunately there are other researchers who conducted research on using different types of technologies in tertiary learning and teaching. Ling (2007) conducted a case study on the instructional application of online synchronous interaction, more specifically collaborative learning through WebCT chat rooms, in a distance IT undergraduate course and found the presence of cognitive and teaching elements as student perceptions of tutor/peer efforts in clarifying and providing different ideas during discussions. Wiki-based learning environment is also reviewed by Bruns and Humphreys. They suggest educational strategies to help learners develop a more informed, self-reflective and critical perspective on their own practices and to enable learners to engage successfully in user led environments. The strategies are called C4C Model. The 4 Cs stands for Creative, Collaborative, Critical and communicative (Bruns & Humphreys 2007).

The use of microblogging (Twitter) in tertiary teaching and learning is often tested (Ramsden 2009; Sinnappan & Zutshi 2011). One of the advantages of using Twitter is that you are able to display and share small bits of information to followers. Twitter more effective and efficiently distributed information compare to WebCT chat rooms and Wiki-based learning environment, when it is correctly used. A large number of students can search and share information instantly at the same time using their mobile devices even in the middle of lecture.

## **ACTION RESEARCH**

Action research developed in 1940s by Lewin contributed to education by combining action and research (Adelman 1993; Greenwood & Levin 2007). Lewin considered Research as leading to social action and action research as the development of powers through reflective thought, discussion, decision and action by people participating in collective research on major issues or problems (Adelman 1993). Action research is used in higher education to shape or reform practices through reflecting one's own practice as researchers of their own practice (Leitch & Day 2000; Kemmis 2009).

Action research is a systematic inquiry to your practice as part of your critical reflection on your practice (Greenwood & Levin 2007; McNiff 2013). Action research is often used to collect data about how an educator is practicing in classes, how students learn and the interactions and relationship between an educator and students to solve issues or problems (Nolen and Putten 2007; Altrichter et al. 2008)). Types of data collected to assist reflection steps various include various qualitative data from autobiography, journals, image-making, metaphor, anecdotal records, to dialogical conversations (McKernan, 1996; Leitch and Day 2000; Greenwood and Levin 2007; Patton 2014). The collected data then used to propose new courses of action to improve professional practice. Action research improves practice by a series of reflective steps which include a cyclical process of planning, implementing, observation and evaluation, and reflection (Riel, 2010).

The research aims to evaluate the presence of three components of the CoI in using of Twitter as a part of a property undergraduate course curriculum in order to improve students' learning experience. The initial plan was developed and implemented in 2013. The second cycle of plan revised based on the reflections of the initial plan was implemented in 2014. The third revised plan was implemented in an undergraduate property cohort in Melbourne in 2015. During the three consecutive years, tweets from the instructor and students are collected. The instructor also has been keeping journals. The collected tweets and journal entries were reviewed to set up a revised plan following years. The following is the final plan implemented in 2015 following a couple of cyclical process previous years.

## REPORT OF THE IMPLEMENTED PLAN

### Step 1 Check with the school if it is allowed to use Twitter for teaching purpose

First and the foremost, it is important to check using Twitter in learning and teaching against the university policies. According the advice given by the college of Design and Social Context, RMIT, Twitter as a part of teaching and learning is allowed but Facebook is not allowed. It's been also advised to inform students that anyone in the world can read their posts. It is necessary to spend some time to talk about profiles and professional etiquette when using online tools.

### Step 2 Set up a course twitter account

Figure 2 The course twitter



An official course twitter account was created (refer to Figure 2). The twitter profile includes when the account will be attended. The course twitter account's tweets are protected which mean students must follow @MKTG1318 to receive tweets also to send DMs @MKTG1318.

### Step 3 Introduce the course twitter to students in Week 1

The course twitter account is to be introduced in Week 1 and 2. A QR code was created for the quick access in the first week of the lecture. Students could scan the QR code right in the lecture and started following @MKTG1318. The course twitter account @MKTG1318 was again introduced in the second week to encourage students to follow it.

### Step 4 Introduce 'House rules' for using twitter in Week 1 and regularly reminder throughout the semester

As advised by the college, house rules for using twitter were introduced. The house rules have been excerpted from RMIT communicating on social media instruction. The communicating on social media instruction applies not only RMIT staff but also students.

“4.1 Follow the *Code of Conduct Policy* for expected standards of behaviour from staff when working towards the University's goals.

4.2 Be impartial, inclusive and respectful of others. Try to be civil and thoughtful when exchanging views which may be different to those provided by others. If you find yourself angry or impassioned about a subject, do not post until you are ready to respond calmly and with respect.

4.3 Follow RMIT's *Media Policy* for guidance on participating in public debate and sharing expertise on topics of interest to the community.

4.4 Remember your audience: do not post anything to alienate, harm or provoke any group. Do not post content that might embarrass individuals or portray them negatively.

4.5 Be a good ‘digital citizen’. Do not allow social media informality to compromise integrity and professionalism. Do not post anything online that you would not say in public and treat all communication as official public communication. Remember that once information is published online, even if it is later removed or deleted, a copy will likely remain as a cache or archive. Everything posted online has the potential to be permanently on the public record.

4.6 Inspire users to offer feedback, suggestions and thoughts. If a user gives valuable replies when asked a question, offer positive feedback and encouragement.” (RMIT 2015, Respecting Others section)

### Step 5 Send DM @MKTG1318

DM stands for a direct Message which is a private message sent via twitter to your follower. You can only send DM to a user you are following and you can only receive DMs from users you follow. Students are encouraged to send DM during each lecture about the topic.

### Step 6 Using hash tags

A hash tag # is used to mark topics in a tweet. It is used as a way to categorise messages. The following is the search result using #propertymarket and #australia (refer to Figure 3).

Figure 3 Use of #words



Students are encouraged to use a hash-tagged word (#word) so other students can search and share tweets in relative topic areas. If tweets are categorised with appropriate topics, students can find information they need quickly. Both the instructor and students can also be aware of the popular #words. The popular #words can mean that there are a lot of tweets including particular #words.

### Step 7 Tweets from @MKTG1318

Two different types of tweets were sent out to the following students. The first type would be simple course information tweets (refer to Figure 4). The course information including when the lecture is, the lecture topics, what to bring, or any due date will be tweeted.

Figure 4 Tweet Example 1



The second type of tweets will be information from other experts (or retweet of other experts). Figure 5 demonstrates how rpdata property report Youtube presentation can be tweeted to students. There are a lot more of useful e resources; twitter can be used to redistribute those e resources efficiently and effectively.

**Figure 5 Tweet Example 2**



### Step 8 Treasure hunting

Introduction of treasure hunting was the most important revision made to the third cycle of the implemented plan. A treasure hunting tweet was a weekly tweet to the following students containing a quiz regarding the previous week’s lecture topic and a # word. The lecture notes were revised to contain #words (refer to Figure 6). The following students were informed that some of twitter quizzes would be used in their final examination. They would be hunting for treasure, clues for the final examination, throughout the semester.

**Figure 6 An example of a lecture slide containing a #word**

#### Victoria Planning Provisions (VPPs)

- **State-wide reference document or template** from which planning schemes are sourced and constructed. **Not a planning scheme; does not apply to any land.**



Figure 7 is an example of a treasure hunting tweet. The students were informed that some of twitter quizzes would be used in their final examination. They would be hunting for treasure, clues for the final examination, throughout the semester.

**Figure 7 An example of a treasure hunting tweet**



## THE REFLECTIONS AND EVALUATIONS

To evaluate the third revised plan, Garrison's three elements of the CoI measuring framework is used to evaluate the presence of three components of CoI, namely social presence, cognitive presence and teaching presence (refer to Figure 1). The cognitive presence is that the participants are able to construct meaning through sustained communication. The social presence is that the ability of learners to project their personal characteristics. The teaching presence is to design and facilitate the above two presences for the purpose of realising worthwhile learning outcomes.

The evidence of the first category of social presence is partially documented. Informal social interactions between students observed (refer to Figure 8). Twitter also assists students to interact with the instructor (refer to Figure 9). However, any evidence of furthering the informal social interaction to the level where students are voluntarily collaborating each other because of the use of Twitter. To improve this level of social presence, strategising of Retweet (RT) function of Twitter is being reviewed. RT is a twitter function where you are re posting someone else's tweet (Twitter 2015). RTs help Twitter users to share tweets quickly with their followers. RT appears on twitter users profile timeline which is a display of tweets from the account you are following. It provides a summary of the tweets you received since your last visit (Twitter 2015).

**Figure 8 Evaluating social presence**

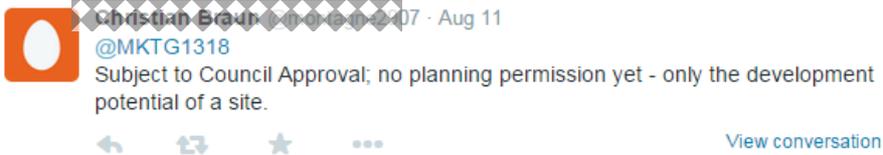
Elements	Categories	Indicators
Social presence	Open Communication	<p>Risk-free expression</p> <p><b>Figure 9 Risk free expression examples</b></p> 
	↓	↓
	Group Cohesion	Encourage collaboration
	<u>Discontinued</u>	<p><u>No evidence observed</u></p> <p>“Possible course of action to improve this could be using Retweets (RTs). RT is a re posting of someone else's. It enables to share tweet quickly with the followers. It will be also visible on profile timelines giving the followers quick access”(Excerpted from the instructor's journal on 11 Aug 2015)</p>
	Affective Expression	Emoticons

The evidence of cognitive and teaching presence are well documented. Both the cognitive and teaching presence become very strong with the introduction of Treasure hunting tweets and # words to the course curriculum.

The cognitive presence observed is demonstrated in Figure 10. The students have been able to construct meaning through the treasure hunting. The concept of treasure hunting for the final examination introduced

as a part of the course to students. It is the triggering event by providing sense of puzzlement to students. Then the instructor is initiating the information exchange (exploration) by sending out treasure hunting tweets (refer to figure 11). The instructor also revises the lecture notes to contain #words which also used in the treasure hunting tweets (integration). Finally students are able to connect concepts and the theories to answer treasure hunting tweets (refer to Figure 12).

**Figure 10 Evaluating cognitive presence**

Elements	Categories	Indicators
Cognitive presence	Triggering Event	Sense of puzzlement Including 'Treasure hunting using the course twitter' as a part of the course curriculum.
	↓	↓
	Exploration	Information exchange <b>Figure 11 Information exchange example</b> 
	↓	↓
	Integration	Connecting ideas The lecture notes were revised to contain #words (refer to Figure 6).
	↓	↓
Resolution	Apply new ideas <b>Figure 12 Apply new ideas example</b> 	

The Evidence of teaching presence is closely related to the cognitive presence. The teaching presence is about designing and facilitating the social and cognitive presences to achieve worthwhile learning outcomes. Various digital technologies have been reviewed to identify a possible digital tool to incorporate with a property undergraduate course and Twitter has been selected (Design and organisation) (Refer to figure 13). To facilitate discourse between students and between the instructor and students, a several cyclic plans have been implemented. Figure 6 demonstrate how a # word has been used to discourse with or between students on Victoria Planning Provisions (Facilitation discourse). Students have been encouraged further to focus on discussion by participating in treasure hunting activity (refer to figure 7).

**Figure 13 Evaluating teaching presence**

Elements	Categories	Indicators
Teaching Presence	Design and Organisation	Setting curriculum and methods

		Incorporating digital technologies as a part of a property undergraduate course. Twitter was identified a possible tool to improve students' learning experience.
	↓	↓
	Facilitation Discourse	Sharing personal meaning The lecture notes were revised to contain #words (refer to Figure 6).
	↓	↓
	Direct Intrusion	Focusing discussion Treasure hunting for final examination questions and treasure hunting tweets (refer to figure 7)

## SUMMARY

This research set out to seek a technological strategy to improve students' e-learning environment which could lead to improving student learning experience. The Community of Inquiry (the CoI) provides a theoretical framework to measure 'a good e-learning environment'. Cognitive, social, and teaching presences, the three elements of the CoI are essential to constitute a good educational learning environment.

This research attempted to suggest a possible Twitter implementation strategy in a property undergraduate course curriculum. After several cyclical action research processes, the most recent cyclical action research strategy was implemented in a property undergraduate course in Melbourne in 2015. The currently last and third plan is still on going as cyclical process of observation and evaluation, and reflection at the time of this paper is being written.

The reflection on the recent strategy is used to measure the cognitive, social and teaching presence of the CoI. Some meaningful evidences of cognitive and teaching presences are observed when Twitter is correctly used. The most beneficial uses of the twitter as a part of a property undergraduate course curriculum have been the use of # words and the introduction of the treasure hunting for the final examination. The social presence however is more complicated to achieve. From the most recent cyclic plan, only the initial level of social presence has been observed (open communication by risk free expression). No evidence has been found that students are able to collaborate deeper levels through to group cohesion and affective expression. The whole action research processes have also been meaningful. The several cyclic action research processes over a few years have provided the instructor opportunities to look into own practice. The instructor also has acquired thorough insights into own practice. Furthermore the instructor has gained technological strategies to improve own practice as well as students' learning experience.

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