ACEC2012 - WHY BUILD YOUR OWN PLN?

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Abstract

A valuable dimension of any professional learning activity is the opportunity for educators to meet other practitioners and form professional learning networks which may take on a variety of valued roles including the stimulation of ideas whilst providing emotional and professional support. This socialisation is increasingly being afforded by online technologies, in particular social media such as micro-blogging (eg. Twitter, Google+, Facebook status updates). Not only do these online groups appear to be self organising and self regulating, they often sustain themselves long after the original event. Educators have described these as a PLN or “Personal Learning Network” and many have been extolling the benefits of building your own to experience a highly personalised and meaningful professional learning activity, augmenting and complimenting that officially organised by the conference conveners.

In an effort to further clarify the role of PLNs in the professional engagement and learning of educators, this study explores the public micro-blogging with Twitter that took place at the Australian biennial ACEC conference in 2010. This paper will provide an analysis from amongst the 6034 posts by 474 participants who self-identified using the “#acec2010” hash tag over several days. While keeping in mind the question of generalisability to other domains the findings do confirm that a PLN can be the site of personally meaningful communications. In particular, that a PLN improves conference engagement for some participants, affords communication with other participants which might not otherwise occur, is a powerful site of sharing professional and intellectual resources.

Background

Most conferences, especially those relating to eLearning, are now marked by one or more online conversations in which conference attendees share insights, beliefs, ideas, and emotions in response to the conference and to each other. Interestingly, it is not uncommon to find amongst these communications and discussions, educators who are not attending the conference but who vicariously experience the activity through these “back channel” conversations and who actively participate in the discussion. These conversations can sometimes appear prosaic and at other times highly personal and challenging. Back-channel discussions are not regulated by the mainstream event but are increasingly becoming an integral part of any conference event.

Authoring online and collaborating with Twitter

With online authoring tools, users can compose, publish and share online a large piece of writing. These may also include embedded images, audio and video or links to these resources. When these discrete posts form a personal journal then the writing is described as 'blogging' and the person that authors these, a ‘blogger’. (Wikipedia Contributors 2012a)

Twitter is a collaborative tool with a growing interest from educators for developing a personal learning network or PLN. (Warlick 2009; Skiba 2008; Stevens 2008; Daniel and Earth 2007; Lalonde 2011)

As a micro-blogging platform, users are restricted to publishing brief, online text updates of only 140 characters. The interaction between users can be synchronous or asynchronous. These posts or 'tweets' can be edited and sent using a range of different clients such as a desktop computer, laptop, tablet computer or smart phone. They can be even be sent as an SMS message using a mobile phone. (Wikipedia Contributors 2012b; Grosseck and Holotescu 2008)
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The twitter posts can be directly viewed online on a Twitter home page, embedded as posts on a website or listed using a visualisation tool such as TweetDeck. The posts can be reorganised and amalgamated to create a report with tools such as Storify\(^1\), creatively remixed with new content to create a 'mashup'\(^2\), an entirely new derivative work or processed to create different visualisations such as a word cloud with Wordle\(^3\). These digital artefacts can be readily broadcast and further distributed using Twitter, sometimes prompting others to try and do the same.

Following Twitter Users

Each Twitter user can examine the posts made by other users. The interaction between users can be synchronous or asynchronous. Users can further increase the likelihood that a message can be found and read by adding a hashtag. Reading these posts is also described as following a Twitter “stream”.

(Stevens 2008)

Posts can be further distributed and shared by 'retweeting', a process of reposting a popular or interesting post. Popular twitter users can be easily added to a specialised list and publicly shared with other twitter users.

Not only is the identity of an original message poster clearly identified on each post and retweet with an @mention note, it is considered good twitter netiquette\(^4\) to also acknowledge the user that reshared a post or if the message has been modified.

By adding a particular user to a 'follow' list, participants can continue to read all their public posts. This would be the first step towards building a Personal Learning Network. (Tobin 1998)

Event Hash Tags

Using a hash tag at a conference creates an interesting conversation amongst the delegates. It is not a single, linear conversation thread but a much more interesting and multidimensional space.

> Conference hashtagged Twitter activity does not constitute a single distributed conversation but, rather multiple monologues with a few intermittent, discontinuous, loosely joined dialogues between users. (Ross et al. 2011, 2)

This is a typically called an event backchannel, a space where users can engage with other conference participants by following a Twitter stream created by a unique event hash tag. Typically a backchannel would complement the main conference event by enabling the sharing of notes, ask questions, engage in dialogue and debate. It could even invite and embrace the participation of distance members beyond the physical event. It has been suggested that this further enhances the conference experience by creating a more participatory conference culture. (Ross et al. 2011, 26)

By contrast, the behaviour of some online users has what has been flagged by McKeown during a 1990's series of workshops as "Read and Regurgitate Syndrome” describing how the sharing could be just a mindlessly repetition without any deep analysis, reflection or review. (McKeown 1999) It has also been suggested that those unfamiliar with this online environment can become easily distracted as they try to immerse themselves in the technology whilst listening to a presentation. (Beaudin and Deyenberg 2011, 135) Some users may only be uninterested in social networking, preferring to communicate only by email or paper based handouts. (Carnevale 2006)

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2. [Mashup](http://storify.com) Web application where digital content is drawn from different sources to create a new derivative work.

3. [Wordle](http://wordle.net) A web application or visualisation tool to generate word clouds from the provided source text.

4. [Netiquette](http://storify.com) Online conduct that is considered to be appropriate and courteous to other Internet users.
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Personal Learning Network

When directly engaging with a Twitter stream by following hash tags and retweets, conference users can readily add to their network of contacts. By increasing the number of professional participants in their contact list, Twitter users are better able to leverage the effectiveness of their network. (Lalonde 2011, 115)

The concept of what is a personal learning network or PLN often draws out different answers from different people. When this question was asked online to a PLN via Twitter, a variety of suggestions were offered. (Couros 2008)

Not only did the members of the Couros PLN directly reply and retweet to further share the question to assist in the analysis, one participant (Seitzinger 2008) created and shared a visualisation that helped distinguish the difference between the tools and objects that make up a personal learning environment, from the people and connections that make up a personal learning network. (see Figure 1)

This illustrates some of the mechanics and technology how a PLN can work and hints at how it can be used from a passive consumption and resharing of information to the creative generation and sharing of new knowledge and understandings. An examination of the current literature (Warlick 2009; Lalonde 2011; Stevens 2008) identified that educators may use a PLN for the following activities:

• to find professional support, encouragement;
• to inspiration to improve teaching and learning practice;
• learning by observing the actions, following discussions and sharing with other educators;
• to give voice and reinforce their a self-perception as educators;
• to invite dissenting voices by pushing participants to reconsider their own opinions and ideas;
• as a spark that leads to the creation of a new idea or more detailed response or blog post;
• as an amplifier of new ideas when it is used to promote an existing resource or blog post.

The Study

Participants

This paper will articulate how Twitter was used during the ACEC2010 conference (ICTEV 2010) to build a personal learning network amongst the conference participants using the #acec2010 conference hash tag with public posts.
The national biennial conference of the Australian Council for Computers in Education was held over four days from 6 to 9 April 2010 in Melbourne, Australia. The conference involved over 800 delegates and the events were tracked online by a wide range of users. Many followed the proceedings by reading material shared on the conference website, keynote speakers from streamed webcasts using tools such as Ustream and a conference Ning. Many delegates share a teaching or administration or support role in schools. Whilst many taught a computing or technology based subject, many other educators had an interest in the teaching of IT.

Before and during the conference, participants were invited to share their thoughts using a range of online media. In particular they, were further encouraged to participate by the conspicuous display of projector screens throughout the venue that showed a variety of random tweets and word clouds assembled from their posts. Conference organisers and keynote presenters made repeated references to this online activity. In particular, they encouraged users to add the conference hash tag to any posts.

Data
Data was collected using a search engine Topsy to probe the use of the conference hash tag for each of the conference delegates. The result were manually assembled into a series of openoffice documents for later analysis and examination. For example: to probe the #acec2010 twitter stream for all the posts by the Twitter user account @acec2010 created by the conference organisers, the following query string “#acec2010 @acec2010” was used by entering the following into a web browser.

http://topsy.com/s?nohidden=1&order=date&q=%23acec2010%20%40acec2010&type=tweet&window=a

A HTML file of twitter posts was collected by a colleague directly after the conference. This spanned the week of the conference and similarly contained only conference tweets with the #acec2010 hash tag. The posts were converted to a plain text file that was further processed to capture the date, time and message sender of message post then imported into a spreadsheet for analysis. This data was also used to validate and bench test the effectiveness of the search results from the Topsy engine.

Research Instrument
After an initial physical reading of a hard-copy printout from the posts, the researcher began to see and identify some emergent themes. I returned to the printout and began to code and broadly group the posts under some headings, focussing on the posts by the 80 most prolific Twitter users. This helped to reinforce the importance of these emergent themes and helped to develop a narrative that would describe how the participants collaborated and share online.

Limitations
The scope of this research is limited by the following constraints

1. Only the public posts can be examined. We cannot articulate the participation and engagement of users that did not reply or reshare any public tweets. This online behaviour is described as lurking and describes a passive engagement where material is viewed for personal consumption. In an educational context it is still has some participation validity for a PLN as users can still reflected upon, reference or forward on posts.

2. In addition, the researcher could only examine the posts made using the conference hash tag. Any discussions that do not use this hash tag would be difficult to identify and have been ignored. For obvious reasons, direct or private posts were similarly not considered.

3. The research will only examine posts by Twitter, ignoring the communication that would have happened with face-to-face meetings, SMS, email or mailing lists, the use of other social media sharing networks such as Facebook, Ning or the online resource sharing that may have taken place with tools such as GoogleApps, Flickr, Diigo or Delicious.

This public data was collected by Amanda Rablin who has given due permission to use with this study.
4. The researcher was a participant at the conference and significantly engaged with the other participants. Whilst this could be seen as providing a unique insight to the online engagement, it must be acknowledged that this perspective could bias the reflections.

The following cannot be assumed.

1. That the original poster of each #acec2010 tweet was physically present at the conference and in the same time zone. For some users, the engagement could have been physically distant and virtual. For the purposes of this research it will be supposed that every twitter user who reshared or posted a #acec2010 tweet was in some way engaged and contributing to the associated learning.

2. That each twitter account relates to one unique individual. For some users, the creation of a twitter account may be a temporary setup for the period of the conference or the individual is penning the post under the identity of a parent organisation. For the purpose of this research it will be assumed that each twitter account connects with a unique individual.

Although this conference on educational computing would be largely attended by educators who have an affinity for technology and thereby presumably more likely to participate in micro-blogging. Given all these limitations, this research still has significant reproducibility for other conference events and perhaps to other groups.

Results

Initial analysis

This event engaged 474 Twitter users to generate 6034 messages over seven days.

Whist the average user posted 12.7 messages, the median number of messages posted per user was just 2. A small handful of users posted the bulk of messages.

This can be viewed in figure 2.
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Value adding to messages

Because the posts contain unique artefacts that can be counted, it was possible to determine what proportion of the users included a http:// or hyperlink to a resource, an @user or reference to another twitter user, if the post was simply an RT retweet or forward of an older message and/or if it included a #hashtag to share the message with a wider circle of participants. A numerical analysis of these artefacts can be viewed in the following table 1.

Table 1: Breakdown of the ACEC2010 twitter posts

<table>
<thead>
<tr>
<th></th>
<th>Total posts</th>
</tr>
</thead>
<tbody>
<tr>
<td>http://</td>
<td>1086</td>
</tr>
<tr>
<td>@user</td>
<td>3104</td>
</tr>
<tr>
<td>RT</td>
<td>1201</td>
</tr>
<tr>
<td>#hashtag</td>
<td>830</td>
</tr>
<tr>
<td></td>
<td>6034</td>
</tr>
<tr>
<td>18%</td>
<td>51%</td>
</tr>
<tr>
<td>20%</td>
<td>14%</td>
</tr>
<tr>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

A significant but small proportion (20%) of the posts were retweets of older posts. Many of these (30%) included one or more weblinks. They were very probably resharred to further promote the link to an external resource or to stimulate discussion about an interesting idea.

A significant number of posts (51%) mention another user. This happened both when a post was replied to, a post acknowledged an author or was used to engage other Twitter users in a conversation. It is evidence of the high degree of communication that is occurring on this list to stimulate and engage participants in further dialogue and debate.

Some posts became complex objects, embedding multiple different users, hash tags and hyperlinks. A detailed analysis that searched for and tallied these objects revealed the following.

A post that included five different hash tags, potentially communicating and shared the message to five different audiences:

08/04/10 15:33 @sandynay RT @katemreid: #acec2010 @pryorcommitment
#Connect, #Collaborate & #Create All verbs because they about #action - things we can actually do!

A post that referenced over five different users to an expanded PLN.

08/04/10 16:29 @lordfolland ACEC2010 a place for expanding my PLN to include @ackygirl, @bronst, @katemreid, @jessmcculloch and @mountainmoss

And this post managed to include four different hyperlinks to resources being discussed in a session.

09/04/10 11:31 @mentormadness ACEC2010 Lookin @ Pageflakes

Whilst these are not typical, they do illustrate how users used the technology of link shortening tools and a codified language to overcome the size limitation of the Twitter medium to still connect, share and collaborate with other participants.

A time to share

By examining the date and time stamp for all the posts, it was possible to determine a time profile for the posts. This is outlined in figure 3 below. Most posts (96%) were submitted during the four conference days with a few posts (3%) directly before the conference and even less (1%) afterwards.

During the hours of the conference, there was a sharp 9 am peak that coincided with the morning keynote speakers. Examining the posts for the third day speaker Gary Stager, there was considerable public discussion and debate about the ideas that he was raising that extended long into the evening.
Most posts (96%) were submitted during the four days of the conference with a few (3%) directly before the conference and even less (1%) afterwards. During the hours of the conference, there was a sharp peak after 9 am, during an address by the keynote speakers.

Of interest are the peaks directly before the event, directly after and late in the evening. Examining the latter posts it is clear that the users are using Twitter to reflect on posts during the day and to organise social events. This is evidence of the use of this medium to share resources and engage with a wider community other than just those present at the conference venue during the day.

**Before the conference**

Twitter posts before the conference were generally social with users describing their journey to Melbourne, final work on a presentation, equipment to pack or setup, questions about what to wear in Melbourne, and even domestic chores and housekeeping at home.

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**05/04/10 19:51** @teachernz @jennyluca watch/read what others tweet, help someone, answer/ask a question, share your students’ work, lurk, learn & engage #ACEC2010

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**04/04/10 23:33** @pryorcommitment Hoping to meet some people from other states at #ACEC2010 Don’t know many NSW people. Would be good to meet as well as share tweets :-)
During the conference
The use of a #hashtag is enabling users to follow discussions and the creation of a larger community of users. This is illustrated by this tweet.

06/04/10 13:00 @Darcy1968  #ACEC2010 hashtag is helping me find some great new tweeps to follow. Hope the conference is going well for you. Anyone using #ustream?

Some delegates used the information created online with Twitter to create their own word clouds (Rablin 2010; Gesthuizen 2010). A word cloud prepared by Gesthuizen drawing from the ACEC2010 conference program website can be directly compared Rabin drawing from the #ACEC2010 Twitter posts. Whilst of little academic interest, the generation, publication and prompt resharing of these artifacts by others does illustrate a desire for participants to develop a 'big-picture' view from the different discussions and threads. As by looking for patterns and themes, perhaps they are also exhibiting a desire to better understanding what happened and synthesise new understandings.

A Twitter robot called Twirus analyses the current twitter stream and tallies current hash tags to produce a league table that is reported by @twirus_aussie. By the last day of the conference, the conference event hash tag #acec2010 had reached the highest place on an Australia results table. From the twitter posts by some delegates on the following day, it was noticed that this would have stimulated further interest in the conference by external participants.

10/04/10 07:31 @twirus_aussie  Top5 popular words: 1^ #acec2010 2^ Sydney 3^ Justin Bieber 4^ Apple 5^ Australian http://australia.twirus.com

Beyond the conference
Of interest are the message posting peaks directly before, after and late into the evening. (see figure 2) Examining the posts during these periods, it is evident that many users are also using the medium to interact and meet up face-to-face, such as an impromptu social dinner organised by a keen blogger. Some users met up on a trip to a local city gallery to follow up an exhibit about a keynote speaker.

We must take into consideration impact of any socialisation that occurs with any professional network gathering and its reflection online with a PLN.

08/04/10 10:51 @jomcleay  Shout out to all those at #ACEC2010 Melbourne Bloggers Feast on tomorrow 6.30 pm at La Camera http://bit.ly/bPHMZQ All welcome send @ reply

10/04/10 11:25 @mdanonbaird  #acec2010 still in Melb?Head down to Fed’n Square to #ACMI & chk out Dennis Hopper art &film collection(Andy Warhol etc)Fantastic exhibit.

08/04/10 10:45 @jessmcculloch  love a good funny story, thanks Adam Elliot #acec2010

Figure 4: Word clouds generated from the website on the left with the twitter stream on the right.

A web application that maintains statistics about trending topics, tags and tweeps.

http://Twirus.com
After the conference

At this point it was revealed by some users that they were not physically at the conference. One who had left early to catch flights even kept in touch with delegates remotely as they travelled home, asking if a question can be shared at a closing keynote presentation.

10/04/10 12:44 @warrick_w How I kept up with ACEC2010 from the comfort of home #acec2010 (missed some good conversations though) http://bit.ly/d6dWSy
09/04/10 09:50 @pryorcommitment Due to flight, Missing Stager #ACEC2010

Clearly lots to say about what’s wrong. Has he offered ideas about what can be done at system level?

Engaging with a PLN

After examining all the data, the following three broad themes emerged

Theme 1: An PLN improves the conference engagement for some participants

Many participants used the medium to reflect upon what was happening. The discussion was fluid and invited further debate or deliberation, even extending into the late hours of the evening. Some keynote speakers even joined the Twitter stream discussion, clarifying points from questions raised online, following up new PLN members or adding to their Twitter follow list.

09/04/10 12:00 @ahiskens For those at Alan November’s 5pm workshop on Wed - food for thought on the copyright discussion from @billt - http://bit.ly/ccU4mf #acec2010
09/04/10 21:07 @lindawollan Still thinking about Gary Stager’s keynote.
Challenging.... did anyone find any positives?? #acec2010
08/04/10 17:32 @smartinez @mountainmoss it’s going to take a while to get through all the emails and follow people back... but i will! #acec2010

Theme 2: A PLN affords communication with other participants which might not otherwise occur

Clearly, without sharing material online, participants outside the conference venue could not have followed what was happening in real time. This was facilitated at the conference by participants that shared notes using webcasting tools such as Ustream or Elluminate to video stream information from the conference and share resources. There was also evidence of participants at a session in a different physical room, following and responding to twitter posts shared by a participants in another room. It is not clear if either PLN would have been a spontaneous addition or organised well in advance.

09/04/10 09:01 @sujokat This link works for ustream of gary stager at #ACEC2010 http://www.ustream.tv/channel/technology-in-education-show by @stevecollis
09/04/10 10:53 @suehatwilkes #acec2010 SueH from Canada invites U2 meet Ian Jukes online 04/13 @ 5:30 pm PDT. Goto http://tinyurl.com/ykddjky for Elluminate link & pswd

Theme 3: A PLN is a powerful way to share professional and intellectual resources.

Several participants used Twitter to promote their conference notes and reflections such as this post drawing attention to a particular blog. Not only is their PLN expanding as they attract new members from the conference Twitter stream, there is evidence of the further reporting, analysis and deeper reflection of the ideas raised at the conference.

07/04/10 08:28 @dakinane @staceykelly #ACEC2010 thanks for the follow. Will be posting to my blog throughout the conference http://dakinane.com/blog
09/04/10 06:58 @ashleyproud Do I dare plug my blog1 more time? http://oneofthosepeople.edublogs.org/ Should I be brave and put #acec2010 on it? :) #last_shameless_plug
Conclusion

This research supports that at the ACCE2010 conference, many participants used Twitter as a communication or backchannel tool to improve conference engagement, communicate with other participants in ways that might not otherwise occur, share professional and intellectual resources. Despite the limitations of the medium, many participants were able to post extensive links to reflections and shared artifacts to help articulate and better understand their practice of teaching and learning. We must not discount an important social dimension for this medium from the evidence that delegates also accessed their PLN to share humorous reflections or organise face-to-face meetings.

There is considerable scope for further research examine this data and the artefacts that are being shared and what tangible changes in practice might result from participation in a conference and PLN. (Lalonde 2011, 118) Whilst the results cannot be generalised to other organisations and events, the findings do support an observation that an online PLN at a conference can be the site of personally meaningful communications.

It has been reported by the Massachusetts Institute of Technology that for organisations today ‘Agility, context, and a strong network are becoming the survival traits where assets, control, and power used to rule’ (Ito 2011) A recent US NSDC study indicated that ‘Only 16 percent of teachers surveyed agree that there is a climate of cooperative effort among staff members in their schools.’ (Wei, Darling-Hammond, and Adamson 2010, 20). By contrast at this event, many educators reflected on how they tackled barriers to collaboration and freely shared their ideas online. Learning and engaging with like-minded peers at a conference event with tools such as as Twitter is a powerful way for educators to build a personal learning network and take direct charge of their professional lives.

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