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Chapter 15

ONLINE PEER MENTORING WITH PRE-SERVICE TEACHERS: A LEARNING EXPERIENCE

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ABSTRACT

In 2010, 34 pre-service teachers at Deakin University were invited to use Web 2.0 technologies to support practicum in rural and regional schools. Students in their final year of the Bachelor of Education Primary course were given access to an online forum, a 'ning', to facilitate development of mentoring relationships within a community of peers. Access to the ning was presented as an optional extra available only to students undertaking their professional experience in rural and regional settings. Based on the work of Le Cornu (2005), mentoring was framed as a collaborative and collegial arrangement through which participants could hone the interpersonal and critical reflection skills crucial to practicum. A ning was selected as it: 1) allowed the creation of a closed, protected social network with customised options, and 2) requires little technological skills and investment of time from participants in terms of setting up a profile and participating in the online community. These features seemed to make it an ideal platform for pre-service teachers to analyse and reflect on professional experience. However, the small pre-service cohort did not choose to access the site. This unexpected outcome seems to challenge contemporary discourses about the current generation’s attitudes to web based technology. It also highlights the importance of coupling use of template-based online tools, such as the ning, with awareness of Bourdieu’s (1977) social capital to ensure uptake. In capturing the learnings from the project and systematically reviewing relevant literature, this paper provides a set of recommendations for conceptualising and engaging pre-service teachers in the use of online forums.

INTRODUCTION

Rosie Le Cornu’s (2005) paper Peer-mentoring: engaging pre-service teachers in mentoring one another builds on a recent shift to reconceptualise mentoring as a collaborative
and collegial arrangement between peers, offering an alternative to the traditional, hierarchical expert to novice view of mentoring relationships. This chapter is based on her reconceptualisation, exploring the potential of peer mentoring in online forums to reduce the isolation experienced by many pre-service teachers on rural and regional practicum. Le Cornu’s (2005) framing of peer mentoring is considered in combination with literature on the use of web technologies to support pre-service teachers on practicum. Learnings from a 2010 project that focused on fostering strong rural and regional links through an online mentoring scheme for pre-service teachers are also considered.

Le Cornu describes how through face-to-face peer mentoring pre-service teachers develop a mentoring attitude, interpersonal skills and critical reflection skills (2005). The relationship established between participants is reciprocal with all parties becoming co-producers of knowledge. This approach challenges the notion that mentoring is a one-way relationship where the mentor knows best (Le Cornu, 2005). The characteristics of Le Cornu’s peer mentoring structure are considered in relation to the experiences of pre-service teachers on practicum in rural and regional settings. It is well known that completion of practicum in non-metropolitan settings present pre-service teachers with unique opportunities and challenges and that recruitment and retention of teachers in rural Australia poses difficulties for education authorities (Lock, 2008).

Web 2.0 technologies are emerging as a means for bridging the geographic isolation unique to rural practicum (Trinidad and Broadley, 2008). A small body of research specifically suggests that the benefits of face-to-face peer mentoring can be reproduced through online forums (Davie and Berlach, 2010; McLoughlin, Lee and Brady, 2008; Rideout, Bruinasma, Hull and Modayil, 2007).

According to Davie and Berlach (2010), the practicum experience can be ‘compromised’ unless students are effectively supported while off campus. This is pertinent to pre-service teachers on practicum in non-metropolitan schools and it is suggested that as an ‘IT savvy’ cohort, they are well positioned to use social networking software both for educational purposes and as a support mechanism (Davie and Berlach, 2010).

The notion of IT savvy, computer savvy or technological savvy is usually associated with the young professionals in the field, namely with Gen X-ers/Gen Y-ers. They are seen as more adept at embracing and using new tools and technologies than the ‘stale’, ‘unbending’ Baby Boomer Generation, which is ‘afraid of change’ (Weiter, 2008, p.270). Contemporary undergraduate students in the most part belong to Gen X/Gen Y who are also known as the Millennial Generation (Millenias), Generation Next, Net Generation (Net Gen), which Oblinger and Oblinger (2005, p.22) describe as ‘Born around the time the PC was introduced, 20 percent began using computers between the ages of 5 and 8. Virtually all Net Gen student were using computers by the time they were 16 to 18 years of age’.

Although Kennedy, Judd, Churchward, Gray and Krause (2008, p.108-122) caution against such generalizations of Net Gen students, which assume that they enter universities digitally literate and with more or less homogenous technological experiences as it overlooks the complex mix of skills, knowledge and preferences within that cohort, there is no disagreement amongst scholars that the new generation needs to be prepared for rapidly emerging, global and digital environments (Oblinger and Oblinger, 2005; Prensky, 2010; Weiter, 2008). In this context a project titled Online peer teaching and learning to support pre-service teachers in rural and regional schools offered a supplementary online peer-mentoring forum to pre-service teachers on practicum in rural and regional settings. The
forum was presented as an additional support and participation was not a course requirement. The purpose of the forum was to reduce pre-service teachers' social isolation from peers.

**LITERATURE REVIEW**

Content analysis was conducted based on twenty publications that examine the use of web technologies to support pre-service teachers on practicum. These were identified via academic databases. Five databases were searched using the following criteria:

- English language only, peer reviewed papers in refereed journals, 2005 to 2011, full text available. Search terms: 'pre-service' or 'teach*' or 'student teach*' (keyword); and 'placement' or 'practicum' or 'professional experience' (abstract); and 'online' or 'ICT' or 'Internet' or 'peer mentor*' or 'support' (abstract).

This search varied slightly depending on the 'advanced search' facilities for each database. The search results are presented in Table 1.

<table>
<thead>
<tr>
<th>Database</th>
<th>Number of results</th>
<th>Relevant articles</th>
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<tbody>
<tr>
<td>ERIC</td>
<td>10</td>
<td>3</td>
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<tr>
<td>ISI – Web of Knowledge</td>
<td>2</td>
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<tr>
<td>Australian Education Index</td>
<td>1</td>
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<tr>
<td>Education Research Complete</td>
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<td>Computers and Applied Sciences</td>
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An abundance of writing on the use of ICT: 1) in teacher education programs, 2) as a vehicle for mentoring and sharing professional experience, and 3) as a tool for combating isolation became apparent. This initial search noted writing on the use of Web 2.0 technologies by pre-service teachers as a peer mentoring tool while on practicum was limited. Consequently, the search was broadened to include conference papers and non-refereed articles.

The reference lists of relevant publications were scanned to identify further works exploring closely related topics. In total, 20 key publications were identified, each of which provides insight into an aspect of using of web technologies to support development of peer mentoring relationships among pre-service teachers on practicum. These articles divide neatly into four groups:

- **Group 1: Mentoring specifically during teaching practicum**

The five publications in this group, namely Davie and Berlach (2010), Drabble (2010), McLoughlin, Lee and Brady (2008), Hew and Knapczyk (2007) and Rideout, Bruinsma, Hull and Modayil (2007) describe the use of online learning communities for pre-service teachers during their professional experience in schools. Online support was offered through web based course shells such as Blackboard and Oncourse, and embedded in university Learning
Management Systems (LMS). A commonly identified advantage of this approach is that forum functions are familiar, as students are required to use the LMS throughout their course. The community of learners is established as participants have moved through their teacher education course as a cohort and through this process a sense of unity and acceptable group behaviour develops.

A commonly identified drawback was the limited life of the community as participation in the university based LMS is not sustainable beyond university enrolment. Another downside is the established instruction environment, which uses a top down approach (from lecturer to students) in the delivery of course content and the subsequent continuation of hierarchical mentoring structures while on teaching practicum (Drabble, 2010, p.19).

- **Group 2: Expert to novice mentoring as part of the teacher education course, which includes the teaching practicum**

Eleven publications discussed the almost exclusive use of university LMSs within teacher education courses. The papers in this group comprise Cheung, Hew and Ng (2008), Clarke (2009), Gutke and Albion (2008), Hong (2007), Hramiak (2010), Hughes, Chappell and Naylor (2006), Paulus and Scherff (2008), Pena and Almaguer (2007), Ryan, Jones, Buchanan, Morris, Nuttall, and Smith (2009), Taylor and McQuiggan (2008), and Topcu and Ubu (2008).

The research gave an indication of the various ways embedded networking tools (i.e. discussion forums, blogging, chat rooms) could be used for e-mentoring and/or tutoring. In each instance the use of hybrid or blended instruction provided a supplement or add-on to traditional face-to-face delivery, which remained the dominant interaction during teaching practicum.

- **Group 3: Peer to peer mentoring during teaching practicum through Web 2.0 technologies**

Students of the Net Generation are described as “...more comfortable working on a keyboard than writing in a spiral notebook, and are happier reading from a computer screen than from paper in hand” (Frand, 2000, p.15). Hence, integrating Web 2.0 tools and mobile devices into learning experiences capitalises on the wish for constant connectedness, social networking and online interactivity with their peers (Oliver and Goerke, 2007).

Two articles examined pre-service teachers’ self-motivated use of Web 2.0 technologies (rather than LMS), including weblogs, email and instant messenger. Deng and Yuen (2007) investigated pre-service teachers’ use of weblogs (blogs), email, instant messenger (IM), phone and face-to-face meetings to connect with their peers during practicum. Multi-modality was identified as an advantageous feature of blogs, allowing bloggers to use text, pictures, audio and video files to convey meaning (Deng and Yuen, 2007).

The high valuation of multimodality highlighted within this research suggests that high-level engagement with an online forum rests in part on providing compatibility with multimedia. Irwin and Hramiak (2010) analysed the messages on the LMS discussion board to examine pre-service teachers’ identity as they moved from being a student to being a teacher.
Group 4: Peer to peer mentoring pre-service teachers

The two papers in this group examined the use of peer mentoring by pre and in-service teachers outside of the practicum context. Scherff and Singer (2008) reported pre-service teachers’ use of an email listserv and electronic discussion board as a platform for seeking advice and feedback from their peers. Their findings indicate that the development of online peer mentoring facilities can be justified on the grounds that communication with peers promotes deeper thinking and reflection among those who may find themselves struggling in schools. Unlike Scherff and Singer (2008), Hur and Brush (2009) focused on use of online peer mentoring among in-service teachers. Five reasons for participation were identified through analysis of teachers’ postings on self-generated online communities of practice: 1) sharing emotions, 2) utilizing the advantages of online environments, including instant messaging, 3) combating isolation, 4) exploring ideas, and 5) experiencing a sense of camaraderie. In identifying the motivation behind participation, Hur and Brush (2009) provide insight into creating an online forum that will be enticing to the target population. The selected literature identified the main background issues for the online peer mentoring project, which considered: 1) Pre-service teachers’ support when on practicum, 2) various mentoring structures including peer to peer and expert to novice 3) technology use, within closed university systems, such as a LMS, and through Web 2.0 technology.

RESEARCH AIMS

In previous years, academic staff teaching in the Bachelor of Education Primary program had noted and reflected upon the difficulties in supervising students undertaking professional experience in rural and regional settings. The members of the research team were familiar with the workload associated with undertaking professional experience, including travelling (and often temporarily relocating) to placement communities, adjusting to a sometimes unfamiliar cultural context and lack of privacy, negotiating the relationship with the supervising teacher’s acclimatisation to school and community, preparation of lessons and lessons plans, balancing paid employment with course requirements, and completion of assignments.

The researchers – all of whom have worked as teachers and some of whom are currently or have been previously teaching in the Bachelor of Education Primary program – had shared anecdotes from their own experience and accounts from pre-service teachers, which indicated the need for more contact with their peers and academic staff to alleviate the geographic isolation. They were also aware of national research from Teacher Education for Rural and Regional Australia (TERRAnova), a three year Australian Research Council funded project, and Renewing Rural and Regional Teacher Education Curriculum, a two year project funded by the Australian Learning and Teaching Council, which revealed that teacher education is well placed to better prepare graduates for the career and lifestyle opportunities in rural Australia through supported professional experience (White and Kline, 2010). These reoccurring comments and conversations and awareness of rural teacher education research were the impetus and basis for the discussions on using Web 2.0 tools to address this ‘tyranny of distance’.
The aims of the research were two-fold: 1) to build capacity by extending and strengthening peer mentoring opportunities for pre-service teachers through Information and Communication Technology (ICT), and 2) to investigate the affordances of social networking technologies for pre-service teachers on practicum in rural and regional schools. Research questions were constructed around issues of rural communities, the ensuing isolation and possible mitigation through peer connections, namely:

- To what extent do emerging technologies enable pre-service teachers to connect with their peers?
- To what extent do pre-service teachers connect with their peers when on practicum in rural and regional communities?
- To what extent do emerging technologies and their affordances overcome social and academic isolation for pre-service teachers while on practicum?
- How can online mentoring improve access and equity agendas around rural and regional professional experience?

**METHODOLOGY**

The research design of the 2010 project incorporated a mixed-methods approach consisting of content analysis, online surveys and semi-structured interviews. The recruitment of participants from the cohort of fourth year students in the Bachelor of Education Primary course started in June 2010, four weeks prior to their professional experience. Thirty-four pre-service teachers undertaking practicum in rural and regional settings were targeted. Two separate email invitations to participate were sent alongside an offer for free demonstration and training sessions on both the metropolitan (Burwood) and a regional (Warrnambool) campus of the university. Telephone technical support was made available.

The ning was established and populated by the research team, with each member uploading a photo of him or herself, posting a brief introduction as well as modelling online conversations to set the conversation tone and culture of the ning. Monitoring of posts was to occur throughout the practicum period and discourse analysis was to be utilised to examine the online posts. The recruitment drive was unsuccessful. All 34 pre-service teachers elected not to utilise the ning. They also chose not to complete a follow-up survey.

**DISCUSSION**

The non-participation of all pre-service teachers in the ning and the lack of reply to the online survey was an unexpected outcome. In this section failure to entice students into the ning is examined alongside the logistics of designing an online forum for pre-service teachers. The conclusions are reached on the basis of implicational and speculative reasoning by the researchers and not on the basis of any data from the informants, it is hoped that the insights gained from that discussion will assist others in achieving more successful outcomes when undertaking similar endeavours.
Selecting and Designing an Online Forum for Peer Mentoring

The decision to experiment with the use of Web 2.0 technologies to support pre-service teachers on practicum was clearly backed by the literature, especially that of Group 1. For the online peer mentoring project a ning was selected as the platform for promotion of peer mentoring.

This decision was based on five reasons: firstly, it was outside the university LMS thus alleviating concerns that it would replicate the LMS traits, specifically, that the presence of various stakeholders (lecturers, course co-coordinators) might inhibit the pre-service teachers' willingness to communicate openly and collaboratively and weaken the peer mentoring. They might also rely on academic staff to provide advice, solutions and encouragement. Secondly, ning was (at the time of development) a gratis closed but protected public network, which offered sustainability. Thus, the ning had the potential be a source of support beyond the pre-service teachers' initial training right throughout their teaching career. Thirdly, ning was not just text based but offered multimodality (i.e. uploading and sharing of photos, videos, audio) which appeals to a Net Generation that is comfortable with and used to digital technologies (Deng and Yuen, 2007). Fourthly, ning offers asynchronous (postings) and synchronous (real time chat) options.

During practicum, when pre-service teachers are in the classroom, asynchronous messages are especially useful. However, there might be urgent issue (i.e. motivating or behaviour management of children, information or teaching tips for lessons), which require immediate discussion and help if the support was needed for the next day or to ensure an effective and successful teaching experience.

Further, a ning requires little technological skills and investment of time from users and developers in terms of setting up a profile and participating. Finally, the ning was preferable to a wiki, Davie and Berlach's (2010) choice of platform, as configuration is relatively straightforward with the administrator able to insert text/media into pre-established templates.

Consideration was also given to the bandwidth required to run the ning. Davie and Berlach (2010) note that reliable internet connections are not always available in non-metropolitan settings, and that slow download speeds can impede access to the full functionality of a social forum.

Playing of videos and inclusion of high resolution images result in slow downloads. Hence, these features were not embedded into the main forum, but could be linked to the forum by participants if they wished.

In addition to the selection of a social forum template, the researchers also made decisions about the content and functionality. Hur and Brush (2009) recommend that emphasis needs to be placed on teachers' emotional sharing and promotion of self-esteem in the development of professional development programs for in-service teachers.

It is reasonable to assume that this can be extended to the creation of online forums for pre-service teachers. In responding to this, a discussion forum was included as the key feature. Pre-service teachers then had access to additional ways of communicating such as through development of their individual profiles. These individual profiles could be populated as densely or sparsely as desired. The researchers were confident that the populated ning would have met the needs of the target audience had engagement been successful.
Social Capital and the Necessity of Adequate Engagement Strategies

Social capital is the relationship between individuals through trust to satisfy social needs and improve conditions in the whole community (Bourdieu, 1977). The stronger the connection between individuals the more likely it is that individuals will consider the interests of the collective and seek to please their peers. Given the ning provided an opportunity for much needed support while on teaching rounds in rural and regional schools settings, it was surprising that the 34 pre-service teachers invited to utilise this forum elected not to do so. This was especially so, since the online forum was solely designed to provide a safe, protected space to deal with personal and professional challenges.

Upon reflection, the research team hypothesised that the major reason for the lack of engagement was the absence of social capital, which is strong relationships with the targeted participants. It became clear that investment in building relational capital needs to be comparable to investment in selecting the right technology for the audience. However, as the relational capital is intangible and invisible, it is much easier to overlook as the case in point illustrates.

In light of the results of the online peer mentoring project, a set of recommendations have been developed to guide the use of Web 2.0 technologies to support practicum in rural and regional schools. The recommendations cover technical, behavioural and organisational aspects to enhance the access to, conduct within and administration of the chosen platform for online support of pre-service teachers during practicum, which are as follows:

Recommendations

Technical

1) That the technology chosen is based on the unique needs of pre-service teachers and aligns with their computer literacy skills
2) That the tool’s features are intuitive to use, user friendly and overall require little effort or time to set up a profile and participate in discussion or interactions (i.e. file sharing)
3) That the chosen online tool is compatible with a range of other online tools to allow easy access and movement between platforms (i.e. Twitter, Facebook, Outlook)
4) That the tool is integrated into the course/work to facilitate habitual use and consolidation of skills in using the online tool
5) That the online platform offers multi-modality (allows for text as well as video, audio, photos)
6) That the online tool allows for asynchronous postings but also offers synchronous / real time chat options
7) That the tool contains one or more administrator(s) that allows the site to be monitored

Behavioural

1) That participants are provided with a clear rationale for engagement, whereby the potential benefits are explicitly linked to an evidence base and their experience
2) That users are advised that they must conduct themselves ethically and not engage in inappropriate use, for example pornography, fraud, defamation, breach of copyright, unlawful discrimination or vilification.

3) That the bulk of support is based on peer to peer (non-hierarchical) mentoring to encourage collegial and collaborative relationships and move participants into their roles as professionals and thus becoming part of a community of practitioners.

4) That consolidation of peer relationships and exchange of ideas/emotions and building of self-esteem (peer mentoring) is identified as the focus of participation (Hur and Brush, 2009).

Organisational

1) That engagement of participants occurs well before the practicum, allowing opportunity for trouble shooting (i.e. technical and organisational issue) and separates participation from the host of pressures associated with undertaking practicum.

2) That university staff are available to regularly monitor posts and moderate discussions if necessary but are not active participants in discussions.

3) That the peer support facility is self-supporting once established (Davie and Berlach, 2010).

CONCLUSION

Provision of online peer mentoring and support is an innovative way of using ICT to help pre-service teachers feel less isolated and more connected during rural/regional practicum. While determining the extent to which use of online peer-mentoring support can reduce isolation and increase pre-service teachers' connectedness with peers was beyond the scope of this paper, examination of the literature and learnings from the project provide insight into the design features and implementation processes likely to engage users.

With the 2010 project, the most significant issue was failure to entice pre-service teachers into the ning. The lack of social capital of the research team with the potential participants provides valuable lessons about the need to ground development of technologies in the experience and needs of target users.

This conclusion was reached by the researchers based on their own perceptions and was implicational as the informants did not provide any feedback or data thus providing no demonstrable evidence. Nevertheless, despite this shortcoming, the importance of explicit links to an evidence base and opportunities for testing the forums on a variety of systems also emerged.

This research also contributes to the larger issue of workforce development within rural education by addressing pre-service teacher engagement and online pedagogy, namely using ICT in pre-service education. It highlights the potential for online peer mentoring to provide a communication bridge for geographically isolated students on practicum and the enable these students to sustain peer networks.
ACKNOWLEDGMENTS

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