TEACHERS' LEARNING IN ONLINE COMMUNITIES OF PRACTICE: TWO CASE STUDIES FROM AUSTRALIA

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ABSTRACT

Australia is a vast land with a dispersed population especially in rural or remote areas, which is geographically located in the Asian region. This has a strong bearing on its initial education (pre-service) and the ongoing professional development (in-service) of teachers. The vastness of Australia causes professional isolation and a lack of face-to-face contact with other teachers while the geographical proximity to Asia makes with languages and cultures a necessity due to geo-political and economic reasons. These two motives shape the work of teachers, whether they are still in training or already experienced professionals. Online social networking platforms such as 'ning' and 'edumodo' can bridge the geographical distance within Australia while also connecting it to its Asian neighbour. These online communication networks are increasingly more used to Communities of Practice (CoP) based on the theoretical framework of Etienne Wenger. The educational theorist describes CoP's as groups of people with a shared knowledge base, who interact due to a common interest or goal. This paper describes two case studies from an Australian university that involved online CoP's; one for 34 teacher in pre-service to overcome their geographic isolation and the another for 41 in-service teachers to develop their professional learning in order to engage with Asian languages and cultures. The first project failed completely whereas the second project was highly successful. The failure was mainly due to shortcomings in the technical, behavioural and organisational aspect (i.e. a lack of social capital and face-to-face interaction to accompany the online learning component), features which the successful CoP utilised. The opportunities, challenges and outcomes of both projects are described and analysed. These, in combination with the subsequent recommendation might assist readers who are contemplating similar endeavours.

1. INTRODUCTION

Australia is a large continent stretching 4000 km from east to west and about 3700 km from north to south. It has more than 800 000 km of road, half of them are not sealed. Of the 22 million people, 3.4 million are students. They attend 9 581 school and have 344 348 teachers to educate them. The sheer size of Australia means that about 5000 schools are in rural or remote areas. Some schools are 700 km away from the nearest town (Australian Bureau of Statistics, 2010).

This geographic isolation also brings social, cultural and professional loneliness for teachers, whether they are pre-service (in training) or in-service (on active duty). Attracting teaching staff to those rural or remote areas is challenging due to the lack of professional support networks, interactions and development opportunities. There is now a significant shortage of experienced teachers in these areas of Australia, especially in science and maths education (Hudson & Hudson, 2008).

Australia's geographic proximity to the Asia and the resulting geo-political (i.e. diplomacy, migration, humanitarian assistance) and economic reason (i.e. business, tourism, investment, trade) necessitate a familiarity with those Asian cultures and languages. Therefore, the Australian Government has a vested interest in fostering translingual and transcultural competences in school students as a way of facilitating future engagement with its Asian neighbours.

Both of these geographic challenges (the vastness of Australia and its location within Asia) have a strong bearing on initial education (pre-service) and the ongoing professional learning (in-service) of teachers. The central argument of this paper will be that online networks for pre- and in-service teachers can address the geographic isolation within Australia and enable engagement with the languages and cultures of its Asian

neighbours and as such provide an alternative support for these teaching professionals. A suitable theoretical framework to underpin these online professional networks are Communities of Practice (CoP) that are based on Etienne Wenger's (1998, 2004) work, who defines these as a group of people who share a common knowledge base and interact on an ongoing basis because they have the same interests or goals. Examples of CoPs are soccer moms and dads who use the time spent at their children's games to share parenting tips, artists who debate new styles or techniques in coffee houses or studios, gang members who help each other survive on the streets. These people may not meet every day but they do find value in their interactions because they use their time together to share information, solve each others' problems, vent their frustrations, discuss their aspirations and create tools, designs or other useful resources. Online CoP hold the added advantage of being able to connect to people all over the world, which is extremely valuable if the topic of interest is unusual, the participants live in remote areas or have personal circumstances (i.e. family, work, study commitments) or other issues (i.e. disability, mobility, shift work).

This paper will use a case study approach to describe and analyse two online CoPs under the auspice of an Australian university. The first one was target at 34 pre-service teachers to overcome academic and professional isolation in rural and remote Australian school while on teaching round though the use of 'ning', the other involved 41 in-service teachers and their year-long professional learning to engage with the cultures and languages of Asia. Both projects held various challenges, opportunities and outcomes which informed the formulation of recommendations that might enlighten others who are intending comparable undertakings.

2. METHODOLOGY AND RESEARCH QUESTIONS

To investigate the issue of teachers' learning in online CoPs, a case study approach seemed the most appropriate. Case study approaches are used to a greater extent in educational research to portray context-specific educational situations and to draw conclusions by generalizing from the findings. They are a scientific approach with quality criteria based on objectivity, reliability and validity. Results are able to be communicated directly and effortlessly to stakeholders (Kyburz-Graber, 2004, p. 53).

Case-study research asks questions of 'what', 'why' and 'how', rather than question of 'who' and it certainly does not ask question of 'how many'

(Kyburz-Graber, 2004, p. 54)

The strength of case study research as a research methodology is that it is close to the situation and the people involved. It is ideally suited for the analysis of a phenomenon against the context with the aim to understand the meaning behind the participants' behaviour and knowledge. With this in mind, the research questions centred around the issue of teaching in rural or remote communities, the arsing isolation in the first case study and the engagement with Asian cultures and languages in the second case studies. Of interest was the extent to which online CoP's can connect pre-and in-service teachers with their peers and to what extent these online CoP's are helping to overcome social and academic isolation.

3. CASE STUDY 1: PRE-SERVICE TEACHERS

The first case study reports on a project that was prompted by a 2010 Teaching and Learning grant from the School of Education at Deakin University in Melbourne, Australia. At its heart was the desire to develop an innovative and creative way to support 34 pre-service teachers in their final year of the Bachelor of Education Primary course on teaching rounds in rural or remote schools during the latter half of 2010. These pre-service teachers often feel lonely in such isolated places, have limited access to teaching resources and may have professional or personal issues within the placement that they cannot discuss with the local staff. Therefore, an online CoP was conceptualised and implemented as a seeding platform that would support teacher during their initial training and throughout their future teaching career.

3.1 Background to this Case Study

In Australia, pre-service teacher education is the initial training that comprises an academic degree at the university (usually a Bachelor or Graduate Diploma of Teaching/Education) with a professional experience component. These teaching weeks – often referred to as teaching round or practicum - can be stressful due to the pressure to complete them successfully and their weighing, as they are often the most important component of the academic degree.

The strain is exasperated for pre-service teachers in rural or remote settings, due to the geographic isolation and lack of face-to-face contact and support from university staff and peers. The emotional, social and academic support provided by these collegial or collaborative relationships potentially encourage and sustain pre-service teachers through their often challenging first teaching experiences (LeCornu, 2010; Davie and Berlach, 2010).

As a means of overcoming geographic isolation during teaching rounds in rural and remote schools, Web 2.0 technologies are being explored as an option to reproduce face-to-face mentoring in online forums, with a small body of research emerging (Davie and Berlach, 2010; McLoughlin, Lee and Brady, 2008; Rideout, Bruinsma, Hull and Modayil, 2007). Pre-service teachers are seen as an IT-savvy cohort and well versed in using social networking software in their personal lives. These online means can be utilised as a support mechanism during their teaching practicum while they are off-campus and especially if they are in non-metropolitan schools and as such outside the reach of a traditional school visit from the supervising university staff (Davie and Berlach, 2010).

There are several reasons why online supports seem to offer a way to overcome geographic isolation. For one, the current cohorts of pre-service teachers belong to the Net Generation, also called Net Gen, which Oblinger and Oblinger (2005, p 2.2) defined as "...born around the time the PC was introduced..." Unsurprisingly, 20 percent started to use computers when they were between 5 and 8 years of age. Such early exposure to Information and communication Technology (ICT) has given them considerable digital literacy skills, the aptitude for non-text expression (i.e. audio, video, graphics) and a liking for multi –tasking (Oblinger and Oblinger, 2005).

Higher Education Institutions have recognised the Net Generation's desire for constant connectedness, social networking and online interactivity with their peers; their high ownership of mobile devices (i.e. laptops, mobile phones, PDAs, iPods), proficiency in using Web2.0 tools (i.e. SMS, blogs, podcasts, videocasts , YouTube) and frequent engagement with social networking sites (i.e. Facebook, MySpace) (Oliver & Goerke, 2007).

Universities are trying to capitalise on these observations and at the same time prepare undergraduate and postgraduate students for a rapidly developing global and digital environment which is another reason why online learning choices are offered to these techno-savvy learners. Traditional face-to-face teaching on campus has been supplemented, complimented and sometimes even substituted with online options through Learning Management Systems (LMS), Web 2.0 tools and virtual worlds such as Second Life. Today's students are therefore used to seamlessly move between physical and visual worlds and as Frand (2000) says, more comfortable writing on a keyboard than on paper and happier reading from a screen than from paper.

A third argument for the use of new and emerging technologies in teacher education course is the preparation of teachers of the future, with online skills that will not only benefit them but also their future school students. Within these online CoPs, the participation of young professional who are digital natives can positively influence experienced professionals that are not or less digitally inclined and proficient. The advantage of a CoP lies within the equal access of both novice and expert users, which facilitates discussion and exchange without distinction or demarcation of legitimacy. The learning process thus becomes a joint activity and responsibility within an evolving community of practitioners that supports each other (Kirschner and Lai, 2007).

The literature was searched for similar projects as Australian universities have been using a variety of web based course shells (Blackboard, Oncourse, WebCT) for over a decade as part of the teaching and learning options for their students, either while engaged in on-campus provisions or during their teaching rounds.

One example was the use of a Learning Management System (LMS) for pre-service teachers during their teaching round as part of their Graduate Diploma in Education (Secondary) at the Australian Catholic University (ACU) in Canberra, the national capital. The academic team of McLoughlin, Lee and Brady (2008) used the LMS to enable online peer mentoring amongst the student cohort but also to discuss experiences during their teaching round.

Another example was from the Australian Catholic University (ACU) in Brisbane, Queensland where Drabble (2010) used the LMS for a cohort of Bachelor of Education students. In this instance, emails were send out by the course co-ordinator stay in touch with the pre-service teachers while on their teaching rounds, which helped them to feel connected to the university, reduced their angst and encouraged their confidence.

Both papers outline the advantages of using a university LMS as students' familiarity with the technology (which saves time on training), familiarity with each other (which saves time on introductions) and familiarity with the code of conduct (which saves time on orientation). However, a distinct disadvantage of a university based LMS is the loss of access once the teacher education course finishes. Deng and Yuen (2007) circumvented this issue with the use of second generation web based tools such as blogs, email and instant messenger (IM). Blogging allows the sharing of texts, still images, audio and video files. This in turn helps pre-service teachers to stay connected with their peers during school placements through sharing of ideas and impressions.

In light of these insights, a number of online social networking options were explored and 'ning' was selected as it was a free of charge, protected network, accessible from anywhere that requires little technological skills and time in setting up a profile to participate while offering flexibility through synchronous and asynchronous modes (ning, 2010). The former (real time chat) seemed ideal for urgent matters such as discussions on teaching tips for the next day or classroom management issues that need immediate attention. The latter afforded sharing of photos, videos and audio and appeals to the Net Generation of pre-service teachers that regard heavy text based modes such as email or IM as anachronistic.

The ning was offered to the cohort of 34 pre-service teachers in the latter half of 2010 before going on teaching rounds in rural and remote areas via several email invitations, which were accompanied by offers of information and demonstration sessions as well as phone support for training and troubleshooting. Most unexpectedly, not even one of the pre-service teachers took advantage of the valuable online support for reasons unknown, as none responded to the follow-up online survey and emails to investigate the reasons for this disinterest.

The lack of uptake seems to contradict contemporary discourses about the Net Generations' prolific use of web based technology.

It was hypothesized that pre-service teachers saw the ning as yet another burden on their already busy schedule rather than a help to ease the pressure and assist them through their teaching round. Based on that assumption, it was concluded that participation in an online CoP for teacher education courses would have to be mandatory. It would ensure that these future teachers are benefiting from the available assistance, are equipped with the latest technological skills, are connected to a network of practitioners and are making this a habitual part of their professional lives prior to moving into the workforce.

4. CASE STUDY 2: IN-SERVICE TEACHERS

The second case study was funded in 2011 by the Department of Education and Early Childhood Development (DEECD) in Melbourne, Victoria. It comprised experienced 41 teachers of Chinese (Mandarin), Indonesian and Japanese who were engaging in professional learning under the National Asian Languages and Studies in Schools Program (NALSSP), which has at its core the engagement with Asian cultures and studies. At the same time, teachers in Victoria requires 100 hours of professional learning over a period of five years in order to qualify for a renewal of their teaching registration. Hence, professional learning is compulsory and online options such as CoPs are especially relevant for those in rural and remote areas, those with family commitments or mobility and financial issues, which may prevent them from travelling lengthy distances to attend face-to-face mentoring or professional learning sessions.

4.1 Background to this Case Study

The growing influence of Asian nations as a major factor in the world's economy brings new opportunities especially in an era of rapidly increasing globalization. This was recognized by the Australian Ministerial Council on Education, Employment, Training and Youth Affairs (MEETYA) in its 2008 *Melbourne Declaration on Educational Goals for Young Australian,* which states that "Australians need to become 'Asia literate', engaging and building strong relationships with Asia" (MEETYA, 2008, p 2). Becoming 'Asia

literate' signifies the ability of Australian students to interact and communicate with people from Asian countries and cultures. These skills have to be acquired during their schooling hence the study of Asian languages is a core element of the Australian school curriculum. It is anticipated young Australian who are 'Asia literate' will have a competitive edge in a global economy which in turn will provide Australia with an economic advantage. The Australian Education Foundation (AEF) summarised the essence of Asia literacy in their *National Statement on Asia Literacy in Australian Schools 2011-2012* as the students' appreciation of cultural, social and religious diversity with an ability to be active and informed in order to make sense of their world while at the same time being confident enough to interact well with others (AEF, 2011).

This endeavour has been financially backed by the Australian Government with more than $ 62.15 million for the period from 2008 to 2012 alone under the National Asian Languages and Studies in Schools Program (NALSSP). The NALSSP was developed with a number of stakeholders: the Asian Education Foundation (AEF), embassies, non-government education authorities, as well as state and territory governments. NALSSP's explicit goal was the increase of student's opportunities to familiarise themselves with Asian languages and cultures with the funding used for a number of initiatives in various states and territories such as the one described here from the state of Victoria.

Victoria's Department of Education and Early Childhood (DEECD) holds the view that the study of languages and cultures of Australia's neighbours, namely China, Indonesia, Japan and Korea will assist students in their future careers and help the nation within a developed global economy. Compulsory languages education for all government school students from Prep (Preparatory class) to Year 10 where therefore mandated as it is believed that it will benefit students' personal development and hold social and economical benefits. The policy was formulated in the *Victorian Government's Vision for Languages Education* and launched by the Minister of Education together with the Minister of Multicultural Affairs and Citizenship with the goal to be achieved by 2025 (DEECD, 2008; DEECD 2011).

The case study under discussion was one of the strategic initiatives by DEECD (2011) to revolutionise language education in government schools, specifically the professional development, support and training with technology of the *Asian Languages and Cultural Studies Teachers*. The goal of the project was the professional development in new technologies for experienced language teachers to improve adaption rates and subsequently pedagogical practices in primary and secondary schools.

Professional development for in-service teachers has had a long tradition in Australia due to the former student-teacher apprenticeship model of teacher training. This rudimentary form consisted of an academically excelling secondary student who could become a junior teacher after shadowing a senior teacher for a short time. In the colonial period, this essentially left a teenager in charge of a classroom with over 40 students and a limited range of teaching skills. Once these teachers were in-service, it was inevitable that their basic preparation required further training, which was offered on the weekends, during school holidays or ad hoc but usually without incentives and as such unattractive. The Education Act of 1872 made schooling compulsory and as federation and the age of Industrialization approached, more secondary school educated citizens were needed and in turn better educated teachers, which led to the establishment of teacher colleges. However, teacher professional development was still largely seen as 'remedial' measure. It was designed to overcome a deficiency that the teacher had due to a lack of skills or knowledge. An exploding population through mass immigration from Europe and a greater awareness of competitiveness with countries overseas led to the up-grading of teacher qualifications with tertiary requirements such as Bachelor or Graduate Diplomas in the 1980s. The advent of computers, digital technology, the Internet and the Information Age required further up-grading of teachers' proficiencies to keep pace with the changing demands of a technology rich curriculum. By now, the notion of life-long learning has made ongoing professional development part of a teaching career (Hanewald, 2003). This view was further affirmed with the Victorian Institute of Teaching's establishment by an act of Parliament in December 2001 as a regulatory body that registers all teachers in Victorian government, catholic and independent schools. The registration and renewal is a prerequisite for employment in any school and dependents on completion of 100 hours of professional learning over a period of five years (VIT, 2011).

Teacher professional development or teacher learning as it is now referred to was seen as bridging the gap between the students' potential and actual performance and as such a cornerstone for effective schools according to the DEECD (2012). Teacher professional learning in this context is seen as keeping up-to-date with knowledge and skills and the developments in their field just like any other professionals who need to continuously learn to stay at the forefront of their chosen profession.

The teacher professional learning in this case study of 41 *Asian Languages and Cultural Studies Teachers* (Indonesian, Japanese, Chinese/Mandarin) focused on the use of new and emerging technologies through the use of mobile devices such as PDAs, smart phones, notebooks, iPods and iPads. These tools enable interaction with native speakers in different parts of the world and "...the greatest benefits of technology is that it can bridge distance and time..." (Nunan, 2010, p. 2005).

In Australia, the greatest difficulty in studying a faraway language and culture was limited or no access to native speakers, which Web 2.0 tools (i.e. blogs, media sharing, social bookmarking, social networking, video conferencing, wikis, virtual worlds) can overcome. Therefore, teachers need to be trained to use these technologies in their classroom so that their students can become digital fluent and ready for the challenges of the 21st century. Firstly, teachers need to learn the technical skills themselves, then their pedagogical use to embed them in existing classroom practices. Teachers will have to know which technologies are suitable for their teaching practice to find the best way in which these new tools can enhance teaching and learning activities and lastly, teachers need to be able to conceptualise a systematic and sequential approach to their introduction.

Hence, 21 Asian Languages and Cultural Studies teachers in primary schools and 19 teachers in secondary schools were issued with a substantial grant to purchase technological tools of their own choosing. They were also supported in their professional learning by a team of six carefully selected academics with specialization in at least one of the aspects related to the teachers' needs and two officers from the Department of Education and Early Childhood (DEECD) in Victoria for the duration of a school year that is from January to December 2011. The year started with teachers writing their project goals and other preparation work such as lesson plans, designing of new activities and resources and purchasing of mobile devices to successfully support the new teaching approach. Then, they attended two training days at a local university on pedagogical approaches to using new technologies and two days at a centre for the moving image to acquire the technical skills in handling the devices. This was followed by four terms (worth 40 weeks of teaching in total) during which teachers were supported via a social networking side by the academics. Edmodo was chosen as it is a free yet secure and user friendly platform, which offers multimodality (audio, video, still images, text) with a variety of features (asynchronous, synchronous, forum, personal messages, group announcements, hyper linking to the web, resource bank). As such, it provided an ideal online network for the building of this CoP. During the teaching year teachers also had the opportunity to email, phone, visit the academics at university or invite them to their school or attend a conference. However, none of the teachers made use of this option although they had two discretionary days during the year which could have been used for this purpose. One of the reasons may have been the substantial distance and time to travel from country Victoria to the metropolitan based university and the clashing schedules of school teachers and university academics. Another reason was the already established regional networks for regular teacher meetings and professional development, which teachers utilized for their technology based teaching collaborations. At the end of the year, teachers meet again at the university for two days to present their year's work in the form of a short video and write up their report. The scaffolding throughout the year ensured the sustainability of the project for teachers as they had every conceivable support, which put them in a position to continue this innovative work in subsequent years by themselves.

5. CONCLUSION AND RECOMMENDATIONS

The two case studies aimed at setting up and utilising an online Community of Practice as an innovative way to provide teachers (pre-service and in-service) with support for their daily work. Both case studies dealt with the same issue: the development of teaching professional that can educate students for the future demands of the workforce in a globalised and highly mobile world and the use of online CoPs to scaffold their learning. Web 2.0 tools alongside the need to support teachers in rural and remote schools or with Asian language and cultures are driving the establishment of online CoPs. Both studies also show that success or failure is possible. The mere offer of technology for educational purpose does not ensure that teachers take it up nor does it ensure that it will be a positive experience. While there are a range of reasons for teachers not to participate in technology such as those without general interest in developing their professional skills or particular disinterest in new technologies, those lacking sufficient skills to access online resource, those being weary of yet another fad in the exhausting array of digital programs or those simple worn-out from the

relentless demands of daily life, work and their studies the main difference in the described case studies seemed to have been the lack of social capital. In case study 1, there was no prior relationship between the online CoP facilitators and the pre-service teachers. This unfamiliarity prevented the building of a strong group as personal interactions were non-existent. In comparison the facilitators and participants in case study 2 were able to spent a block of time face-to-face at the beginning of the project and another intensive block of time at the end of the project year, with significant online interactions during the life of the project, which contributed substantially to its success. The built relationships enabled the sharing of pre-existing and newly generated knowledge, leading to innovative teaching in the actual primary and secondary classrooms, which became evident in the video presentations that were presented at the end of the year. Apart from the crucial importance of group members' relationships and the communal responsibility to produce and share resources, ideas and knowledge via the online platform, there choice of the online networking tool is vital. The use of new and emerging technologies in teaching contexts and their analysis made a set of technical, behavioural and organisational aspects in choosing an online platform lucid. The technical recommendations comprise selection of technology that is based on the needs of the teachers and aligns with their digital literacy skills; is user friendly, intuitive to use and requires little set up time and effort before participating; is compatible with a range of other online tools; offers multimodality (i.e. text, still images, video and audio files); enables asynchronous posting but also synchronous chat; and has at least one designated administrator who monitors the site. The behavioural recommendations include a clear articulation of the rationale and potential benefits for the engagement with the online CoP; communication of ethical online conduct that excludes inappropriate use (i.e. pornography, fraud, defamation, breach of copyright, unlawful discrimination or vilification); encouragement of collegial and collaborative relationships and free exchange of ideas. The organisational recommendations involve opportunities for trouble shooting (technical and organisational); regular monitoring of posts and moderation of discussion; and establishment of self-supporting peer mentoring. Finally, establishing a code of conduct (i.e. behaviour in relation to netiquette, cyber bulling and professional standards), introducing participants formally and initiating newcomers to the concept and purpose of CoP as well as their online versions, documenting lessons learned , providing a Frequently Asked Question (FAQ) section and acknowledging and encouraging contributions are tasks for the facilitator to further ensure that the group is achieving its goals and moving towards individual excellence.

With these guidelines in mind, online CoPs for teaching professionals will have a much greater likelihood of success.

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