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MONEY, DISTANCE, TIME AND SUPPORT: VIRTUAL MENTORING OF PRE-SERVICE TEACHERS DURING SCHOOL PLACEMENTS

By

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ABSTRACT
Placing pre-service teachers in schools for practical experience takes money, time and support. The traditional model of school-based experience for pre-service teachers is both financially prohibitive and unsustainable. Practicum is viewed by pre-service teachers, classroom supervisors and educational lecturers as an useful and important part of teacher education courses. Innovative approaches to the supervision of student teachers (in schools) are required. To ensure school based practicum in pre-service teacher courses, research into relevant alternatives is required. The proposed research will concentrate on developing new partnerships via the e-mentoring process. A variety of technology-based means of communication will be applied. The traditional triad model (classroom teacher, pre-service teacher and university lecturer) will be challenged and a new model implemented. The new model features students at the core, in partnership with each other and with their school-based mentor(s) and university mentor. Classroom teachers will enter into a partnership with their school colleagues and university lecturers. Technology is the enabler of these teaching and learning partnerships.

INTRODUCTION
Placing pre-service teachers in schools for practical experience takes money, time and support. The reality is that the availability of these (money, time and support) is diminishing. The 2007 Horizon Report identifies how "the environment of higher education is changing rapidly. Costs are rising, budgets are shrinking ..." (p.3). One of the issues that have arisen due to the rising costs and shrinking budgets is the commitment of mentoring pre-service teachers. In Australia a parliamentary report into teacher education has just been tabled in the House of Representatives Standing Committee on Education and Vocational Training (March 2007).

Identifying problem
A major area of concern identified (1.5d) is the "inadequate funding of teacher education, particularly for practicum (2007, p.2). The report titled 'Top of the Class', outlines an overall concern with "aspects of the school-based professional experience components of courses (2.9a, p.8). "Much of the evidence received in this inquiry related to concerns about practicum" (2007, 5.9, p.5).

Hee and Thomson (2005) argue that "the current model for teacher placement in schools is cost prohibitive and unsustainable." (p.2). They outline how The Queensland University of Technology placed "5000 students in schools at a cost of 3 million dollars" (Hee and Thomson, 2005, p.2).

This is a familiar problem for Victorian Universities. Nicola Yealand (2003), from Royal Melbourne Institute of Technology (RMIT) argues how "courses with a practicum component [have been made] unviable and subsidies from other areas are inevitable, but unsustainable" (p.1).

The unsustainability is a cause for concern as school placements are recognised for the value that they add to pre-service teachers' experiential knowledge and growing professional identity. The school placement component is vital part of pre-service teaching and learning, recognised by students, classroom teachers and university lecturers. Christine Ure (2003) from...
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Melbourne University argues that “to become a teacher is very personally challenging and you need repeated opportunities to go out there - out into schools and classrooms where it’s possible to build up a working understanding of what being a teacher means, from the perils of lunchtime yard duty to the challenge of year 9 boys in the last class on Friday, to the whys and wherefores of getting a restless class to knuckle down to Macbeth” (p.1).

As a consequence of the pressure on pre-service courses, some Victorian universities have stopped visiting their students. Mary Bluet (2003) head of the Victorian Education Union points out that the teachers in schools have become “disenchanted” with this as currently the “training and the assessment of the practice round often becomes solely the teacher’s responsibility, something that generates a high level of discomfort” (p. 1). The ‘Top of the Class’ report also indicates that “many universities are providing limited support to students while they are on practicum with visits from university supervisors being infrequent” (2007, 5.14, p.71). The report revealed that “the level of support has significantly decreased over the years” (2007, 5.14, p.71).

At the La Trobe University, Bundoora Campus there are 450 students enrolled in a 12 months Graduate Diploma of Education Course. During the course each student has traditionally been visited at least once. Maintaining this style of mentoring seems difficult. A further constraint is that a number of the pre-service teachers in the course are placed throughout Melbourne and country Victoria. As a consequence of distance and time, two students only being visited per day over a three week period.

The students in the Mid-Year Primary Intake (85 students) course indicated that they want to be mentored while on school placements by a university mentor, as they already have a pre-existing relationship. They felt that a pre-existing relationship is essential when having a ‘critical friend’ mentor. The debriefing by a university lecturer, who has a background knowledge of the course material combined with their observation of the pre-service teachers’ practice was also viewed as significant. A further point they believed important is that a university lecturer (mentor) offers a different type of support to their supervising teachers. The ‘Top of the Class’ report stated that “beginning teachers consistently rate practicum as the most useful part of teacher education courses” (2007, p.67).

Re-thinking school placements: Real time virtual web mentoring

The ‘Top of the Class’ report reveals, how “the problems with practicum have been outlined in nearly every report addressing teacher education in the last decade,... [which] indicates the need for major reform in this area, involving all players and all aspects of the system” (2007, 5.21, p.73). The report suggests rethinking of practicum. Given this recommendation, and the students need/desire for placements and university mentoring, have decided to undertake research into virtual school placements for pre-service teachers. The issues of time and space can be quickly alleviated with web mentoring, as the technology allows real time support, while being aspatial. The author are also interested to discover the qualitative benefits of a virtual relationship between pre-service teachers, classroom teachers and university lecturers.

\[
\text{money - time} \cdot \text{distance} + \text{Support} = \text{Virtual mentoring.}
\]

The practicum is seen as an important aspect of the Graduate Diploma of Education course. The (primary)

| Integrates theoretical knowledge and professional practice across the three domains of a teacher education program: “content” knowledge gained through a liberal education, professional knowledge, technological skills and insights |
| Is designed and implemented within a partnership involving teacher education institutions, schools, school systems and relevant professional bodies |
| Articulates clear and progressive stages for the development of the acquired knowledge, skills, attributes and dispositions of beginning teachers |
| Provides diverse experiences in a range of school contexts and with a variety of students |
| Assesses against clear delineations of purposes, roles and expectations of IT student activity and performance |
| Includes an assessment of resource needs and implications |
| Is flexible and encourages innovation? |
| Involves ongoing evaluation and response |

Table 1. Features of high Quality Practicum
Mid-Year pre-service teachers have three separate placements. Each of these placements lasts for a 3 week duration. These pre-service teachers receive 45 days in total school/classroom experience. Features of a high quality practicum as set out by the parliamentary report (2007, pp.73-74) are given in Table 1.

The features of what a practicum sets out to do, identified and articulated by the “Top of the Class” report are the guidelines for the proposed virtual mentoring of pre-service teachers while on practicum.

New Reality Emerging: Connectivism and teachers practical theories

Julie Lombardi (2001) has reported that innovative approaches to the supervision of student teachers (in the United States) are required. This seems to be the case also in Victoria and Australia. She also states “teacher preparation models are changing, as schools and universities realise that a successful alternative to traditional teacher preparation exists...” (2001, p.320). What Lombardi (2001) has outlined is a growing recognition that “cooperation, coaching and collaboration, along with sharing of resources, strategies and best practices represent the changing face of teacher supervision and training in the United States” (p.320).

When considering how technology impacts personal and professional lives, Siemens (2004) suggests that it not only has “reorganised how we live, [but also] how we communicate, and how we learn” (p.1). Because of the wide reaching impact of technology he argues “learning needs and theories that describe learning principles and processes should be reflective of underlying social environments” (2004, p.1).

Siemens (2004) presents an alternative theory to behaviourism, cognitivism, and constructivism. He suggests that the reality of the social environment is perceived through connection, which is being made more apparent through technology. Technology can allow people to be connected to a community of people that they would not otherwise interact with. Knowledge transfer and our interaction with that flow is connected also with technology. There is a newly unfolding understanding that there exists a connected ecology (social and environmental). The many references to partnerships between universities, schools, principals, lecturers, classroom teachers and pre-service teachers in the “Top of the Class” report also reflect the growing awareness of connectivism. With the assistance of technology there is a growing awareness that reality is aspatial and atemporal. There is also a growing realisation of being freed from the linear reality of the industrial mechanised environment.

For Siemens, connectivism’s starting point is with the individual. “Personal knowledge is comprised of a network, which feeds into organizations and institutions, which in turn feed back into the network, and then continue to provide learning to [the] individual. This cycle of knowledge development (personal to network to organisation) allows learner to remain current in their field through the connections they have formed. He concludes by arguing that Connectivism presents a model of learning that acknowledges the tectonic shifts in society where learning is no longer an internal, individualistic activity. How people work and function is altered when new tools are utilized. The field of education has been slow to recognize both the impact of new learning tools and the environmental changes in what it means to learn. Connectivism provides insight into learning skills and tasks need for learner to flourish in a digital era. (Siemens, 2001, p.5)

As the digital age is a new part of teaching and learning there is also an apparent shift in researching and teaching. Marland’s (2007) research has led him to suggest that during the “first half of the 20th century, most research in teaching was aimed at finding out what the characteristics of good teachers were” (p.181). There was a move “away from what teachers are like to what teachers do” during mid 20th Century (Marland, 2007, p.183). In the last part of the 20th Century the emphasis is given more to shifted to research on teacher thinking. Then most of the researches are focusing on “teachers’ practical theories” (Marland, 2007 p190). Practical theories involve “teachers’ private, integrated but ever-changing system of knowledge, experience and values
which are relevant to teaching practice at any particular time (Handal & Louvas, 1987, p.9). For Sanders and McCutcheon (1987) practical theories also include the "conceptual structures and visions that provide teachers with reasons for acting as they do, and for choosing the teaching activities and curriculum materials they choose in order to be effective" (pp.52-53).

Marland (2007) highlights how "practical theories are thought to be implicit because teachers are not often required or encouraged to make their theories explicit or public by talking or writing about them.... Practical theories also tend to be context specific, that is, they vary with the context or the classroom in which a teacher is working (p.193). During the research, classroom teachers will be encouraged to discuss their practical theories with their peers, a university lecturer and pre-service teachers. Their participation will help to shape teacher practice and advance research into teaching collaboratively.

<table>
<thead>
<tr>
<th>Mentors</th>
<th>Study/Authors</th>
<th>Constraints and Limitations</th>
<th>Positive Outcomes</th>
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<tr>
<td>Other</td>
<td>Young &amp; Fung (2004) Pre-service Teachers</td>
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<td>Children in school environment</td>
<td>Young &amp; Fung (2004)</td>
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<th>Study/Authors</th>
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<tr>
<td>Technology</td>
<td>Adriaat et al. (1998)</td>
<td>Seabrooks et al. (2000) few technical problems reported however, out of the 12 categories of usage, mentors providing technical advice was ranked highest.</td>
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<td></td>
<td>Brady &amp; Schuck (2005)</td>
<td>networking and access problems</td>
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<td>Asynchronous</td>
<td>Communication</td>
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<td>Email</td>
<td>Adriaat et al. (1998)</td>
<td>Adriaat et al. (1998)</td>
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<td></td>
<td>Lattner</td>
<td>Reduced feelings of isolation, created sense of community and promoted reflective practice</td>
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<td>Discussion Topics:</td>
<td>Social</td>
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<td>Quinnrey (2005)</td>
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<td>Quinnrey (2005)</td>
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<td>Peer Mentoring</td>
<td>Angel et al. (2003)</td>
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<td>Synchronous Communication</td>
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<td></td>
<td>Cullimore (1999)</td>
<td>video conferencing should be developed within the context of a range of media including E mail, Bulletin Boards and Newsgroups. Morett (2006) suggests use video/web conferencing to support asynchronous communication.</td>
</tr>
<tr>
<td></td>
<td>Seabrooks et al. (2000) video conferencing used twice to evaluate the project but not part of mentoring process. Garrett &amp; Dutt (1998) community belonging access to University supervisors availability of information.</td>
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Table 2. Overview of current researches in eMentoring

Literature Review of Previous E Mentoring Projects
As faculties of Education struggle to provide appropriate levels of support to pre-service teachers during their placements, more are turning to the use of Information and Communications Technology (ICT) to help to overcome some of the problems related to the lack of resources, time and finance.

Whilst there have been many studies focussing on
mentoring of pre-service students, there is a distinct scarcity of literature dealing with the use of ICT as a means of providing support to students on teaching placements. The literature review revealed that mentoring theories were underpinning all the studies and technology was utilised to support students, pre-service teachers, and graduates. Various terms have been used to describe research involving mentoring and technology: e-mentoring, online mentoring, telementoring and virtual mentoring.


The following table has been designed to provide an overview of current research in the area of e-mentoring students on placements. The overall research findings suggest that e-mentoring, in its variety of forms has had limited success.

Early studies tended to employ asynchronous methods of communication, such as list servers and discussion forums to mentor students. These are all tended to be based on a two-way partnership between university staff and students. The majority of research in this area noted technical difficulties. However, more recent studies do not note technical difficulties as often.

Cullimore (1999) argues that video conferencing can be particularly effective in establishing contact and maintaining a sense of communication and community. According to Holmes and Gardner (2006) video conferencing is still emerging as a means of communication but low end video conferencing using webcam, microphone and speakers is now in mainstream use. It is surprising that there are few studies using web conferencing technology to support students on teaching placements. A few early studies (Garrett & Dutt, 1998, Cullimore, 1999) attempted to study the use of video conferencing to support student-teachers on placement. These studies reported success as they encouraged reflective practice amongst mentorees. However, the technology appeared to be costly in terms of resources and planning time.

Advances in the past five years have focussed on usability of the technology, making video and web conferencing (amongst others) more accessible and less problematic. The advent of Web 2.0 technology has also meant that users have more control of the technology: it is more accessible, usable and tends to be less technocentric.

Studies such as Klecka et al (2002) have demonstrated that there is little need for customisation of the technology. Off-the-shelf software is adequate for the needs of e-mentoring, but technological advances allow the incorporation of a mixture of communication media, such as web conferencing, reflective journals in the form of personal blogs, and discussion forums for peer mentoring and collaboration.

In an attempt to learn from previous researches, this study will have less of a technocentric focus while still using a variety of technology-based means of communication. Additionally, the study will concentrate on developing new partnerships via the e-mentoring process. The traditional triad model is challenged and a new model is implemented. The new model features, students at the core, in partnership with each other and with their school-based mentor(s) and university mentor. Technology is the enabler. The model given in figure 1 illustrates the complex communication process within this partnership.

![Figure 1. Virtual Mentoring Communication Model](http://www.imanagerpublications.com/Resources/Private/ArticlePDF/image1.png)
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The Study

Phase One

- Real time web mentoring of pre-service teachers by university lecturers.
- Real time dialogue between classroom teachers and university lecturers.
- Asynchronous discussion forum for peer mentoring, sharing of resources and collaboration between pre-service teachers.
- Asynchronous blog, used as a reflective journal by pre-service teachers, with responses and feedback from university lecturers.

Initially, meetings were set up between university stakeholders: lecturers, Head of School of Educational Studies, Academic Development Unit and two technical support staff in addition to email contact with software vendor. Discussions took place to establish the features and capability of the software and whether it will meet the needs of all partners involved in the project.

A technical testing phase was implemented which involved purchasing three webcams; two for university lecturers and one for a student on placement. Two university lecturers, the supervising class teacher and the school principal met with the student on placement, to discuss the aims of the project and establish roles and requirements.

The software and peripherals were tested for operability and usability prior to the purchase of additional webcams and microphones for six schools.

The proposed research timeline for phase one will be completed within five months.

The Communication Process

A myriad of communication tools will be provided for a variety of purposes combined with the traditional face to face method between the pre-service teacher and supervising classroom teacher.

Webcams and microphones can be used to aid the mentoring between the pre-service teacher, university lecturers and classroom teachers. This technology can also be used by both classroom teachers and university lecturers as a means of providing collaboration about the practicum programme and e-supervising.

Students will have access to a discussion forum where they can able to participate in peer mentoring and share resources and collaborate. In addition to this, they will also have a personal blog, which they will develop as a reflective journal. The university lecturer will respond individually providing feedback and responses.

Method

An initial questionnaire will be distributed to all pre-service teachers in the Mid-Year cohort (2006-2007) to gather demographic data, their expectations and perceptions of the practicum supervision process.

Six volunteers will be sought to take part in the pilot study from pre-service teachers in the Mid-Year cohort 2006-2007 and a survey will be conducted to assess what level and the type of support will be needed, expectations and demographic data.

Discourse analysis of the recorded synchronous web conferences will be employed to determine the effects of e-supervision and support and to establish the nature of support that has occurred.

Interviews will be conducted at the end of the teaching practicum to gather information about attitudes, experiences and perceptions of e-supervision and the traditional means of supervision.

A comparative study also can be done looking at the feedback from those involved in the e-mentoring with the feedback of those who were supervised in the traditional manner. Thematic analysis will be used to analyse this qualitative data and it will be used to support and clarify the quantitative data collected from the surveys.

Pre-service teachers, classroom teachers and lecturers via a questionnaire will be asked whether the supervision they experienced was able to

- establish a shared sense of responsibility between schools and the university for mentoring pre-service teachers.
- establish an authentic partnerships between all three parties (classroom teachers, university
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- maintain a connection with pre-service teachers when they are on practicum.
- involve classroom teachers and lecturers in designing the practicum.
- promote theory and practice to come together.
- promote practical theories and action research.

Conclusion
The sample would be taken from the pre-service teachers Mid Year cohort 2006-2007. The sample will consist only 6 volunteers. All pre-service participants will have two classroom teaching experiences prior to the research being conducted. The sample will also contain six schools and supervising classroom teachers. Depending on the findings of this research. Phase Two may involve all of the Mid-Years being e-mentored, which could eventually lead to all the Graduate Diploma of Education students being supervised in this way.

It is recognised within this proposal that university lecturers are not observing pre-service teachers’ classroom practice. Therefore a further consideration will be to extend the use of technology to enable lecturers to observe pre-service teachers’ classroom practice.

References
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ABOUT THE AUTHORS
Andrea Gallant graduated from the University of Tasmania with a Bachelor Degree in Education with Honours (Educational Psychology) and completed her PhD recently. Presently she is the convenor of the Mid-Year (primary) Graduate Diploma of Education programme. She also lectures in both primary and secondary education. Andrea has been a coordinator of middle school and convenor of curriculum. Recently she has involved in an educational programme working with some of the most economically disadvantaged secondary school children in Victoria. Andrea's research interests include, the role of consciousness in teaching and learning, Ecological education, Shibusa education, Holistic education, Educational psychology, Enactivist and Participatory research methodologies.

Pam Wright has an Honours degree in History from Lancaster University and also has a Masters degree in Managing Information Technology from the University of Salford. She currently convenes the ICT programmes for the School of Educational Studies. Pam also teaches in the postgraduate program in the areas of Using Multimedia for Learning, Learning Technologies in Education and Teaching and Learning in Virtual Environments. Pam has extensive experience in e-learning and also working as an advisor to teachers using e-learning. Pam has lectured in universities and colleges in both England and Australia. Her areas of expertise include, the management of Information Technology, Information and communications technology education, learning technologies, e-learning, teacher professional development, and context based learning.