Abstract
This paper explores the concept of distributed leadership in the context of a teaching and learning project conducted at the Australian Catholic University (ACU), School of Education, McAuley Campus. In this context, distributed leadership is associated with building relationships that are authentic, genuine, caring, and empowering. Within this teaching and learning project, a website was developed, using the university's Learning Management System (Blackboard), in order to facilitate multi-dimensional communication involving pre-service teachers, the university coordinator and their visiting supervisors. The topic of this communication was the pre-service teachers' experience of teaching in school contexts as part of their Professional Experience Program (PEP). After the completion of their professional experience in schools, pre-service teachers completed a survey of their perceptions of the support provided through Blackboard. More than 50 percent of the pre-service teachers completed this online survey. The results describe the nature, extent, and type of relationships that can be established during this professional experience. It is particularly interesting that these results suggest the possibility of modelling distributed leadership to pre-service teachers in their teaching program.

Introduction
Studies have highlighted the significance of social interaction in promoting development (e.g. Vygotsky, 1962). The influence of communication, that is, the talk that is exchanged during social interaction has considerable influence on student development and understanding. In classroom settings, value has been placed on the opportunities students have for participating in shared learning experiences where they can communicate with each other, share ideas, and learn from each other's knowledge and experiences (Anstey & Bull, 2004; Edwards-Groves, 2003; Cazden, 1988). Similarly, pre-service teachers are provided with substantial opportunities to participate in shared experiences during their on-campus days in lectures, tutorials, and workshops to maximise the potential for development through social interaction. However, they are not limited to face to face communication. Pre-service teachers also engage in shared communication electronically, via email. These shared experiences can be viewed as an extension of the social functioning tertiary students engage in within their own personal
The combination of face to face communication and electronic communication provide meaningful opportunities for pre-service teachers to address concerns and issues relevant to their coursework. During the Professional Experience Program the usual support that exists through social interaction and shared communication is not readily available because pre-service teachers are out in the field in various school contexts.

The Professional Experience Program is a crucial component of the Bachelor of Education (Primary) at ACU National. It is also a necessary requirement of the Queensland College of Teachers for teacher registration. When pre-service teachers are in the field, they often experience anxiety and feelings of isolation. They are also concerned about who they can trust to share any difficulties that arise. Some of the difficulties they face are related to accessing resources and ideas for carrying out lessons they have been asked to teach. (Cohen, 2000).

There are a number of strategies that can be employed to support pre-service teachers in the field. Assistance can be provided through school-university partnerships; mentor teachers; university supervisors and peers. In more recent times, it has been suggested that technology has the potential to alleviate the isolation and challenges that pre-service teachers encounter. The use of email, list serves and bulletin boards can address the need for support as they arise. (Carpenter, 2002; Cochrane-Smith, 1992; Liebmann, 2000; Murray-Harvey, 1999).

The Study
This small, initial project was carried out with the support of a Faculty of Education seeding grant. The aim of the project was to explore the socially constructed communicative repertoires pre-service teachers engage in during the Professional Experience Program. In particular, this project sought to examine the opportunities the email communication facility within Blackboard had for providing support and encouragement to pre-service teachers when they are in the field in school contexts. Blackboard is a learning management system that Australian Catholic University implemented in 2003 to support its face to face teaching. It provides a closed environment where email communication is self contained and not subject to the usual spam that affects the general global email system. This provides a clean environment uninhibited by extra distractions that are peripheral to the business at hand.

Electronic mailing lists and email communication are useful in providing support to tertiary students because the electronic list can be perceived as “a tool that can be used to connect students and create a community of learners” (Allen & Slutsky 2003 p.11). In this project eighty
two, Bachelor of Education (Primary) pre-service teachers completing their second Professional Experience Program (PEP2), their ACU Visiting Supervisors and the Professional Experience Coordinator were provided with access to the Professional Experience Program (PEP) Blackboard site. It was anticipated that the email facility within Blackboard would offer the opportunity for interaction and shared communication during the practicum. In order to examine the use of Blackboard’s email facility, pre-service teachers were invited to participate in an online anonymous survey at the completion of the Professional Experience through the PEP Blackboard site. The focus of the survey was to gather information about the nature and extent of the communicative contributions that were made during PEP2.

The Sample
There were forty six pre-service teachers who completed the on-line survey at the conclusion of their second Professional Experience (PEP2). Forty one pre-service teachers completed their two week block practicum for PEP2 in schools within the Brisbane CBD. Five pre-service teachers completed their block practicum outside the Brisbane CBD in schools located at either the Sunshine Coast or the Gold Coast. The pre-service teachers were asked to record the frequency of use of the PEP Blackboard site during PEP2. The results are shown in Table 1.

<table>
<thead>
<tr>
<th>Use of Blackboard site</th>
<th>Number of respondents</th>
<th>Percentage of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>More than once per day</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Daily</td>
<td>11</td>
<td>24</td>
</tr>
<tr>
<td>3-4 days per week</td>
<td>13</td>
<td>28</td>
</tr>
<tr>
<td>Weekly</td>
<td>12</td>
<td>25</td>
</tr>
<tr>
<td>Fortnightly</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Occasionally</td>
<td>8</td>
<td>17</td>
</tr>
<tr>
<td>Never</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>46</td>
<td>100</td>
</tr>
</tbody>
</table>

These results suggest that the pre-service teachers were regular users of the Blackboard facility during the PEP.
The features of the Blackboard site used by pre-service teachers during PEP2 are shown in Table 2.

Table 2: Features of the Blackboard site used by pre-service teachers.

<table>
<thead>
<tr>
<th>Features of Blackboard site used</th>
<th>Number of responses</th>
<th>Percentage of responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Email</td>
<td>43</td>
<td>37</td>
</tr>
<tr>
<td>Announcements</td>
<td>40</td>
<td>35</td>
</tr>
<tr>
<td>Calendar</td>
<td>23</td>
<td>20</td>
</tr>
<tr>
<td>Discussion</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Other</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>Total</td>
<td>115</td>
<td>100</td>
</tr>
</tbody>
</table>

The way in which the pre-service teachers used the features of the Blackboard site offers some insight into the value of the site for shared communication.

The pre-service teachers using the Blackboard email facility were asked to state their reasons for using the facility. Responses are shown in Table 3.

Table 3: Reasons for use of the email feature.

<table>
<thead>
<tr>
<th>Reason for use of email</th>
<th>Number of responses</th>
<th>Percentage of responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support</td>
<td>17</td>
<td>24</td>
</tr>
<tr>
<td>Organisational (e.g. supervisor visit)</td>
<td>41</td>
<td>57</td>
</tr>
<tr>
<td>Social</td>
<td>8</td>
<td>11</td>
</tr>
<tr>
<td>Sharing achievement/success</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>Total</td>
<td>72</td>
<td>100</td>
</tr>
</tbody>
</table>

These results indicate that the pre-service teachers who responded to the survey were regular users of Blackboard during PEP2. The survey research data further indicates that many of the pre-service teachers used the email facility to access information and to gain clarification about procedural and organisational aspects of the Professional Experience, as well as to communicate with their Visiting Supervisors. Leading reasons for using the email feature tended to be for managerial issues rather than personal issues.

Discussion

The results from this small initial project suggest that the email facility in Blackboard can be used for interactive and shared communication between pre-service teachers, ACU Visiting Supervisors and the PEP Coordinator when pre-service teachers are in the field during the Professional Experience. In particular, the communication facility was used in ways that were
non-hierarchical and supported cross communication between the groups. For example, shared communication between pre-service teachers - pre-service teachers, pre-service teachers - ACU Visiting Supervisors, pre-service teachers- PEP Coordinator, ACU Visiting Supervisors- PEP Coordinator. The high levels of communicative contributions support Blackboard as a suitable medium for providing support and encouragement to pre-service teachers when they are out in the field. Communication was efficiently sent to all pre-service teachers in one group email or as individual emails. The email could then be asynchronously accessed by pre-service teachers. This helped to overcome the problems usually associated with trying to communicate with pre-service teachers via telephone when they are in classrooms teaching during the school day. There was some urgency noted in emails requesting support and encouragement, and lesson content information from individual pre-service teachers who no doubt anticipated a speedy reply. The accelerated reply to the emails provided the necessary support needed by the pre-service teachers as some requests were for lessons that were to be taught in the next day or two, or requests for managing behaviour strategies that were required immediately for effective and successful teaching experiences.

It is particularly interesting that these results suggest the possibility of a connection between distributed leadership and the interaction and shared communicative opportunities encouraged during PEP2. In this context distributed leadership is associated with building relationships that are authentic, genuine, caring and empowering. Distributive leadership offers a distinctive perspective on leadership that is finding increasing support among policy-makers and practitioners (Harris, 2005). It is based on the premise of shared, collaborative and democratic practices across an organisation (National College of School Leadership, n.d.). Ways in which leadership practices are shared, negotiated and constructed inform the concept of distributed leadership. These practices are potentially enacted by people at all levels rather than a set of personal characteristics. As such, this concept of leadership is viewed as a phenomenon that is shared by all members of the community that comprises the organisation. In the context of the small initial project reported in this paper, the community at the centre is the teaching and learning community of which the practicing pre-service teachers engaged in Professional Experience form a subset. (Leithwood, Macsall, Strauss, Sacks, Memon & Yaskina, 2006).

The high levels of communicative participation recorded by the pre-service teachers confirm Blackboard as a suitable medium to affect the benefits of distributed leadership. Direction setting and influencing practices were enacted by all pre-service teachers who possessed a wide range
of expertise and skill in using Blackboard. Blackboard communications also appeared to be successful in connecting pre-service teachers and building relationships between the groups. The intensity of communicative contributions relating to organisational aspects of the Professional Experience also underpins the notion of shared leadership. Between 50% and 75% of pre service teacher communication were in this area. Communication is critical to effective leadership. It appeared that it was indeed the facilitation of reciprocal processes that enabled those involved in the Professional Experience to define a sense of being part of a supportive and collegial educational community (Harris, 2006).

Sample quotes
- It reassured me that I was on the right track
- It was comforting to know that the support was there for me
- It really acted as a support network

The survey data revealed that the pre-service teachers used Blackboard as a communicative tool in ways that reflected a shared understanding of professional responsibilities and an appreciation of the freedom and scope that was available to them to access information concerning essential organisational and administrative requirements.

Sample quotes
- It provided a central point of communication that saved time
- If I had difficulties understanding anything I could email other students or lecturers for information and clarification
- It enabled us to touch base with the University
- It was a useful means of communicating with PEP organisers regarding urgent and other matters
- It allowed contact and messages to be sent immediately

The relatively high volume of communication approximately 25% (Refer Table 3) dealing with support issues was consistent with findings of Scapp (2006) that communities of participation that contribute to education and learning in some way are created. This is evidenced in the following quotes that were indicative of 24% of the results.
Sample quotes

- The opportunities for communication were helpful as it helped me to feel connected to uni and messages of encouragement were very helpful
- It was reassuring to have friends and lecturers there
- I used it often for advice for lessons from my friends. It is a quick and easy way to share concerns and ideas. Sometimes I just needed to bounce ideas, then I could clarify and get on with planning and it was great to know I was having similar challenges to others
- I found it was the connection, which allowed me to see what was happening with others, and to find out what was happening in their class.
- It acted as a support network and a reflection tool during my professional experience

The responses of the pre-service teachers highlight the value of supportive networks that promote trusting relationships. This enabled the pre-service teachers to have a psychological safety net that offered freedom to connect with others, to find and give reassurance and to build relationships. This tentative finding supports the view of Harris (2005) that patterns of relationships enable participants in a community to construct meaning and knowledge together. From a constructivist perspective there were elements of emerging leadership involving reciprocity, purposive learning and action in the Professional Experience community (Lambert, 2005). It appears that leading the conversations through the distributive model may well be at the heart of constructive leadership.

Conclusion

This small initial project explored the opportunity for providing support and encouragement to pre-service teachers during their second Professional Experience (PEP2), through shared communicative contributions using the email facility within the Learning Management System - Blackboard. Results of the on-line survey highlight the significance of the email facility in providing opportunities for reciprocal and shared communications between pre-service teachers, ACU Visiting Supervisors and the PEP Coordinator. The value of the email facility can be linked to efficient, speedy and asynchronous communication that can be readily accessed by pre-service teachers out in the field.

The results of this project further suggest that the pre-service teachers in this project, who are the school leaders of the future, may have been provided with experiences in their Professional Experience Program that both support the distributed form of leadership and also support their communication with individuals and groups that are part of their Professional Experience world.
By providing pre-service teachers with opportunities to participate in multi-dimensional communication, they are being presented with experiences that promote the sharing of ideas and their effectiveness as communicators. Both elements are essential features of effective leaders that warrant some consideration as pre-service teachers are not only preparing to be the teachers of the immediate future but they are also preparing to be school leaders of the future.

**Implications for learning and teaching**

This project was carried out as a small initial study to explore communicative contributions during a Professional Experience (PEP2) using Blackboard. The results are by no means extensive, nor did they include the three other cohorts of pre-service teachers who participated in the Professional Experience Program. However, the connection between distributed leadership and shared communication that became evident in the study should be further examined as a means of modelling distributed leadership to pre-service teachers. It is anticipated that further investigation into the use of the Blackboard site will be carried out in the near future in order to fully examine the interactive and communicative support that can be offered to pre-service teachers during their Professional Experiences.
References


