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Mobile learning in early childhood education: A school-university partnership model

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Chapter 7 Findings from the University Staff

7.1 Introduction

The results of this research are divided into four chapters. Chapters 4 and 5 contain the results collected at the classroom level from the practising teachers and pre-service teachers (PSTs). Chapter 6 contains the results gathered from the school leaders and communities which include parents and carers and staff not directly involved in the mLearning partnership. This chapter considers the benefits and challenges of adopting mLearning in early childhood education (ECE) from the perspective of the staff participants from the School of Education (SoE) at the University and also the wider University community, including non-participating staff from the SoE and University staff members outside of the SoE. This chapter contains the results associated with the following research question:

What are the impacts of mLearning implementation in schools on school-university partnerships?

7.2 The SoE staff experience of the mLearning partnerships

The key participants at the University were: Julie the ICT coordinator; Victoria, an ICT lecturer, and, the researcher. Other participants included: Candice, the early childhood course coordinator; Delia, the special education coordinator; Kylie, the Dean of the SoE; and, Lois, a casual lecturer. The key staff involved in the research at the University remained constant over the three-year period. SoE staff not directly participating in the research were also affected because the mLearning resources used in the research were made available to them. A description of each participant’s experience follows.
7.2.1 Julie.

Julie, the ICT coordinator, was involved in all aspects of the partnership. Considerable amounts of her time were spent attending partner schools when the PSTs visited, attending professional development workshops for parents and carers at both schools and staff professional development sessions at both schools. Julie was proactive in meeting with the school Principals and teachers to foster the partnerships. Julie was also involved in teaching the ICT intensive that one of the participating teachers attended. In addition to the time required for school visits, Julie was also responsible for researching, resourcing and maintaining the equipment used in the research. Julie was focused on a positive experience for the PSTs as illustrated by her comment: “I want to do the right thing for the pre-service teachers” (Julie, 2013). After a PST visit in the final year Julie indicated that it had been a positive learning experience for the PSTs when she commented:

As ICT coordinator, I have to say the ICT integration was almost perfect. Everything flowed beautifully. There was constant talking with the children about the lesson objectives at all the tables. (Julie, Authentic Focus Group, 2015)

For me from the technology aspect seeing everyone use technology wisely for a purpose, I was excited about that. (Julie, 2015)

I liked the fact that you were critical about selecting apps. Using the iPad’s camera brought in authenticity by getting photographs of real objects in the classroom. (Julie, 2015)

There were many challenges in managing the school-university mLearning partnerships for Julie. However, the benefits for the PSTs perceived by Julie outweighed the challenges and committed Julie to continuing with the mLearning partnerships in the future. At the end of the final year Victoria, the ICT lecturer, indicated that she was leaving the University. Julie stated that she needed to find an early childhood replacement with knowledge of ICT and the ability to continue the partnership. Julie reported that she was
surprised how strongly she felt about continuing the partnership and went to considerable effort to find a suitable replacement for Victoria. She now felt that the selection of an ICT lecturer with recent experience in the classroom, excellent interpersonal skills that would help with the school-university interface, and a strong background in ICT in an early childhood setting, was an important consideration for the SoE.

7.2.2 Victoria.

Victoria, the ICT lecturer, remained with the partnership throughout the research period. In addition to teaching the ICT unit in semester one, Victoria offered technological support to the PSTs during their professional experience. Victoria also provided professional development to the partnership schools and to individual teachers within schools. Victoria was extremely flexible and would quickly revise what she had planned to cope with sudden unexpected changes posed by one of the schools. During a presentation at a school, if a group of PSTs had insufficient activities, she would step in to assist them so that they could continue without disrupting the flow of the lesson. Victoria had an excellent rapport with the PSTs and quickly established good relationships with teachers and parents at workshops, and in the classrooms. Victoria had a friendly non-threatening approach. Each year the school visits became easier as familiarity with the participating teachers and schools increased. Victoria made the following comments about the lessons that the PSTs completed either in schools (authentic) or at the University (peer):

The standard of the presentations that were taught to the kids, I cannot put them in the same comparison. They were on a different level completely. An understanding of where the kids are, the way the ICT is embedded, the authentic nature of the environment. (Victoria, 2013)

Most of the peer group students ended up with passes and credits. They [the authentic group] ended up with all distinctions and high distinctions. It was a clear line in the sand. (Victoria, 2013)
The Thursday group [authentic] were in on Wednesday all freaking out about what was going to happen the next day. This would not have happened if they were just presenting to their peers. (Victoria, 2013)

Pushing them [PSTs] out of their comfort zone. I think they have benefited a lot more than the peer group. (Victoria, 2014)

You [PST] did an amazing job. Your planning and collaboration were one hundred per cent. The kids really loved all the activities. (Victoria, Authentic Focus Group, 2015)

It was more time consuming and stressful for Victoria to include authentic ICT experiences for PSTs because the PSTs required more scaffolding and guidance. The first year was quite challenging for Victoria as lessons taught by PSTs had to be sequential from one week to the next, and she was responsible for ensuring that the lessons ran smoothly. In the second and third years, the structure of the PST school visits was modified so that they were more manageable for University staff and PSTs. The additional workload experienced by the PSTs was high as they knew their lessons had to work. The PSTs’ stress was at times conveyed to Victoria who at one point stated: “At this point, it is causing so much anxiety with the PSTs. I am feeling that the experience is turning them off ICT rather than building capacity” (Victoria, 2014). Despite the stress, Victoria spoke of taking more PSTs from her other (primary) tutorial groups to schools for an authentic mLearning experience in 2015: “I am thinking about extending the program to all my primary PSTs next year” (Victoria, 2014). Victoria stated that the authentic groups had more exposure to the technology and spent more time preparing for the lessons. Victoria included other tutorial groups in the program by introducing a new school in 2015 so that more PSTs could have an authentic ICT teaching experience.
7.2.3 The researcher.

The researcher was the point of contact between the schools and the participating SoE staff at the University. The researcher passed on information from the teachers regarding curriculum ideas for the PSTs to use for lesson planning. The researcher exchanged more than 300 emails with the schools throughout the study, sharing information about PST visits, and other things arising as a result of the partnership such as parent workshops and professional development. The researcher visited the schools on 67 occasions over the three years for interviews, professional development sessions, mLearning visits with the PSTs and to meet with teachers.

7.2.4 Candice.

As early childhood course coordinator, Candice was involved in the initial planning and implementation of the mLearning partnerships. In the early planning stages, the two schools requested more contact than the two PST visits scheduled each year, which were part of the ICT unit in semester one. Candice demonstrated leadership when she volunteered to include an additional two PST visits within a second-semester unit that she coordinated, called Planning and Evaluation. Although the focus of her unit was assessment, Candice modified an assignment, to make it more contemporary, with PSTs being required to create an assessment using technology. She stated, “It brings the unit up-to-date” (Candice, 2013). Only two out of the three early childhood tutorial groups participated in the authentic school visits. Candice viewed the inclusion of the Planning and Evaluation unit as beneficial because it provided the PSTs with additional teaching practice and meaningful assessment.

Candice placed value on the authentic visits, and her preference was that all PSTs in the future be given the opportunity to participate in an authentic experience because she thought the challenge encountered led to richer learning experiences. The value Candice
placed on the authentic visits is indicated by the following comment: “The PSTs, who delivered their lessons in the schools gave the assessment tasks and children much more thought and related to the needs of the children better” (Candice, 2015). In addition to teaching practice, the authentic PSTs had the opportunity to view practising early childhood teachers with their classes. Candice regarded this as an opportunity for the PSTs as indicated by her statement: “In addition to the teaching opportunity for the PSTs, it has been great to see the start of the day with the great mat session in pre-primary last week and this week seeing all the parent teacher interactions in the Year 1 class” (Candice, 2015).

Candice expressed concern that the peer group missed an opportunity by not participating in an authentic teaching experience. She stated that the peer group lessons were of a lower standard and stated: “Many of the peer PST lessons would not have worked well with children” (Candice, 2015). Candice reflected that the PSTs in the peer group observed each other’s presentations in one tutorial and stated that they would not have gained anything from this process, whereas the authentic PSTs learnt from their lesson and had the opportunity to observe and take part in lessons delivered by each other.

Candice did not want to make any significant changes to the structure of the school visits for the following years. The Planning and Evaluation unit’s focus was on assessment, an area that Candice felt PSTs struggled with on professional experience. Candice said, “The PSTs in the authentic groups who used the mLearning tools had a much deeper understanding of a wider variety of assessment tools and had the opportunity to see assessment in action” (Candice, 2014). Candice was comfortable with technology and, as a result of incorporating technology into her unit, felt that her knowledge of mLearning resources increased as shown by her comments: “The Bee-Bot is good. I also liked the Story Sequencers although the PSTs were not that fussed about them” and “I like the fact that it is mobile, and the learning is not limited to the classroom” (Candice, 2013).
Candice stated that the school visits informed her about current practices in schools, and she was more conscious of providing technology as an option for PSTs to use in other units that she taught. Candice stated that the huge benefits of the partnerships accrued to the PSTs, for example: “They got more thorough training and gained confidence in a safe and supportive environment” and “You [PSTs] plan better lessons because you know you have to deliver them. You think more about the children” (Candice, 2014). Candice indicated that the PSTs in the authentic groups were more conscious of using technology and realised that it was not necessary to have one device per child. Candice stated that some of the PSTs regarded the technology as an “add-on” and delivered lower quality lessons, but those PSTs, who used the mLearning purposefully, prepared high-quality lessons. Candice hoped that the experience enabled PSTs to become more critical about using technology. She stated: “I think in early childhood we need to be critical of the use of anything new that comes into our classrooms, and if we incorporate technology, it must be for specific outcomes and not as a tack on” (Candice, 2015).

The challenges described by Candice in the first year were that the authentic visits were more draining and time-consuming. In the first year, Candice was involved in the visits to both schools. Four school visits took place in one week for two consecutive weeks. In the second and third years, other casual tutors were included so that Candice was personally only involved with one of the schools. Time to reconfigure her unit to incorporate school visits was a challenge for Candice. In the first year, Candice was supported by the researcher and ICT coordinator, Julie so that she could focus on content. The researcher and Julie assisted with the logistics of the school visits.
7.2.5 Delia.

Delia was the special education coordinator in the SoE. When School B requested an iPad professional development session for a group of education assistants, Delia agreed to deliver the professional development session because she had a personal interest in professional development for education assistants through her own research and had the necessary expertise. Delia spent considerable time developing an up-to-date workshop. The challenges faced by Delia when delivering the workshop at School B were the lack of Wi-fi, a large group, and a fixed interactive whiteboard, which did not face the participants. However, Delia was supported by the ICT coordinator and researcher. Delia received positive feedback from the participants and so strengthened the partnership between the school and the University as a result of her participation.

7.2.6 Kylie.

The Dean of the SoE, Kylie, was accountable for ensuring that the SoE met the University’s strategic goals and that degree programs met accreditation requirements. One of the University’s strategic goals for 2013-2016 was active community engagement. The SoE’s strategic plan for 2016-2018 included consolidating and further developing engagement with the wider community. The partnerships in this study aligned with these strategic goals. A Teacher Education Ministerial Advisory Group (TEMAG) recommendation for future accreditation of teacher education programs in Australia was that PSTs be given the opportunity to engage effectively and communicate with students and families (TEMAG, 2014). When the PSTs presented mLearning workshops to parents at School B, they had the opportunity to engage with parents as professionals, and provided the SoE with evidence supporting on-going accreditation and meeting both University and SoE strategic objectives.
The SoE now has partnerships with schools involving PSTs in literacy, numeracy, ICT and Indigenous education.

Although Kylie did not participate at the operational level of most partnerships, she valued the benefits that the partnerships brought to the PSTs. Kylie recognised the leadership qualities in her staff who were able to cement partnerships without her direct involvement as illustrated by her comment: “I work with some very intelligent people. I do not have to try diligently to distribute leadership. Everyone here is a leader in their own right, and he or she willingly takes on the role, and he or she does pretty well” (Kylie, 2014).

Kylie demonstrated her support of partnerships and staff within the SoE by viewing research projects in action on a regular basis as illustrated by her comment: “I think it is important. My presence is necessary, it sends a signal to a school that I think it is important, and I hope it affirms the staff that I am interested in what they are doing” (Kylie, 2013). Kylie described school visits as time consuming: "Now, that [visiting schools] takes time, my average day is extremely busy” (Kylie, 2014). However, Kylie also described school visits as enjoyable and a worthwhile part of her role. She said “In your project [mLearning partnerships], I came away with the biggest grin on my face. It was just sensational. It was amazing, and I loved it” (Kylie, 2014). Kylie’s position was that partnerships had to be mutually beneficial. The advantages for the University perceived by Kylie were additional classroom teaching practice for PSTs, the ability for staff to reflect on theoretical perspectives and how they worked in practice as shown by her comments:

Your evaluation of devices and evaluation of their worth is feeding back into your course design at the University level. We now have extraordinarily collegial and friendly relationships with three or four teachers in these schools. We might even get one or two of those teachers thinking about doing a course at our University. It is complex, and it is multi-layered, but the benefits of it [the partnerships] are indisputable. (Kylie, 2014)
The greatest benefit is it adds to the experience of our students in terms of exposure time in a classroom, and already our students are getting the most exposure time of many, many programs in this country. But now, over and above programs like this, they are getting additional hours in the classroom. Now, that is the greatest benefit. (Kylie, 2014)

Kylie valued the personal relationships that developed between staff in schools and the University. Interpersonal relationships raised the profile of the University in the community, encouraged teachers to think about undertaking study at the University and made schools more inclined to take PSTs for professional experience. Good personal relationships within the partnerships enabled the University to do a promotional photography shoot at short notice at one of the partner schools.

As a leader of the SoE, Kylie was supportive but cautious of new partnerships. Although supportive of this research, Kylie was not an expert in the area of ICT and expressed mixed views about using mLearning in early childhood education as illustrated by the following statements:

I have often felt that it [mLearning] is not researched enough, and there is no hard evidence to prove that the effects that are claimed are valid. (Kylie, 2013)

Do they need ICT in pre-primary? I think there are tangible questions to be raised around the negatives related to ICT. (Kylie, 2014)

I think kids can become disconnected from other human beings. My real belief is that I think social and interpersonal skills in the early years of education are paramount. (Kylie, 2014)

I believe that they [mLearning tools] have a place, but I think there has to be a balance, and I sometimes think you can do things better without them. (Kylie, 2014)

By viewing mLearning in action in early childhood classrooms, Kylie experienced first-hand the engagement of the children and observed developmentally appropriate
technologies integrated effectively into the curriculum as illustrated by the following quotations:

I was stunned at the level of engagement that the activities were able to produce in the children. (Kylie, 2013)

I’ve changed over time. I really see the benefits of the use of ICT, and I’ve been lucky because I’ve been exposed to thoughtful practitioners who think about when, and why, and where you will use devices appropriately. I think that is the key. (Kylie, 2014)

During a discussion about ANZAC iMovies that children had made under the guidance of the PSTs, Kylie remarked: “Writing is more important than making movies” (Kylie, 2015). Kylie was unaware that the children had collaboratively written two or three pages of script before recording the movies and using mLearning had not removed the need for children to write. Kylie’s views on literacy are consistent with research by Miller (2015) who posits that traditional teachers focus on literacy as a paper-based activity denying children access to multi-modal literacies.

7.2.7 Lois.

Lois was a casual early childhood lecturer at the SoE. Lois taught two early childhood Planning and Evaluation groups. One of these groups was partnered with School B, so Lois became involved in the partnership and her students presented lessons in the authentic setting. The other group presented lessons to peers which was the normal practice at the University. At the conclusion of the semester, Lois wanted to continue with the authentic visits and wanted to include all groups in the future as she believed that those PSTs presenting to peers missed out on a valuable experience, as illustrated by her comments:

The only thing I would change about the unit is not to have that peer group. The peer group did not get as much out of it, and it was hard to assess them as it was such a different experience. (Lois, 2015)
I think the authentic group delivered higher quality lesson preparation and delivery; they were also more creative. There was a huge difference in the standard of the authentic and peer groups. The authentic groups got so much out of it. It was brilliant to see. (Lois, 2015)

Although ICT was not the focus of the Planning and Evaluation unit, mLearning resources were used to enhance the PSTs’ learning. Lois indicated that she learnt from the experience:

It was very exciting and beneficial for me to see how they [mLearning tools] work in the classroom. It is very different modelling a tool to actually seeing it used in the classroom. (Lois, 2015)

It was an learning curve for me too. I was not familiar with Bee-Bots or Story Sequencers. (Lois, 2015)

Lois’ desire to continue with the authentic experiences and include more groups was a sign of a successful experience. Lois stated: “It is such a wonderful learning experience for our students” (Lois, 2015). When asked about how she scaffolded the two tutorial groups, Lois indicated that she treated them both the same, and there was no additional workload or stress for her. One possible reason for the smooth facilitation of this unit was its location in the third year and lessons learnt from previous years enabled the researcher and ICT coordinator to provide better support for Lois and the PSTs. The support included providing the PSTs with suggested mLearning tools to match the curriculum chosen.

Lois indicated that she would be using more mLearning resources in other units that she taught indicating an increased awareness. She reported that viewing the mLearning resources in action enabled her to integrate them into other areas of her teaching. Knowing about mLearning resources does not ensure application as teachers need time to work out how to integrate new mLearning resources. Keengwe and Onchwari (2009) found that teachers need time to plan for successful technology integration. Lois’s comment supports
this view: “It takes time, and I am a step ahead as I saw them all used in this unit” (Lois, 2015).

### 7.2.8 Other SoE staff not participating in the mLearning partnerships.

The SoE purchased 16 iPads, Bee-Bots, Talking Butterflies, Recordable Pegs, Story Sequencers, digital microscopes and metal detectors in 2013. The SoE purchased four additional iPads in 2014 along with three programmable cars and robotic Lego. In 2015, an additional set of 20 iPads was acquired. These mLearning resources were available for all SoE staff to use. Figure 7.1 shows the mLearning resource acquisition within the SoE at the University.

*Figure 7.1. Technology resources at SoE (The University). This figure illustrates the mLearning resources available over the course of the study.*
In the first year of the research, the iPads purchased for the research were booked 59 times by fifteen staff and PSTs from the SoE. In the second year, the iPads were booked on 88 occasions by eighteen staff. In the final year of the study, the iPads were used in the semester one ICT unit over a nine-week period from 08:30 until 19:30 every weekday. Lecturers introduced iPads apps in mathematics and literacy education units. The iPads were used in several other units and across the Bachelor of Education Early Years, Primary, Secondary, and Health and Physical Education courses. Lecturers were keen to use the iPads in specific subject areas. The iPads were used each semester, including during winter and summer intensives.

The SoE had limited provision for the technological support of staff in general, and mLearning was used in limited ways or not at all by some staff. Progressive schools utilise technology coaches to help teachers use new technologies in the classroom (Mourlam & Montgomery, 2015) but there was no such support readily available in the SoE to encourage progressive teaching using ICT.

Table 7.1 summarizes the benefits and challenges of the mLearning partnerships for the participants. The next section discusses some of these key benefits and challenges.
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<tr>
<th>Participant</th>
<th>Benefit</th>
<th>Challenge</th>
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<tbody>
<tr>
<td>Candice</td>
<td>More informed about current mLearning in schools</td>
<td>Time to reconfigure unit</td>
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<td></td>
<td>Up-to-date unit</td>
<td>Time to prepare for school visits</td>
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<td></td>
<td>Improved learning experience for early childhood PSTs</td>
<td>Stress associated with school visits</td>
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<td></td>
<td>Better knowledge about mLearning resources</td>
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<td>Delia</td>
<td>Strengthened partnership with local school</td>
<td>Time to prepare professional development workshop</td>
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<td></td>
<td>Engaged with education assistants which was an area of personal interest</td>
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<tr>
<td>Julie</td>
<td>Improved learning experience for PSTs</td>
<td>Time to research and purchase mLearning resources</td>
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<td></td>
<td>Additional mLearning resources available for use by staff and PSTs</td>
<td>Time for school visits with PSTs</td>
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<td>Time for school visits for professional development workshops</td>
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<td></td>
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<td>Stress managing mLearning resources, staff and school visits</td>
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<td>Lack of technical support</td>
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<td>Poor Wi-fi at schools</td>
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<tr>
<td>Kylie</td>
<td>University strategic goal: Active community engagement demonstrated</td>
<td>Time to view PSTs at partner schools</td>
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<td></td>
<td>Provided PSTs with opportunity to work with parents meeting a TEMAG requirement for further accreditation</td>
<td>Personal philosophy not fully supportive of mLearning in ECE</td>
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<td>Additional professional experience places offered by partner schools</td>
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<td></td>
<td>Opportunity to view developmentally appropriate use of mLearning in early childhood setting</td>
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<td></td>
<td>Participants considering study at the University</td>
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<tr>
<td>Lois</td>
<td>Improved learning experience for PSTs</td>
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<td></td>
<td>More informed about mLearning resources available</td>
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<td>Researcher</td>
<td>More informed about current mLearning in schools</td>
<td>Time</td>
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<td>Improved learning experience for PSTs</td>
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<td>Lack of technical support</td>
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<td>Poor Wi-fi at the University</td>
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<td>Victoria</td>
<td>Improved learning experience for PSTs</td>
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<td>Time to prepare PSTs for school visits</td>
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<td>Time to deliver professional development workshops</td>
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<td>Other SoE members not involved in partnerships</td>
<td>mLearning resources available to borrow by staff and PSTs including PSTs not involved in the partnerships</td>
<td>Time to explore new mLearning resources</td>
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<td>Lack of experience and knowledge about using mLearning in the classroom</td>
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<td>Lack of professional development opportunities to learn about new mLearning resources</td>
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7.3 Benefits and challenges of adopting mLearning partnerships for the SoE

The experiences of the SoE academics revealed key benefits and challenges. The main benefit identified by all SoE participants was the enhanced learning experience for the PSTs, which was considered in chapter 4. The SoE participants made a total of 38 comments about the benefits for the PSTs over the three-year research period. Additional benefits were greater access to mLearning resources, more information about current mLearning practices in schools, meeting strategic goals about community partnerships, additional professional experience places offered by partner schools (n=34) and participants considering further study at the University (n=2). On 28 occasions school participants (teachers and school leaders) commented on a lack of mLearning resources, but only four comments were made by SoE participants.

The challenges to mLearning in early childhood education identified by the participants were a lack of time, lack of technical support, lack of professional development in mLearning, and additional stress associated with the school visits. Participating SoE staff made comments on 12 occasions about the stress related to the school visits. The PSTs mirrored the stress experienced by the participating staff, making 24 comments about the stress associated with the preparation for the school visits. On 21 occasions school participants commented on issues associated with lack of technical support. The technical support comments at the University were made more by the PSTs (n=13) than the SoE participating staff (n=5). School participants made comments on 28 occasions about a need for professional development and a lack of technological knowledge. The PSTs made a similar number of comments (n=29). However, no SoE staff participant made a comment about a lack of professional development or technological knowledge within the SoE.
7.3.1 Professional development.

The SoE strategic plan 2016-2018 included a goal of providing professional development opportunities for staff, although there was no specific mention of any focus areas. Since recent developments in the use of mLearning in schools have been rapid (Erstad, Eickelmann, & Eichhorn, 2015) it is unlikely that many staff within the SoE had the necessary skills to model effective use of mLearning in their teaching. Research by Haydn (2014) identified effective modelling by University tutors as a key factor determining the effective use of technology by PSTs.

The SoE strategic plan for 2013-2015 mentioned the auditing of all units and degrees to ensure there was evidence that they met the AITSL graduate professional standards. The strategic plan made explicit mention of ICT resources and exploring electronic portfolios:

The School will examine its capacity to integrate learning technologies across its curriculum recognizing this as an AITSL priority area. It will also work with the University to access funding to purchase a high-quality electronic whiteboard for the training of students. In addition, the implementation of an e-portfolio will be explored to support students in their applications for employment. (SoE Strategic plan, 2013-2015)

The SoE strategic plan for 2016-2018 included the continued auditing of all units to ensure that they meet the AITSL standards. The AITSL graduate standards relating to ICT are, “Implement teaching strategies for using ICT to expand curriculum learning opportunities for students” and “Demonstrate knowledge of a range of resources, including ICT, that engages students in their learning” (AITSL, 2012). The strategic plan 2016-2018 reflected the TEMAG’s finding that teacher education providers need to provide evidence that graduating teachers meet the AITSL standards (TEMAG, 2014). The fact that the two strategic plans contained auditing of units and degrees indicated that the audit remained important.
The acquisition of mLearning resources and auditing of units and degree programs showed that the SoE was committed to meeting the AITSL ICT standards; however, without the specific professional development for staff, it might be difficult for staff to model ICT integration effectively. The SoE provided limited professional development opportunities for staff in the area of technology integration. The staff directly involved had a chance to see a variety of mLearning resources utilized in a developmentally appropriate manner and gained technological knowledge as a result. The benefits for the SoE at the University were making staff more aware of the mLearning resources available for PSTs to use, and keeping staff up-to-date with mLearning resources available in schools.

7.3.2 Time.

Maintaining the iPads was time-consuming because they were used extensively by a variety of staff and PSTs, who took videos, photographs, and downloaded apps. After the authentic visits, work created by children on University iPads was shared with the teachers electronically. The researcher ensured that the work reached the teachers quickly to maintain relevance for the children. In most cases, this meant taking the iPads home and uploading to a private YouTube account for sharing with the teachers. The Wi-fi in the SoE at the University was not robust enough to upload multiple video files, although in late 2015 the Wi-fi was upgraded.

Time was required for the provision of technical support for the partnership. The ICT coordinator, ICT lecturer, and the researcher provided technical assistance for the mLearning resources used in the partnership. The ICT coordinator was responsible for purchasing and maintaining mLearning resources. The ICT lecturer had an in-depth knowledge of technology in early childhood classrooms and was able to foresee potential technical problems during the PST visits.
Management of mLearning resources was sometimes time-consuming. Issues also arose with ordering equipment, removing passwords, extracting data from shared devices and deciding what equipment to purchase. On occasions, the iPads were not charged, apps were rarely closed, and the Wi-fi constantly dropped out.

7.3.3 Leadership.

Leadership played an important part in the success of the school-university partnerships. Chapter 6 discussed the role of the school leaders. The leadership within the SoE associated with the partnerships in this research was distributed amongst participants. The Dean of Education held the overall responsibility for managing the SoE including staff, students and the degree programs offered. This role was busy and required the juggling of multiple projects at any given time. The findings suggested that Kylie as Dean of the SoE placed value in partnerships and was willing to delegate the leadership of partnerships to the staff involved. Kylie’s personal views about mLearning in early childhood education were cautious, but she was still supportive of the partnership and the staff involved.

Within the partnership, Candice the early childhood coordinator, Julie, the ICT coordinator and Victoria, the ICT lecturer held positions of leadership. Without the leadership of these participants, the partnerships may not have survived. Candice demonstrated her leadership when she agreed to include authentic teaching experiences at the partner schools in an early childhood unit that she taught. Following these authentic teaching experiences, Candice made the decision to continue with the authentic visits in her early childhood unit because she believed they were beneficial to the PSTs.

Julie demonstrated her leadership throughout the partnerships but particularly at the end of the third year when she made the decision to continue with the authentic teaching experiences for the early childhood PSTs. Despite the additional workload for her personally,
she deemed the effort to be worthwhile because of the benefits to the PSTs. To continue the partnership beyond the original three-year plan, Julie had to find a new ICT lecturer who not only had the expertise and knowledge of early childhood education but was also able to work with teachers and school leaders in the partner schools.

Victoria’s leadership was pivotal to building the success of the partnerships. Victoria had effective interpersonal skills and quickly developed positive relationships with the teachers and school leaders. Victoria’s interpersonal skills and expertise in the use of mLearning in schools enabled the school-university partnerships to gain the respect of the schools. Victoria led many well received professional development workshops to staff, parents, carers and individual teachers at both schools. Victoria’s knowledge and passion for the effective use of mLearning led to one of the school Principals wanting to employ her as an ICT consultant. Victoria also demonstrated the value she placed in the partnerships when she included a group of primary PSTs in authentic school visits because of the perceived benefits for the PSTs.

In summary, the leadership of the SoE participants was a benefit to the mLearning partnerships. The aforementioned leaders worked together to help and support each other enabling the partnerships to succeed for the benefit of the PSTs and ultimately children in the early childhood classrooms in the future. Although there were challenges presented along the way, the SoE leaders remained committed to the success of the mLearning partnerships.

7.4 What are the impacts of the partnerships on the University community?

The University community included members of the University not directly participating in the research. As the partnerships developed, the schools and the University were able to share many rewards. The media department of the University needed suitable
schools for a photography shoot with some PSTs. The partnership with School B enabled a photography shoot to take place at short notice. One participating teacher and one school leader considered undertaking studies at the University. The teacher and school leader were both considering undertaking a Master’s degree and the school leader expressed interest in becoming a school-based supervisor of PSTs undertaking a professional experience in his school.

The University extended the partnerships to include long-term professional experience places at both schools at the end of the first year without any prompting. Both schools offered professional experience places as a result of the partnership, and when the Principal of School B moved to a new school in 2014, the new school offered the University professional experience places. School A offered four long-term professional experience places to the University in 2014 for the first time in five years without any prompting and subsequently offered eight professional experience places for 2015 and ten for 2016. School B offered seven places in 2014, five in 2015 and due to an almost entirely new staff none in 2016.

To accommodate the partnerships with the schools, the University timetabled units with PST visits so that they fitted into the school day. As a result, the timetabling of other units in the SoE were affected by the partnerships with the schools. The University also had to accommodate requests made by the schools. An example was when School B requested a professional development session for the education assistants within their school district. The education assistant ICT network session was a very popular choice, with 27 education assistants attending, with many others being turned away due to lack of space. This workshop was viewed by SoE staff as a valuable partnership building exercise. Feedback from participants included: “I have learnt a lot, thank you; I am impressed by how much can be
covered in one session” and “Very useful” (EA workshop, 2013). Figure 7.2 summarizes the impact of the partnerships in the SoE community.

![Figure 7.2. The partnership between the University and the Schools. The figure illustrates the impact of the partnership on the University community throughout the research period.](image)

The PSTs in the peer group in the second year were part of the ICT intensive group. Feedback from these PSTs prompted the University to keep future early childhood PSTs from completing an ICT unit in the intensive mode as delivery was not early childhood specific and, as a result, did not offer the best learning opportunity for early childhood PSTs. Figure 7.3 illustrates the benefits of and challenges to the SoE participants and wider SoE and University community not directly participating.
Figure 7.3. The benefits and challenges to the participants within the SoE and other members of the University not directly involved in the mLearning partnerships. The red bevelled boxes represent the challenges and the green boxes represent the benefits.
7.5 Conclusion

These specific results articulated in this chapter emerged from an mLearning partnership study that took place between 2013 and 2015 between the SoE at the University and two public schools. The key finding from the participating staff was that the authentic mLearning teaching experiences were superior to the peer mLearning experience, with PSTs in the authentic groups gaining a richer learning experience than peers who did not participate in an authentic mLearning experience. The chapter revealed that mLearning implementation in the SoE was in its infancy possibly because of limited mLearning resources, the prevalence of traditional philosophies and a lack of technological knowledge amongst staff. No specific means existed to ensure that the staff was meeting the AITSL standards, in preparing PSTs to use ICT across the curriculum as a tool to enhance learning. The mLearning partnerships in this study did provide professional development opportunities for participating SoE staff, including learning about mLearning resources and being exposed to the developmentally appropriate use of mLearning devices. Some of the participating staff benefitted from the partnerships by increasing their technological knowledge and ability to use mLearning across the curriculum. The benefits and challenges to mLearning in schools were mirrored at the University level.

Chapter 8 contains the Discussion of the findings from the previous four chapters. Some themes from the findings are presented to answer the two research questions. A model is presented to conceptualize the findings.