Partnerships with Cultural Organisations: A Case for Partnerships Developed by Teacher Educators for Teacher Education

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Abstract: New ways of working in teacher education are currently being highlighted, especially in relation to partnerships. One type of partnership that is under utilised is that with cultural organisations. This paper reports on two projects where the authors work with pre-service teachers in partnership with a wildlife sanctuary and a national gallery. Common project elements included research into the value for pre-service teachers in professional engagement of their own teaching and insight into ongoing professional development. The data showed that ownership, empowerment, and meaning can be experienced by stakeholders. The research not only challenges new ways of working with partnerships in teacher education, that extend past traditional notions of professional experience requirements, but contributes to the development of a holistic view of learning and teaching. When positioned within a subject this archetype offers unique opportunities to collaborate over time and across sites - cultural organisation, university and eventually, primary schools.

Introduction

Partnerships with cultural organisations have been under utilised by teacher education (Eckhoff, 2011; Lemon & Garvis, 2014a; Mathewson Mitchell, 2015; Nichols, 2014; Ryan, 2013). With changing expectations within the teacher education context, pressure is now rising to consider new ways of working with partners (Eckhoff, 2011; Nichols, 2014). One approach is for teacher education to develop arrangements with cultural organisations that can enhance teaching and learning with an advantage present for all participants (Victorian State Education, 2015). This paper presents two innovative cases as narratives situated in the Australian context. The narratives represent how to form meaningful partnerships with cultural organisations within core subjects to support the development of pre-service teachers' holistic and outward looking capacity as educators. Particularly, we focus on the disciplines of visual arts and science to evaluate current practice, reflect on the connection between theory and practice, and then, design F-6 curriculum. The partnerships support future capacity and shift the teaching ideology of pre-service teachers. When teachers are active participants collaborating with cultural organisations they become aware of the value for professional engagement in their own teaching and for ongoing professional development. Most importantly, the cases remind us that partnerships do not have to be positioned solely in professional practice days, that they can go beyond current application of teacher registration requirements and establish a model for future teaching practice. This is an emerging way of thinking and designing teacher education curriculum.

This paper presents two original projects in separate narratives. It contains parallel chronicles that exemplify the establishment of collaborative techniques for partnership development between educators, pre-service teachers and cultural organisations. While the accounts here demonstrate a shared direction, and make a valuable contribution for pre-service teacher education, they maintain the integrity of the authors' voices in different contexts. Research was performed independently; however through discussion the researchers identified concentric spaces for innovative engagement and purpose. In each case study we document the body of existing literature on partnerships between cultural organisations and teacher education positioned within arts and science education. We then report how the researchers/teacher educators established partnerships between their respective disciplines in teacher education of art and science, with cultural community partners, and how this capitalised upon students' active participation as contributors in their future professions. A similar springboard was enacted by educators and students immersed in the cultural organisation experiences and activities, who initially resided as learners, before acting as teachers. Through this encounter the educators identified the subtleties for collaboration that would suit the site, whereas, pre-service teachers gained value as they became pro-active entrepreneurial agents who produced and published educational products that served the educational community and the site. The narratives provide testimony of different instances and approaches, but both recognise this was not a one off visit, rather a relationship created to have ongoing sustainability when new cohorts participate. To this end, there was not, and is not, a template for partnership establishment. However, an achievable model is adaptive, has flex, and allows room for invitation, development and purpose, while inherently being bounded by local sensitivities, values and philosophies. As demonstrated in these two narratives, the success lies in the opportunities recognised and a celebration of situational differences that suit the resident stakeholders.

Throughout this paper we will introduce the contextualisation of current teacher education practices and supporting partnerships for primary school (F-6) arts and science education. We present common ground of two approaches with perspectives from two different disciplines. How we as authors have utilised the relationships with cultural organisations to build possibility for innovation and the two shared narratives illuminate this approach. In the paper we talk about stakeholders. These are pre-service teachers, educators from cultural organisations, and teacher educators. Often we refer to the collective and at other times to specific. We also view the stakeholders as key to networking and partnership establishment.

Stakeholders involved in a partnership can experience ownership, empowerment, and meaning. An exploration of a united vision promotes ongoing communication of aims, desired outcomes, and needs guided by institutional requirements. In the narratives presented in this paper it is clear that it is possible to enact these elements in teacher education. The partnership cases with the National Gallery of Victoria (NGV) and La Trobe Wildlife Sanctuary (LTWS) emphasize how cultural organisations can be utilised. The sites have become locations for research and a model of scholarship of teaching and learning in practice. In these settings pre-service teachers develop holistic capacity as educators when they learn how to enact meaningful and purposeful evaluation and facilitate curriculum design. As teacher educators we empower pre-service teachers to embody the act of curriculum maker while utilising artefacts, exhibitions, spaces, and experiences. When positioned within a subject this archetype offers unique opportunities to collaborate over time and across sites - cultural organisation, university and eventually, primary schools. This process models and scaffolds a pedagogy of practice (Darling-Hammond, 2012; Grossman, Hammerness & McDonald, 2009).

The partnerships formed capitalise on networks established by us, as teacher educators. We build on the act of establishing and exploiting cross-institutional networks as typical of Early Career Researchers (ECR) (Cook, 2008). Common elements of both these narratives indicate how a partnership is integrated into the teacher education curriculum. The focus of these narratives brings to the fore collaboration between teacher educators and cultural organisation educators throughout the process of establishing the planning, implementation and growth. The partnership is researched to further understand impact as well as extend models to other sites and subjects. This paper is the beginning of this discussion and offers a starting point for other teacher educators when establishing partnerships.

In regard to teacher education and pre-service teachers the theory and practice connections present best pedagogical practice and how to engage with cultural organisations as an educator (Nicolas, 2014). The pre-service teachers experience invites the development of a 'give not take philosophy that supports the generosity of teaching' – that is a sharing of resources developed based on interaction with cultural organisations. It was an important aim for both projects shared in the narratives that resources developed could be shared amongst the pre-service teachers and the cultural organisation for continued use and development. Thus products are produced that are shared amongst stakeholders.

Teacher capacity is improved through participation in successful partnerships that facilitates access to resources and ongoing professional development. Through such interaction how to engage with cultural organisations has been explored. The narratives presented model how it is possible to address the establishment of a relationship as a pre-service teacher. We promote professional growth for the future F-6 teachers and establish connections, which have a higher likelihood of continuity beyond graduation and once teaching.

These narratives expand and broaden how learning can be stimulated, demonstrating how it is possible to move out of the tutorial and lecture theatre and how it can be implemented in the classroom. The pre-service teacher is invited to consider how participatory and social engagement with cultural organisations and the community informs teacher practice back at school. Reflection on learning takes place and is reinforced when the university lecturer provides the opportunity for pre-service teachers to familiarise themselves with onsite resources and digital tools that extend into classroom integration and curriculum areas.

Although small scaled, the two narratives begin to demonstrate possibilities for others in teacher education and to consider collaboration that supports pre-service teacher capacity building. Partnership involvement exemplified here for pre-service teachers open active opportunities to authentic endeavors and present a pedagogical approach. Equally in the primary and secondary sector, this approach can stretch beyond the classroom and the school that promotes engagement with the community for mutual advantage. There are entrepreneurial and enterprise constructs present, with benefit existing in communication, citizenship, interactions and networking (soft skills) that develop pre-service teachers while simultaneously presenting an advantage for the other stakeholders. From the experience of the sharing the narratives we document and recommend partnership participation in teacher education. We are advocates of this strategy, which is now embedded into our pedagogy and has provided the impetus for us to pursue other such ventures in the future.

The authors in the reflexive action came together to share their insights from two different projects positioned within teacher education. The similarities in ideology have been presented, but the different narratives provide insight into the alternative means for partnership establishment. The La Trobe Wildlife Sanctuary (LTWS) and La Trobe University Undergraduate Primary teaching science link commenced in 2012 and was based

on the same physical site – the Melbourne campus in Bundoora. The other project positioned within the field of visual arts began in 2012 with the National Gallery of Victoria (NGV) and has moved and developed across two universities. This partnership saw a site visit supported in design by gallery educators however it was enacted by the pre-service teachers as self-paced with exploration at the gallery. Our voices are collectively shared in this paper and we acknowledge this is a two voice piece. Within the paper we present the story of our partnerships with cultural institutions. We emphasize the pivotal moment of joining with our partners, the process as it has unfolded and the stage of our collaboration thus far. In both narratives we have the vested interest of our discipline base, which drives us, and motivates the expectation of continued tracking with our partnerships into the future.

There is a body of literature relating to community engagement and partnerships within higher education generally (Burin, 2010; Butcher, Bezzina & Moran, 2011; Jongbloed, Enders & Salerno, 2008), and teacher education specifically (Armstrong & Cairnduff, 2012; Lynch & Smith, 2012; Petersen & Treagust, 2014). We are not addressing this literature in this paper; rather we are presenting background to the disciplines of arts and science and presenting original cases as narratives. The next section of the paper unpacks the literature.

Partnerships in Arts Education

Partnerships between schools and the professional arts sector have been found to play an important role in deepening students' engagement with learning (Bamford, 2006; Lemon & Garvis, 2014a; Nichols, 2014). These partnerships are also often associated with innovation in how they extend and develop processes and products in the instigation of arts education (Lemon & Garvis, 2014b). Innovations through partnerships in arts education provide opportunities for enhancements in pedagogy, talent development and collaboration between the education sector and industry. According to Bamford (2006), the innovation impact relates to talent development, the development of new pedagogical techniques, processes or products, and the instigation of debates or new discourses. Innovation can break from the constraints, barriers and dependence on repetition of the normal school year and provide opportunities for students to engage in learning opportunities that promote creativity, critical thinking and learner autonomy (Nichols, 2014). For teachers and schools to do this, they must be purposeful about the learning and thinking culture they create. They need to think beyond just dispensing the right content to students, being mindful that the culture relies upon integration (connection making), student autonomy (choice) and personal and creative expression is the key to developing innovative practices for students (Cullen et al., 2012).

The updated *Education and the Arts Strategy 2009-2012* launched in 2008 reiterates the building of outcomes in arts education and the value of partnerships, especially building from the *National Education and the Arts Statement* (MCCEETYA, 2007). Reminders are established in regards to school-based arts experiences being diverse, based on models of effective practice, and embedded from the early years through to graduation in order to unlock the creative potential of young people (MCEETYA, 2007). Committed to strengthening the place of the creative arts across the school curriculum, the council states the importance of arts education provisions for all Australian students. The strategy was designed to intersect with the *Cultural Engagement Framework* (Arts Council Australia, 2008a), which was designed to implement authentic engagement across all arts practices throughout life. Furthermore, the 2009-2012 strategy (Arts Council Australia, 2008b, p. 1) consisted of four key priorities. These were to:

1. Strengthen the relationships between state/territory arts and education jurisdictions and the Australia Council.
2. Pursue a position of leadership through influencing the policy directions of key education and the arts organisations.
3. Promote, recognise and publish Australian best-practice examples of education and the arts.
4. Design and develop a research program around education and the arts.

Selkrig, et al. (2013) and Bamford (2006) demonstrate many of these features in their research with arts partnerships to build learning and teaching opportunities for young people across arts education fields. Donelan, et al. (2009) in their research into partnerships as a part of arts education identified the importance and value that is achieved when students are actively involved in arts programs where partnerships were fostered between schools and the arts community. In all these cases a positive attitude to learning became evident. Their research highlighted that arts programs that centered on partnerships with cultural organisations and/or artists were enabling skills that could be transferred to other learning contexts.

In considering partnerships, Bamford (2006) clearly identified that when all stakeholders work together and collaboratively place focus on learning and teaching outcomes were most effective. This is further reiterated in the work of Wolf (2008) that showed that the long-term collaboration between artists and teachers led to expanded learning opportunities characterised by four areas:

a) A focus on the connections between teacher learning and student learning;
b) Collaboration that emphasized both practical and intellectual revitalization;
c) Artists and teachers actively share expertise; and
d) Children's expressions of ideas in both oral language and writing improved.

The major findings indicated that the long-term partnerships are beneficial both to teachers and the artists they work with, and have the potential to produce dynamic learning experiences for children. This supports notions of how partnerships are formed and enacted with underpinnings that if decisions are made together then ownership, empowerment, and meaning can be experienced by all involved (Andrews, 2011; Bamford, 2006; Ewing, 2010; Lemon & Garvis, 2014b; Mathewson Mitchell, 2015; Selkrig, et al., 2013). In particular, Andrews (2011) outlined some of these successful factors as strong administrative support, adequate financial resources, ongoing commitment to the arts, teacher willingness to collaborate, artists' adaption to the school culture and positive classroom atmosphere.

Partnerships in Science Education

When partnerships are discussed in the sector of tertiary science education the term STEM (Science Technology, Engineering and Mathematics) comes foremost to the mind. This is an area that is jealously regarded and identified to be a frequent recipient of research funding. The recent Enhancing the Training of Mathematics and Science Teachers Program (Office for Learning and Teaching, 2013) is a case in point, and a consequence of a report written by the Chief Scientist called *Maths, Engineering and Science: in the National Interest.* This initiative of the Australian Government allocated $12 million in the time span of 2014 -2016 for *Investing in Science and Maths for a Smarter Future.*

In tertiary education students who are supported by the experience of exposure to learning activities are able to integrate a meaningful component into their practice. That is, learning opportunities are considered to be more integrated and focused holistically on the development of global connected citizens who can inquire and question to explore meaning making. This is particularly the case in training through authentic experience, which produces skills in higher education that are sought by employers (Vassiliou & McAleese, 2002).

Partnerships emphasize this experiential approach and are strongly recognised by Mr. Ellis Rubinstein Head of the New York Academy of Sciences (Science Education Event Monash University, RISE, 2013) who has a large scale vision of developing connections between the secondary schooling sector and industry then spreading partnerships worldwide. Their direct aim towards globalisation has similarity to that reported in Ljunggren (2009):

> Research focusing on the relation between teaching and research is significant when attempting to improve the quality of higher education, which is an important aspect of the European Commissions' agenda. The European Commission has with the Lisbon Strategy and Bologna Process concentrated on meeting the challenges of globalisation and to improve the higher education system. (p. 98)

Essentially, two key features underwrite the philosophy: collaborate and improve quality. Further to this, Ljunggren (2009) purports that quality arises when all higher education institutions cooperate with the surrounding society. This is found in the manifests of Swedish Higher Education Law of 1996 and can be incorporated on both a macro and micro level.

There are some notable examples of partnerships between university's science faculties and secondary schools in Australia. The John Monash Science School in the state of Victoria is directly orientated to support STEM endeavors in their upper secondary cohort. The school advertises itself as Victoria's Specialist School for Science, Mathematics and Associated Technologies. There are other schools with university links established for Science and Mathematics intended outcomes, for example Quantum Victoria to name one (Quantum Victoria, 2013). Furthermore, there is the In2Science Peer Mentoring in Schools program where energetic mentors in the form of undergraduate science students step into schools, to present a young mathematics and science face aimed to bridge the divide in these subjects and promote science as a subject with energy, interest and a potential career direction. This project has been operating since 2004 (In2Science, 2013).

Strong partnerships in research and development exist within universities. These are influenced by marketisation, but simultaneously enable science endeavors such as the Bionic Eye discussed at the Unigateway Business lecture, May, 2013 (Unigateway, 2014) to capitalise upon the diverse knowledge base of Victorian university resources. Ultimately, this is to the advantage of our society and our country. This exemplary process is demonstrated by Sweden who has placed significant financial investment into the university collaborations with industry and service sectors in the 1990s and linked research with education (Ljunggren, 2009). In Australia, when students participate in industry themed research projects, Ljunggren (2009) noticed that they no longer differentiate between the research and practice, rather as organic practice for quality science learning (Tyler, 2007).

Partnerships exist in the science field between tertiary and secondary, and tertiary and business (industry), but the networks, links, collaborations, and in a broader sense innovation, between tertiary science education and industry has had little acknowledgement. Minister for Education Dixon mentioned in 2013 both at CONASTA 62 and the Melbourne STEM Symposium that primary teachers of the future are an uncaptialised sector that will have a significant impact on encouraging new generations in areas such as science (Dixon, 2013a;

2013b). To enhance primary pre-service teachers' comfort, enjoyment and valuing of science requires meaningful experiences, which look outward in the community. There is a need to extend such opportunities in the future if all students are to see science in this light. This is not indicating that all will become scientists in STEM careers, but industry is presently reporting that employees do not have the required skills embedded with STEM abilities in Australia - again mentioned at the Melbourne STEM Symposium. If members of our society are to have input into future solutions and have the necessary understanding to do this, science education must provide this support (Jones et al, 2011).

Methodology

The two narratives shared in this paper were independent projects. The authors met post the projects to share insights and work with each other to extend reflective practice in regard to working in and across teacher education and with cultural organisations. Reflective practice itself is a stop and take stock step in a research paradigm, whereby educators use reflection for forward movement as an element of the transformative/change act. This movement presents as a cog in action research methodology (Graham and Phelps, 2003; Hume, 2010; Kemmis and McTaggart, 1997). Both projects shared in this paper were ethically carried out under relevant university ethics committees' guidance. By presenting elements of each project as narratives it is viewed by the authors as a way to inform others practices and inspire continued innovative ways of collaborating across teacher education and cultural organisations.

The National Gallery of Victoria (NGV) project was carried out in the first six month of 2012 and 2013 and involved over 300 pre-service teachers from an undergraduate core subject called Visual Arts. The pre-service teachers were invited to participate in an investigation into how the NGV could support their development both professionally and personally through a site visit, reflective assessment task, and then presentation to a small group of peers. Data collected included observations, teacher reflections, and assessment pieces accessed upon the processing of grades for the academic semester. Qualitative data generated through the project was analysed using a thematic approach. Data was explored for patterns and relationships, and to "find[ing] explanations for what is observed" through segmenting and reassembling (Boeije, 2010, p. 76). The teacher reflections and pedagogical decisions are utilised within this paper. In 2015 this project has been extended in partnership with other cultural organisations (Immigration Museum and Melbourne Museum) all located in Melbourne and has seen the development of a team taught core postgraduate teacher education subject embedded within a degree (Lemon, Molloy and Hocking, 2015).

The La Trobe Wildlife Sanctuary (LTWS) project was initiated in 2012 as a pilot project and came into fruition in 2013. Pre-service primary science teachers studying primary science methodology generated the scaffolding activities for the experiences offered to primary schools by the LTWS and presented them back to the LTWS. They then reflected on their practice through an optional questionnaire which generated respondent data from the over 100 cohort. Through design (Bjørklund & Myklebust, 2010; Donahue, Cooper & Tharenou, 2007) the questionnaire answers were rich in material for thematic analysis based on the individual pre-service teacher perspective. Analysis was performed via a colour coding schematic, which was a modification of that used by Redman and Fawns in 2004. In 2014 the project continued with a focus of creating a Sustainability project. This design of student involvement to develop resources and share by publishing on the LTWS's website has longevity for future students in their Primary Teaching Science Methodology course.

Contexts of the Narratives

In this next section of the paper we introduce the two narratives of engagement between cultural organisations and teacher education. Both projects were carried out under the auspices of the relevant universities. The strength exists in identifying the connection between the projects, which were carried out separately. That is, with different starting points, different discipline orientations, different university teacher educators, but ultimately with common aims and intended outcomes. The teacher educators involved identified common ground in their partnership research. To maintain the integrity of the experience of when and how common ground was recognized, this paper was written as two separate narratives. The synergy of thought and intent could then be presented in context. This in turn informs others' practices and inspires continued innovative ways of collaborating across teacher education and cultural organisations.

The narratives of the authors are shared now to highlight the pivotal moments of joining with partners. We illustrate the process as it has unfolded and the stage of our collaboration thus far to contribute to the field of teacher education.

Narratives

In the context of teacher education two narratives are presented that demonstrate how it is possible for primary pre-service teachers' to engage with university level subjects and cultural organisations to explore specific learning outcomes. In both narratives the collaboration between teacher educator, cultural organisation and pre-service teachers', was informed by, and indeed informing, research and teacher education curriculum development. The projects are presented in narrative form building on teacher reflective notes on pedagogical decisions and observations. First person is used in the narratives to honor the voice of the authors.

Narrative 1: National Gallery of Victoria

I have been an arts educator in early years, primary and secondary sectors over a length of twenty years and now find myself placed within the tertiary sector working within teacher education. I have been in this later space for nine years. My passion and enthusiasm for the arts has continued to develop with strong willingness to design and implement projects that encourage the arts to be a focus point. In recent years I have invested considerable time in developing partnerships with cultural organisations as a way to share with pre-service teachers' the possibilities that can be achieved in working, from an education perspective, in these spaces with young people. This is where I find I can promote the arts in and across disciplines in spaces and places that support learning for students, teachers, and the public. From this approach I believe arts can be used to inquire through and with other discipline and interdisciplinary areas, if you like as an integration of learning. This past engagement work has been a pivotal influence on extending the relationship to look specifically at teacher education and informing future teachers curriculum work and professional development access. The mutual understanding of how each stakeholder works and their needs, as well as personal connections has been invaluable to move new ways of working forward.

In approaching arts education (dance, drama, media, music, and visual arts), and specifically in this case visual arts, I worked with undergraduate second year pre-service teachers in a core subject. Within this subject the pre-service teachers were invited to visit a major art gallery. The site visit was self-paced, however, the pre-service teachers were encouraged to reflect and critically think about their visit for the subject and build on their prior experiences (why they have or haven't been before). The pre-service teachers were scaffolded through reflective questions that required them to respond in a narrative style and explain and unpack in detail their thoughts, reactions and experiences. As an assessed experience the pre-service teachers considered how the NGV could enhance their growth personally (as often the visit disrupts past hesitations of not visiting) and professionally (as most had not considered education links) especially in how the space could support learning and teaching for the primary school. The questioning included:

- What does a gallery have to do with my studies in Visual Arts?
- What does it mean to me in visiting the gallery? How do I look? What do I notice in how I look and observe art?
- What is the value of a gallery as an educator?
- How is a gallery child friendly? How does a gallery support learning?
- How could I integrate a gallery into my teaching? What does a gallery offer as a learning space for my teaching? How could I use the gallery in curriculum design as a resource?
- What are my Top 10 art works at the gallery and why?
- How can the art works selected connect to possible curriculum enactment?

This particular subject positioned the gallery as a partner who advised from afar. That is, the pre-service teachers visited the gallery through a self-paced excursion and were guided by the aforementioned questions, but were not lead on site by a gallery educator or university lecturer. This was intentional to explore their experiences both past and future. The questions formed the basis of a narrative style assignment that also included the generation of classroom learning activities that were built from ten art works that resonated with the pre-service teachers upon their visit. Back in the university classroom the pre-service teachers shared their reflections and then developed learning activities connected to art works. This was a way to extend the pre-service teachers reflective practice and metacognitive thinking connected to art, art works, artists, and the access of cultural organisations such as the NGV to support learning and teaching in the primary school context. With the NGV educators advising from the sidelines it was the pre-service teachers' positive reaction to such an experience and the shifting of their thoughts to engage such a site to support their teaching that initiated a more formal relationship for future projects.

The beginning stages are in development that sees the university that I work at now and the NGV develop an accredited subject positioned within a teacher education degree. This relationship has also extended to include two other cultural organisations – the immigration Museum and Melbourne Museum. Building from the example shared, much was learnt from the informal and relaxed relationship to form a more formal partnership. Most importantly it is the collaboration between both parties to meet needs that support each other. The NGV's wish to extend their relationship with the tertiary sector, having not formally engaged with another institution in this way, is one positive outcome. While teacher education at this university has not explored the possibility of working with cultural organisations to develop a subject in the past, the new focus enhances future teachers ongoing development of skills. Particularly it supports capacity building and confidence for pre-service teachers to interact with cultural organisations in their role as a teacher while

reflecting upon how learning takes place. This develops the future teachers ability to work outside of the classroom to engage in learning and teaching. This way of working also supports familiarity with resources both onsite and digital of cultural organisations and contributes to understanding how these partnerships can be extended into the classroom and school context to support both students and teachers. In this way the university and NGV work in a partnership across both sites with a focus on teaching and curriculum work that is united holistically on preparing and supporting pre-service teachers in their current growth as an educator and for the future with the know how to access resources and ongoing professional development (formally or informally). This is very much a united vision and a forward-looking approach in subject development within teacher education. At all times the partnership is one that is connected and situated as a series of collective of decisions guided by the university and accreditation requirements.

Throughout the subject development process deliberate decisions have been made to learn across sites (digital, university and NGV), with pre-service teachers engaging with meaningful and purposeful learning activities and assessment tasks that address all key stakeholders' needs including:

- Familiarity of resources both from NGV online and on site and how they can extend classroom integration (advantage to pre-service teacher/NGV/teacher education)
- Understanding pre-service teachers have varying personal learning and teaching experiences and ideas and that these can influence how they in turn engage with children and the NGV (pre-service teacher advantage)
- Exploration of skills and confidence to engage with object based pedagogy (pre-service teacher/NGV advantage)
- Expanding and broadening how learning can be stimulated and how it can be taken back to the classroom (advantage to pre- service teacher/NGV/teacher education)
- Promoting participatory and social engagement with NGV (advantage to pre- service teacher/NGV/teacher education)
- Development of resources by pre-service teacher inspired by NGV exhibitions/art work/artists for primary school level contexts (advantage to pre- service teacher/NGV/teacher education)
- Providing feedback to the NGV about their resources and learning opportunities for forward planning (NGV advantage)

A culture of sharing and openness to be innovative and entrepreneurial is crucial throughout the development of the subject as a partnership. At the time of this publication the subject had been delivered for the first time (May to September 2015) in a blended delivery mode. Ongoing relationships formed and the dynamics explored have established a cross-institutional partnership informed by research, inquiry and innovation to support teacher education. This sustainability over progressive years and across different universities has been attributed to developing a relationship of mutual respect that sees an openness to learn from one another. And an understanding of how all stakeholders can address and meet their key performance indicators.

Narrative 2: The La Trobe Wildlife Sanctuary

Science and mathematics are encountering resistance from secondary and tertiary students not choosing to follow this path both nationally (Australian Mathematical Science Institute, 2013) and internationally. When choice is available students are veering away from

science and mathematics in our western culture, which is of international concern (Australian Academy of Science, 2012). As a secondary school science/mathematics/chemistry/Information Communication Technology (ICT) teacher for over 20 years who is historically highly invested in my disciplines I see the chance now as an Early Career Researcher (ECR) positioned within a university to continue with my mission of unraveling the myriad of reasons why this resistance exists with a conscious aim of counteracting the situation. To do this I teach with the energy, enthusiasm, joy, and wonder in my subjects and scope new methods to engage and challenge students.

I have a teaching philosophy of student centered learning, which means teaching is based on the student experience with guidance and scaffolding to construct and own knowledge to learn. This is intrinsic of experiential pedagogy and inquiry based learning as the discoveries come from self (which can be generated in groups from peers) and develops valuable elements of ownership, agency and empowerment in each individual's process of learning. In terms of the curriculum documentation of 5e (DEECD, 2013) this is aiming to achieve the highest level by nurturing the autonomy of the learning process. This is symbolized by Schön's (1983) phrase 'knowing in action' referred to in Rovegno's (1992) article.

Early 2012 in a La Trobe University boardroom there was a meeting between interested academics in the Faculty of Education and the Senior Coordinator, Resources of the LTWS – Andrew Stocker. Contact was first made in the domain of science education, which is my field, but I had previous knowledge of Mr. Stocker from the LTWS when as a local teacher I had reached out to the educational providers in my vicinity. This was not a new meeting, but rather contained a sense of a reunion in a different context. There was cross-university generosity from the LTWS, and Andrew particularly, who was prepared to present sessions offered as the 'outdoor laboratory' experiences (La Trobe Wildlife Sanctuary, 2013). The LTWS offerings to primary schools were captured in a tutorial for over 100 second year primary pre-service teachers. Students walked across the university and away from their usual learning spaces to discover the over 30 hectares of sanctuary on the La Trobe University Melbourne campus. Here they encountered an array of biology-based activities through active involvement in a two-hour tutorial.

In the following tutorial students audited the packaging and delivery of educational content provided by the LTWS. Having previously interacted first-hand with the activities, students completed an analysis/audit in Australian Victorian Essential Learning Standards (AusVELS) (VCAA, 2013) terms based on the content of the sanctuary's website. AusVELS was the curriculum in 2012 in Victoria that was to transition into the F-10 schooling sector. Students critiqued and investigated the online resources provided for teachers. They then identified that existing activities, while being suited to the new curriculum, were linked to the previous curriculum document, and therefore, were out of date. To thank Andrew at the sanctuary for his generosity students wrote reports and provided feedback of their discoveries to the LTWS. This was the pilot project.

There was a deliberate design of good will in the sales pitch to all stakeholders within this project (Weller & Stocker, 2013), which was aimed to counteract opposition. Whether this was a typical teacher step to engineer willing participation on my part, I am unsure, but it was an automatic strategy. The aspects of engendering inclusion, good will and 'win situations' for all participants are summarised below:

- Students participated in the Primary Science sessions available (students advantaged)
- Performed an AusVELS audit of both the sessions and the website (students & sanctuary advantaged)
- Students used content in their folios (an assessment task) (students advantaged)

- The Wildlife Sanctuary was given feedback from the students (sanctuary advantaged)

This germinated the idea of "Tutorial tasks that Multi-task", which were intentionally designed with advantages in a number of different directions. I suspect this was a teacher step of one task that meets many aims to use innovation with efficiency as development of necessary 21ˢᵗ Century skills.

Each year, over progressive years in the second year of their Bachelor of Teaching (Primary) course students would continue to develop the LTWS website to be AusVELS ready and contain a quality teaching approach. The first step planned for 2013 was to design the scaffolding for the activities of the pre and post teaching suitable containing creative ideas and logical steps to provide busy Primary teachers accessing this information with inspiration in class design. Scaffolding is a cognitive approach of developing tasks that strategize instruction as a quality practice for best teachers (Benson, 1992; Johnson & Smith, 2008). Simultaneously, pre-service students were aware that what they created in tutorials had longevity both in terms of being published on the Internet (Nadelson, 1997) and being peer reviewed (Jones & Iredale, 2010), which enhances quality. Students would be recognised on the site for their endeavors and be able to mention this as part of their job ready skills, which employers find desirable (Vassiliou & McAleese, 2002; Jones & Iredale, 2010). Meanwhile, a culture of sharing is endorsed as an educational philosophy. This has been further explored by an interested student, who has additionally developed editorial skills as the editor for the content delivered to the LTWS's website that went live online in March 2014.

This style of pedagogy 'enterprise' education (Jones & Iredale, 2010) is recognised in the UK presently in all fields of education as a teaching methodology based on dealing with the economic crisis. It has a particular emphasis in the learning that occurs out of the normal classroom environment and can be applied in a range of educational sectors. Business partners, educators and students all benefit and its intentions are to lead long-term entrepreneurship for individuals involved in the process. In the first year of the project there were deliberate aspects of the process intentionally involving:

- Greater student ownership
- Development of creativity
- Quality through learning by doing (experiential)
- Skills leading to employability
- Win for all participants (cultural organisation and educators)
- Developing future entrepreneurial skills (Jones & Iredale, 2010)

My own action research as a teacher practitioner researcher included a Scholarship of Learning and Teaching (SoLT) potential and publishing momentum (Boyd & Horstmanshof, 2013). Some 60 questionnaires were collected from students to be analysed in 2013-2014. Questionnaires were used both to elicit response from students who have a "tolerance with written materials" (Donohue, Cooper & Thanenou, 2007, p. 108) and through open ended questions the intention was to elicit longer responses (Myklebust & Bjøkrlund, 2010) where students had the opportunity to indicate how they felt about components of the project. This emphasized the critical reflection component of teaching and the ability of students to be proactive, gain ownership (Wilson, 2007) and be collaborative while producing quality-teaching tools. The results from this research, which are rich in a positive student viewpoint of this process, were presented at the Australian Science Education Research Association conference July 2014 (ASERA, 2014).

The project itself has sustainability as progressive years enable further development of the sanctuary's website with elements from the AusVELS curriculum requirements of: interdisciplinary aspects, cross-curriculum priorities (Aboriginal and Torres Strait Islander histories and cultures, Asia and Australia's engagement with Asia and Sustainability) and the Overarching Ideas for Science (patterns, order and organisation, form and function, stability and change, scale and measurement, matter and energy, systems) (VCAA, 2013).

Narrative Reflection

While projects were conducted without any sense of being co-joined, which is depicted in the narratives; there were strong similarities in both the design elements and outcomes. These common elements present the alignment of a pedagogical approach in partnerships when teacher educators, pre-service teachers and cultural organisations work together. The reflective summary (Table 1) showcases the gain to all stakeholders that was recognised by both teacher educators and highlights the rationale for initiating and maintaining such relationships.

National Gallery of Victoria	Wildlife Sanctuary	Advantage/Benefit Sighted
Exploration of skills and confidence to engage with object based pedagogy	Pre-service teachers participated in the Primary Science sessions available	Pre-service teacher
Familiarity of resources both from NGV online and on site and how they can extend classroom integration	Performed an AusVELS audit of both the sessions and the website	Pre-service teacher/Partner/Teacher Education
Understanding pre-service teachers have varying personal learning and teaching experiences and ideas and that these can influence how they in turn engage with children and the NGV	Pre-service teachers used content in their folios (an assessment task)	Pre-service teacher
Expanding and broadening how learning can be stimulated and how it can be taken back to the classroom		Pre-service teacher/Partner/Teacher education
Providing feedback to the NGV about their resources and learning opportunities for forward planning	The Wildlife Sanctuary was given feedback from the pre-service teachers	Partner
Development of resources by pre-service teacher inspired by NGV exhibitions/art work/artists for primary school level contexts	Future direction of the Sanctuary Project	Pre-service teacher/Partner/Teacher education
Promoting participatory and social engagement with NGV		Pre-service teacher/Partner/Teacher education

Table 1: Summary of advantageous/beneficial project similar design elements

Conclusion

This paper shares two innovative narratives where partnerships between teacher educators and cultural organisations have been seen as a unique opportunity to present the place of these sites both for teaching and curriculum work. Both these projects investigate how cultural organisations can be utilised to form a partnership that allows for pre-service teachers to develop holistic capacity as educators. In the process, we have scaffolded pre-service teachers to be able to evaluate, design, and facilitate curriculum and teaching while highlighting the importance of curriculum for primary school discipline learning. Such partnerships promote a disruption to how pre-service teachers can think about these sites and how they would consider future interactions with them upon their gradation and when they are practicing teachers in the field (Darling-Hammond, 2012; Grossman, Hammerness & McDonald, 2009; Nichols, 2014; Ryan, 2013). The opportunity of pre-service teachers to experience "off campus" education providers as students also promotes possibilities for seeing a career trajectory vision of being an educator in and across multiple sites, as well as opening up access to resources, information and ongoing professional development that contribute to the role of being a primary school teacher (Bamford, 2006; Darling-Hammond, 2012; Nichols, 2014). This way of working is extending the way teacher education currently works within Australia (Lemon & Garvis, 2014a; Mathewson Mitchell, 2015). Most importantly we are reminded that partnerships do not have to be positioned solely in professional practice days that are closely connected to teacher registration requirements and skills development in pre-service teachers.

The two narratives are positioned with primary teacher education, where pre-service teachers are training to be F-6 teachers. The first narrative presents two models positioned within arts education, specifically the field of visual arts. In this case one model looks at how site visits, integrated with core subject material and an assessment, invite pre-service teachers to consider the NGV as a rich resource and cultural site, which they can access for resources to shift personal and professional ideas around perceived value. This model then informs a new framework whereby the informal relationship with the NGV moves to a more formal partnership in its key role as a partner that sees the development of an accredited subject. The second narrative of this paper links with the Science Technology, Engineering and Mathematics (STEM) philosophy. The narrative is an example of a connection with science education providers, to produce a meaningful preparatory experience. As a new field and under researched field especially in the primary education sector of teacher education, a relationship between a university and a wildlife sanctuary is formed to contribute to teacher capacity in curriculum knowledge and pedagogical enactment.

Differences are clearly apparent within the narratives for collaborative partnerships with cultural organisations and teacher education. This is a portrayal of the unique practices within each established partnership. Ultimately, pre-service teachers not only gain ownership from engagement in publishing teaching tools for a purpose, but also when they undertake the role of pro-active participatory members of their prospective professions. Furthermore, when enterprising practices and entrepreneurial processes are both sighted and integrated in learning experiences, through a pedagogical shift, hitherto a new dimension becomes a component of teacher practice. This sets precedence of experience that can domino. With the vision of such practices, transference is enabled for pre-service teachers who become mindful of learning opportunities available through partnerships with cultural community organisations.

Coherence is disrupted in the narratives presented throughout the paper. The role of the university in the enactment experience comes from ongoing reflective practice built between: the university lecturer, cultural organisation educator(s) and pre-service teacher

(Darling-Hammond, 2012). Critical thinking and creativity are drawn together to develop tools that are rich in theoretical and practical connections. Making connections is essential in these narratives. Curriculum and resource development is encouraged, inquiry through questioning skills emphasized and integration of disciplines across the curriculum identified for interdisciplinary links. Pre-service teachers are required to be active agents and work in teams to evaluate existing curriculum and develop, enact, implement curriculum content across sites to facilitate learning. When transferred across multiple areas and at multiple times a dimension of complexity can be identified in the process. This broadens impact to the schools (including the students and teachers) that access the cultural organisations education programs.

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