Creative Technologies

A CASE STUDY OF PLACE-BASED LEARNING AND TEACHING IN THE DIGITAL AGE

Report on designing in-school digital literacy activities and teacher professional development in new digital technologies

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Acknowledgement of Traditional Owners

This work respectfully acknowledges all First Nations Australians and pays respect to Elders, Traditional Owners and Custodians. We recognise their unceded and Ancestral lands, traditions, customs and culture; their continuing protection and nurturing of this place, which encompasses their traditional stories and knowledge of land, water and sky. The work was conducted across the Country of Boon Wurrung, Wurundjeri, and Dja Dja Wurrung and the Maar Nation.

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FOREWORD

This report highlights current considerations on the potential role of new and emerging digital technologies in education. Its purpose is to bring together recent literature on digital literacy and online technologies, particularly new technologies such as smartphones and locative media, in supporting educators in the classroom. The report draws on a case study that the authors – working across the fields of video, audio, and augmented reality – carried out in two rural primary schools in Victoria. It is anticipated that the findings, learnings and recommendations in this report will be of benefit to all educators and digital and creative professionals seeking to develop capabilities in digital, creative and critical literacies.

CREATIVE TECHNOLOGIES was a collaboration across two separate projects between RMIT University researchers and Kangaroo Flat Primary School (Bendigo), and RMIT University and Woodford Primary School (Barwon-South Western). The project was funded through Creative Victoria, Education Partnerships programme as part of the ‘Virtual Creative Professionals in Schools’ programme between 2016-2018. This was a pilot funding scheme that was “designed to investigate innovative and effective delivery methods to enable partnerships between remote schools and creative professionals using new technologies” (Creative Victoria).

The programme involved three partner organisations: Creative Victoria’s Education Partnerships team; the Department of Education and Training’s (DET) Digital Learning and STEM Branch; and the Victorian Curriculum and Assessment Authority (VCAA).

The programme comprised one of three initiatives by Creative Victoria (Artists in Schools, Virtual Creative Professionals in Schools and Extended School Residencies) which has now been consolidated into The Creative Learning Partnership programme. All three programmes worked to support partnership projects between Victorian Schools and creative professionals in order to facilitate diverse and challenging learning experiences that focus on ways in which creativity can enhance education.

As a case study, this report was developed to examine how certain technologies in the classroom could open up new creative learning spaces for primary school children. The potential and limits of such technologies is discussed here with the aim of highlighting some of the challenges, considerations and opportunities to keep in mind in incorporating their use as teaching tools.

As a pilot programme much of the learning was about the process and nature of such a partnership, and this is another area that is the focus of this report.
Ben Fiegert is Leading Teacher and STEM Specialist at Kangaroo Flat Primary School and was the key project manager at the school. Ben works with teachers to engage students through technology. He encourages peers and students to explore new possibilities in using technology and challenges teachers to make links to curriculum through non-traditional approaches. Ben is interested in applying a kids teaching kids model and peer teaching with gradual release so teachers can trial their learning activities in order to explore next steps. His teaching has explored how to deliver professional development to colleagues online as pre-recorded content and live streaming. This work has been used to develop programmes for integrating technology and sustainability using hands on activities.

Olivia Guntarik is an Associate Professor in the School of Media and Communication at RMIT University. Her research on digital and creative technologies seeks to draw connections between the past and present through the natural, built and cultural heritage. She brings a practice-led, comparative and interdisciplinary approach to questions of human geography, ecocriticism, and cross-cultural communication. Her expertise is in location-based augmented reality designs and downloadable audio walks.

Patrick Kelly is a Lecturer in Media in RMIT University’s School of Media and Communication. He is a filmmaker, media producer, and artist interested in the impact of new technologies on screen production practices, and he collaborates with external partners and marginalised communities on films, mobile apps, and other media projects. He completed a PhD in Creative Media at RMIT University in Melbourne in 2013. His media practice has screened at international festivals, such as the Queensland New Filmmakers Awards, Canada International Film Festival, Tropical Alternative Film Festival, Sightlines: Filmmaking in the Academy, and the International iPod Film Festival.

Smiljana Glisovic is a Lecturer in Media in RMIT University’s School of Media and Communication. Her creative practice research is located in the intersecting fields of documentary, installation and performance as a site for affective knowledges of body-place relationships.

Ben Byrne is a sonic, electronic and digital media artist, designer, curator, researcher and teacher engaged with experimental creative practice as a site of research into auditory culture. He is a Lecturer, Digital Media at RMIT University. He teaches in the Bachelor of Design (Digital Media) with a focus on creative programming techniques for online, installation and performance applications. His work has been included in publications such as Organised Sound and Seismograf/PEER, presented and exhibited by organisations and venues such as Liquid Architecture, the Bogong Centre for Sound Culture, Melbourne Music Week and ISEA, and aired on Australia’s public broadcaster, the ABC.
EXECUTIVE SUMMARY

This report outlines learnings and reflections from the project conducted with Kangaroo Flat Primary School (titled Tributary: stories of travel and transition along Bendigo Creek). This project was conducted as part of the ‘Virtual Creative Professionals in Schools’ programme, funded by Creative Victoria. Tributary involved working with 10 school teachers and 81 students in grades 4 and 5 in 2017-18. These learnings and reflections are also informed by an earlier and separate project with Woodford Primary School (titled Memory Maps) in 2016-17, which involved the same number of student and teacher cohorts. For Memory Maps, we created a prototype walking tour app of historical sites of significance in and around the school in Woodford.

The aim of Tributary was to connect creative professionals/researchers from RMIT University with teachers at Kangaroo Flat Primary School (KFPS) in a partnership on a project that would explore the use of digital technologies in the classroom as a way to open up creativity and critical thinking (Young 2009; Harris 2017). To this end, we were particularly drawn to the ways that new and emerging digital technologies were shaping the dialogue on creative and critical capacities in learning and teaching. Furthermore, given the very local nature of our two projects in rural communities, we were also interested in the concept of ‘place-making’ and the ways that the local environment could be drawn on to inform teacher professional development in digital technologies – and in turn shape students’ learning in creative and critical thinking. Place-making here is defined as the ways in which public spaces can be reimagined for local communities and the social relations that contribute to making places meaningful (Massey 2010). Following Doreen Massey’s conceptualisations around how to engage with a ‘sense of place’, the kinds of questions driving our research interests included:

PLACE-BASED EDUCATION: SOME GUIDING QUESTIONS

- How can we retain a sense of place in the learning and teaching experience?
- How can this sense of place be viewed as progressive, outward-looking and global, rather than self-closing and defensive?
- What narratives of place can be incorporated into learning-teaching environments using new and emerging digital technologies?
- In what ways can digital technologies be used to strengthen creative and critical capacities in place-based learning and teaching environments?
Guided by this set of questions on place-making, we encouraged the teachers in Bendigo to consider the ways that students’ ‘place’ experiences could be integrated into in-class and place-based learning practices. Teachers worked with students to identify sites of contemporary interest and historical significance, focusing on places of interest such as along Bendigo Creek. The creative learning for students centred on the teaching of relevant digital literacy skills (coding, digital design, oral history recording), which were tied to their existing curriculum around arts education, including a focused engagement with history and culture.

Students researched and engaged with local history and communities while developing media skills, providing benefits across education, social cohesion and culture. The school’s strong cultural diversity with families from the Dja Dja Wurrung, Karen, Afghan and Hazara communities offered a rare opportunity to connect with local stories about place, travel, movement and social change.

As part of these aims, the project intended to support Kangaroo Flat Primary School (KFPS) teachers in developing the Victorian Curriculum’s focus, which includes the Capabilities identified in the primary education curriculum and how they are formally assessed. The focus was on the Arts and Humanities (Geography, History and Digital Technologies), and Learning in Ethical Capability.

While the project progressed with consideration for engaging the curriculum at years 4 and 5 levels, it was much too early to draw concrete conclusions from the initiative, given the short timeframe of 12 months and the focus on only two year levels. In general, several questions arose from the project that helped to guide the implementation of the programme (rather than the development of the Victorian Curriculum), and provide recommendations for the programme’s ongoing development. These questions allowed the project team to identify the benefits and issues associated with implementing programmes of this kind, particularly in rural schools, and for wider schools, more generally, seeking to engage digital and creative professionals.

To this end, this report, whilst outlining the key activities and learnings around the initial interests of the project, also focuses on learnings around the nature of the collaboration between the two parts of the project team.

The timelines determined for the project at the outset proved to be difficult to meet for a number of reasons. This was partly due to the timelines not coinciding with the demands of the school’s planning and curriculum setting. Moreover, the timelines set did not account for the contingencies involved in working with school children, as was the case in Bendigo and its rural setting and the particular demographic at the school.

The timelines also did not account for how teachers might respond to the use of technology themselves, even before those technologies were introduced in the classroom. The uptake and learning of new digital skills was more challenging than predicted, and a different approach might need to be considered, rather than a simple passing on of skills from creative professionals to teachers.

The way communication was maintained between the two parts of the project team did not serve to work through the contingencies that were encountered along the way. A more detailed attention at the start of the project needs to be given to this aspect of the partnership. This should also include an ongoing conversation about changing aims around expected outcomes.
INTRODUCTION

*Tributary* focused on developing a model for the production of community-driven media artefacts that combines innovation across pedagogy, partnerships and creative practice research using digital media. The intention was to understand the process of building long-term strategic partnerships with the sectors of education, government and community.

Both projects across the two rural primary schools was designed to build on and extend existing research on locative media and place-making technologies. Existing research shows the potential of media technologies to transform people’s connections with their environment. Ito et al (2009) demonstrate how digital media can systematically be applied to a range of different pedagogical environments to engage learners. Perkins (2009) and Kitchin et al (2009) looked at how digital maps have been viewed not as ‘objects’ but rather as ‘practices’ where sharing, social and task-oriented activities dominate. Studies in digital activism illustrate how mobiles can be seen as new ‘mobilities’ that pave the way to access, rights and capabilities for disadvantaged groups (de Souza e Silva & Sheller 2014). Mobile media research has also explored place-making practices through body-technology relations (Richardson & Wilken 2012) and by focusing on the significance of local issues in news production (Goggin et al 2015).

For *Tributary* in Bendigo, the creative professionals were keen to work with both students and teachers at Kangaroo Flat Primary School to pilot and test a digital product that would be useful to the school in the long-term.

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¹Media artefacts here are defined as both the technologies of media (e.g. devices, social networking tools, phone apps) and their features (ability to record, photograph and share content), as well as the material and digital forms of media (e.g. photographs, newspaper clippings, audio- and video- clips).
They were interested in exploring how new digital innovations, which merge in-class with place-based forms of learning, contribute to shaping and informing the Victorian and national curriculum; and how digital initiatives such as this can contribute to developing policy in the area of digital education.

The project intended to allow the lead project manager and staff at Kangaroo Flat Primary School to develop their understanding and application of digital content. Staff had the opportunity to learn about using digital mediums for use in classroom activities and in ways that augmented the existing curriculum. For students, this would include activities such as building skills in research, writing and storytelling. For KFPS staff, benefits would include developing skills around Digital Literacy and embedding these into their everyday teaching.

For Memory Maps in Woodford, the focus was on:

- Engaging students to use a range of media forms (apps, geocaching features, computers, digital cameras, mobile devices, video-capture recording software).
- Engaging students to conduct interviews with their parents, grandparents and members of the wider community, including the Aboriginal traditional custodians in and around Woodford.
- Engaging students to write about, present, interview, research and source information, using old and new photographs, images, maps and all types of media (newspapers, books, artefacts, art).
- Involving teaching staff in cross-curricular planning at a variety of points in the project, ensuring continued collaboration and sharing of curriculum links is undertaken.

An old photograph of the (former) Merri River Bridge collated by Woodford Primary School staff and students depicting the history of the region.

Woodford students participated in a range of research and digital literacy activities. This included recording interviews with family and participating in an augmented reality experience using a wayfinding app.
As both projects progressed, our understanding of the education and teaching-learning environments was shaped by academic literature in education, place-making and digital technologies. To this end, our research in the area of mobile learning and place-making underpinned the design of the project. We found that mobile media place-making can provide a powerful lens for in-depth considerations of race relations, sharing practices and reconciliation efforts – i.e. existing mainstream populations making a sincere effort to make restitutions for past injustices of Indigenous people (Guntarik et al 2017). This approach to engaging with social relations issues reveals the importance of mobile media as a practical technology for creative and cultural analysis (Hjorth & Richardson 2017). Mobile media place-making is intrinsic to ‘self-determined storytelling’, accentuating the political capacity for digital technologies to support Aboriginal self-representation (Edmonds et al 2014). Rather than viewed as simply a record of the past, the digital technologies applied in place-making practices can be used to strengthen creative-based community collaborations (Deger 2017). Such technologies generate important political content or forms of ‘vernacular creativity’, which hold significant implications for democratic participation (Burgess 2006).

In examining this new and existing research on mobile learning and place-making, the project team were able to identify a suitable focal point in working with the school. Given that much of the previous research highlighted the importance of social relations, this became a key focus. For instance, this included exploring social relations issues between the school and wider community, between Indigenous and non-Indigenous communities, as well as between different social histories over time and space (colonial and settler relations).

Having identified ‘social relations’ as a key theme to be woven into the project design in Bendigo, the team also discussed the significance of the school’s location as part of a rural setting as well as a part of a growing ‘city’ with a population of 140,000 residents. Hence, another theme arose from these initial discussions on the school’s location in a major and growing rural centre, which is also part of a strong gold rush history. Discussions centred on ways to engage with this history and with a focus on some of the social relations issues specific to the Bendigo region. This included how to explore the connections between community experiences, engagements with, and historical narratives of water in the rich goldfield region of Bendigo in Central Victoria. The focus on water narratives was identified as a strong theme of the project given that many of the school students spend a great deal of their recreational time exploring the Bendigo Creek, which runs throughout the Bendigo region and beyond, and Crusoe Reservoir in Kangaroo Flat.

Applying this research to the context of the regional primary school and within the Victorian Education Curriculum, and drawing on the professional and academic experience of the project team, we formulated a set of guiding questions for the project:

**CREATIVE COLLABORATIONS: SOME GUIDING QUESTIONS**

- How can a group of creative media academic professionals collaborate with a group of educators and students to create multimedia stories around notions of place?
- What challenges need to be addressed in collaborations of this kind?
- What is the nature of the results of this type of collaboration?
- What is required to work with media in learning-teaching environments, in terms of media literacy development, skill and equipment?
- What kinds of artefacts can be generated from these learning and teaching contexts?
- How might these (media) artefacts be ‘archived’ or stored in ways that are sustainable to ongoing and future learning and teaching contexts?
- What is the role of local place-based narratives in engaging students in learning and in considerations of teacher professional development in digital technologies?
The long-view of the potential outcomes of this investigation was to capture the changing history and cultural narratives of Bendigo through a series of augmented reality, mobile and locative media and sound installations located along various stretches of Bendigo Creek. In incorporating the creek as a key site of exploration for student learning and teacher engagement, the project team was able to base its artistic concept on the tributary metaphor. This concept was designed to prompt considerations about the ‘course’ of history, place and time, as well as to the notion of paying tribute. The idea of ‘paying tribute’ arose out of an interest (from both KFPS staff and members of the RMIT team) to engage the local Indigenous community (Dja Dja Wurrung) in the development of the project.

The creative process and delivery methods involved the artists/researchers working directly with teachers to support their professional development in helping students create content for the selected sites. This project has allowed the lead project manager and staff at Kangaroo Flat Primary School to develop their understanding and application of digital content. Staff at KFPS had the opportunity to learn from RMIT staff about using digital mediums to tell stories about various locations in Bendigo. The intention was to support KFPS staff in developing skills around Digital Literacy and embedding these into their everyday teaching. The creative learning for students involved developing a mix of research, presentation and media skills. Class assessments supported students to generate and apply new creative ideas about ways to represent heritage and cultural places. The focus in the classroom was also on peer assisted learning (kids teaching kids).

It is important to note that Tributary had particular aims in regard to using digital media in the implementation of curriculum to find creative ways of engaging with place-making. While this report highlights some of the findings from this project, this report also sets out the key learnings and reflections from the programme itself to help shape future initiatives that work to support similar partnerships. We anticipate the findings will be of benefit to all educators and creative and digital professionals, seeking to incorporate digital literacy activities as part of their teaching and creative practice, and with a view to developing students’ critical and creative capacities (see Young 2009).
CASE STUDY SNAPSHOT

BENDIGO: A GROWING HERITAGE CITY

The Dja Dja Wurrung and Taungurung are recognised as the Traditional Custodians of the Greater Bendigo municipality. The city of Bendigo is approximately 150 kilometres north west of Melbourne, Victoria. In 1851 white settlers discovered gold in the region. This would become the seventh richest field in the world. People from around the world came to Bendigo to prospect for gold. The boom time is said to have been in 1871, at which time around 20 percent of Bendigo’s population was Chinese. The impact of the Chinese settlement on the city is still actively preserved at key sites around the town such as the Golden Dragon Museum, which is on the site of the first Chinese camp.

The city is located on 3,000 square kilometres of land, some of it rural and used for farming, other parts are preserved park and bushland. According to the Australian Bureau of Statistics census, in 2016 the population size was 153,092, of which close to 100,000 were residents of the city of Bendigo. This makes it the fourth largest inland city in Australia and the fourth largest city in Victoria. Of this population size 1.5 percent of residents identified as Aboriginal and/or Torres Strait Islander people. The most common ancestries in Bendigo were English 30.6 percent, Australian 30.1 percent, Irish 10.3 percent, Scottish 8.4 percent and German 3.3 percent.
THE PRIMARY SCHOOL

Kangaroo Flat State School opened in 1873. It has changed name and site a number of times since then, and in 2005 the school was redeveloped on the current site, five kilometres south-west of the Bendigo CBD. The building is recognised for its innovative building design, including a central amphitheatre, oval, playgrounds, environmental areas, gymnasium, kitchen garden and chicken house.

The school’s values—Respect, Teamwork, Responsibility and Being Your Best—are upheld by the learning values of Imagine, Believe, Achieve. The school is particularly proud of their community and openly and actively celebrate and cultivate this community to ensure every member thrives. The 267 students are at the centre of the learning community.

The student demographic continues to grow in cultural diversity – with 10 percent of the student population having EAL (English Additional Language) status, mostly from refugee backgrounds (Karen and Afghani) and 8 per cent of the student population identifying as Aboriginal or Torres Strait Islander. Kangaroo Flat Primary School also has a large student support base with 11.7 percent of students receiving additional support through the PSD (Program for Students with Disabilities) model. The Student Family Occupation (SFO) index is 0.74.

In 2018, the school had the full time equivalent of 19.7 teaching staff, which included two Principal class school leaders and 2 Leading Teachers each working in their portfolio of Curriculum and Wellbeing. The school had 8.3 FTE Education Support Staff; including 0.4 Chaplain, 0.2 Art Therapist, 0.4 Speech Pathologist, 0.4 English Additional Language Teacher and 2 Multicultural Education Aides (0.4 Karen & 0.2 Afghani) combined to make one effective and collaborative team.

In 2018 there were 13 classrooms operating, as well as the specialist areas of Physical Education, Art, Classroom Music and Chinese. The school structure is founded on “Neighbourhood thinking” and every teacher within a Neighbourhood has a responsibility to every learner and each other.

Source: 2018 Annual Report to The School Community, Kangaroo Flat Primary School

KEY PROJECT ACTIVITIES

- Researchers facilitate workshops and professional development opportunities, testing approaches to engaging teachers and students in digital technologies
- Test non-traditional approaches to engage students in storytelling, with a particular focus on stories of place
- Test how digital technologies in the classroom can be used as a way to open up creativity and critical thinking
- Engage teachers and students to generate material around significant places in Bendigo
- Develop ways to build capacity for using digital technologies in classrooms
- Develop ways of assessing creativity
1. Planning Day: Working Together

The creative professionals conducted an initial face-to-face meeting with the teaching staff to develop a plan for working with the school. This discussion included understanding different needs, challenges and expectations. Based on our past experience working with students, teachers and communities, we understood it was imperative to develop a good understanding of these expectations, their existing strengths and areas of need, and to plan for the implementation of a robust collaborative project. This planning process not only provided a foundation of knowledge and confidence from which to work and draw on, but also allowed the artists to build on the school’s existing knowledge base and achievements.

A plan for the project to be delivered in 2018 was developed based on the school’s specific needs as well as what an arts-based organisation can practically provide using its collective skills and knowledge across a diverse range of digital media forms and teaching and learning approaches. Together, we identified areas of weakness, strength, opportunity and risk.

On this basis the researchers designed 2 workshops for delivery to staff:
i A walk along Bendigo Creek
ii Virtual walking in the city
2. **A walk along Bendigo Creek**

The RMIT research/creative professional team members travelled to Rosalind Park, Bendigo, to demonstrate to staff and students certain ways to elicit and record personal stories taking place at specific places of interest and significance.

Two stages of preparation for this workshop would be undertaken at the school:

- students would think about stories and memories they have at particular sites in Bendigo, and in particular, Rosalind Park and the creek. ‘Story’ was framed as an ‘event’, a memory of something they have done there.

- students would practise storytelling beforehand about their favourite part of the school.

**At Rosalind Park**

The RMIT team led small groups of 3 or 4 students through the following exercises:

- a warm up ‘sensory exercise’ as a way to introduce students to ways of ‘paying attention’
- students shared their story
- other students could ‘interview’ or ask questions about the story told. This was a way to encourage students to think about what aspects make a good story. What sorts of features and details of the story being conveyed do they want to know more about, so they get a rich picture?
- each of the students retold their own story, perhaps including some of these extra details
- another student in the group then retold that story in another medium, for example dancing the story or drawing a picture. In this instance we asked the students to take a photo that related to someone else’s story. The school provided iPads for students to participate in this activity.
The use of various media and forms would include teachers across the school and curriculum (such as the drama and art teachers) and would encourage students to think about how different media can tell different aspects of the story, and how these different forms work together. By extension this exploration and play with different media may lead us to understanding how different tools and media can provide access to different aspects of a site.

The sharing and retelling of stories was a way of finding one’s way into both a ‘shared’ story and a shared sense of space and place. The intention here was to encourage students as storytellers (and as human beings generally going about our daily lives) to think about not taking what we can’t give back. The exchange of story resonated with an ‘exchange’ between site and story; place and culture; people, places and their place in the world.

At this stage some technical issues were identified such as: considerations around resources, tools and storage systems: hardware; GPS; access to Wi-Fi and Bluetooth; size and type of media generated; if video was to be included we required streaming services.

**ii Virtual walking in the city**

A Professional Development workshop was conducted across two days to two different groups of teachers. The development day focused on unpacking how we think about: story; media, and assessment.

The aim of the workshops was to develop skills in digital content generation in the form of artefacts (e.g. photographs, maps, digital stories, textual narratives, interviews, newspaper clippings, sound recordings, video). The focus was on teaching skills in using digital cameras, uploading content to a digital archive, using a digital recorder to capture, save and edit an oral history or sound recording, to record and edit movie clips, as well as to create an augmented reality experience.
STUDIO MODEL TEACHING

Learning through action (or practice) is a crucial aspect of social development, and this approach underpinned our teaching philosophy. Our approach to professional development (i.e. teaching teachers how to teach with digital technologies) was guided by a Studio Model focus and Integrated Scholarship. This model draws on insights from the Design and Architecture disciplines, where the educational and training institution modelled the professional environment: a highly collaborative space where practitioners gather together to address certain design problems.

The model is designed to prepare graduates for professional environments but also goes a step further. For instance, the “studio” is an environment that works much like a science lab fostering investigative and creative processes “that are driven by research, exploration and experimentation” (Studio Teaching Project 2015). Teachers, as part of their professional development, were able to experiment with media artefacts and digital technologies, applying them to real life environments (i.e. the physical landscape through the guided walk). Other features of the studio include: making; reflective and iterative practice, and critique. The model fosters ‘design thinking’ which takes into its scope both practice and theory, and both critical and creative engagement in order to tackle ‘ill-defined’ or ‘wicked’ problems (Green et al 2003). The flexibility engendered in this way of learning and teaching is key to this particular research project, as the studio model is said to be a good setting for accommodating “rapid changes in technology all requiring some change in the nature and methods of teaching employed in the studio” (Green et al 2003, 271).

For teachers and researchers, this space is one where you can learn while you teach. The relationship between the teachers and researchers on this project was similarly thought of in this collaborative exchange. Further to this, Boyer’s model of Integrated Scholarship drove our methodology, where the research is embedded in the learning-teaching environment, in a way that allowed us to make “connections across the disciplines, placing the specialties in larger context, illuminating data in a revealing way” (Boyer 1990, 18). Hence, in the workshop we tested an approach to how the teachers might conduct their own classes where they introduced new technologies to the students. Again, this approach tapped into the larger ethos around studio teaching, the relationship between creativity and action became the key experience. Ultimately it was about “helping students to make connections between different forms of knowledge and to construct a more inclusive understanding of knowledge” (Quinlan et al 2004, 4).
Teachers were asked to bring a story connected to a site in Bendigo and bring in materials connected to this story/site. This could include photographs, video or audio, newspaper articles, drawings, postcards, music, person, story of place, Facebook post, a Google street view or artefacts they already have at their disposal. The RMIT team would demonstrate the journey from concept to making with a particular tool/technology and the outcome. They would provide examples, and then assist participants in telling their own stories with a range of different tools.

Another focus was to work with all teachers to develop a range of classroom activities and assessments appropriate for their classes and based on each teachers’ knowledge and experience working with different technologies. We used the workshop to initiate a mentor program, so that teachers had a support network that would allow them to share ideas and discuss any issues they may have with using technology and collating content during the project implementation phase. We anticipated this mentoring peer to peer support would provide another avenue for informal learning. The focus of this stage was to build the teachers’ capabilities which they could take into classrooms and generate material with the students.

The Victorian Curriculum Capabilities for students that these activities address are: Critical and Creative Thinking; Ethical; Intercultural; Personal and Social. With the following assessments in mind: Writing assessment; Listening and Speaking assessment; Technology assessment.

On the day of the workshop, RMIT researchers introduced their own research and projects, focussing on how technology was used in those projects. For example, Ben Byrne, presented work on ways in which sound can connect us to the environment, through sharing the work of the Australian Forum for Acoustic Ecology group. His Walking Brunswick project, presented in partnership with them, is one where people focus on listening while walking as a way to enter into the physical environment, recording their experiences as audio and GPS data. For us it might be useful to think about listening as a way to develop pedagogical tools to become aware of the environment. Sound walking might be one of these tools.

The researchers demonstrated how to use the following tools for site specific storytelling: Instagram, Google Maps/GPS, Google MyMaps; Aurasma (now HP Reveal). A handout was prepared for the teachers to work as a simple instruction manual for the above tools.

Patrick Kelly introduced Instagram, which half of the participants had used and the other half had not. He spoke about the difference to the traditional narrative structure model and how storytelling models are changing especially with online, website, social media and interactive media. He expanded this discussion to point to how such nonlinear modes of storytelling can be applied to more sophisticated projects that might include mobile app development.
Ben Byrne discussed GPS and **issues around privacy but also the convenience of the service**. He demystified how things like GPS timeline works and how the data is collected for xml files; script, html. He demonstrated how the Walking Brunswick project works similarly to other tools but includes details of the programming, which relies on the "if, else" model. The teachers shared that a programme they teach with called Scratch functions on the model "if, then", which is a similar concept. The teachers discussed how the school plans to upgrade from Scratch to programming in Python.

Olivia Guntarik introduced Aurasma (HP Reveal), a free augmented reality app that allows users to overlay digital content over physical sites using mobile devices, and the conversation naturally started around **all the ways the teachers could use Aurasma in the classroom**. Some suggestions were more about enriching learning experiences, others less so. **Conversations continued around the range of digital literacy between our current media students and the current primary school students learning similar things.**

There was a discussion on **collaborative and experimental ways of working, ways of exchanging experience and ideas**. Outcomes are important to a degree but it's about ‘doing’, ‘making’ or creating, and attention to the process/practice.

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**TECHNOLOGY IN THE CLASSROOM: LIMITS AND OPPORTUNITIES**

- How do we use technology so it doesn’t ‘get in the way’ but make it a meaningful experience to the user and your audience?
- How can we think about media not as a disruption to children’s attention, a disconnect with kids and their environment, but how can we use it to embed, to access new perspectives and relationships to the environment?
- What kinds of ethics are we bound by? For example, the use of drones, and how do we navigate the laws that are constantly changing around how we can use these media and tools?
- Sometimes it’s not a technology we need but storytelling, research and critical thinking skills. This also connects with our concern with the ways in which we assess ‘creativity’ and how teachers use technology and media as a way to engage with and release the creative potential of students: how do we support this creativity while providing space for cultural safety, risk taking and experimentation?
In the second part of the day, it was time to experiment with using some of these tools with the stories the teachers had prepared. One teacher talked about a bush camping spot 20 minutes from home. She stated how she did not use technology when she was out there so she did not have many photos of her experience in that place. Another teacher spoke about how her family was always in or near water (her wife and dog and son). Another teacher spoke about the “constants” like the lake and the ovals where there are lots of memories with friends and events. Many of the teachers spoke about the people and animals they walk with. The experience of “sharing walks” emerged as significant.

The group then went for a walk to further demonstrate the tools that had been introduced, with the view that the teachers could have a go at using the tools to tell their own stories. This last part of the plan did not develop fully in terms of discussing the various potentials of the technology, as the day had been long, and the teachers needed to head back to Bendigo. However, Ben Fiegert continued to experiment with the technology, particularly the HP Reveal app, to explore its potential uses in the classroom.

The plan for the next stage of the project was: the teachers from Kangaroo Flat were to discuss how some of the capabilities they explored with various tools on the day might feed into some of their curriculum. What sorts of activities could they run to enrich their curriculum? The plan was that the teachers would discuss this, and come back to a conversation with the RMIT team, so that the two teams could move forward from this point together.

During the implementation phase at the school level, the communication between the university and primary school teams slowed. What is detailed below is a retelling of the classroom experience as related by the lead project manager, at the conclusion of the project.

The project focused on grade 4 and 5 cohorts of students of which there was 38 grade 4 students and 43 grade 5 students in 2018 (total number of students = 81). Students were located across 4 classrooms, which were taught by a minimum of 5 classroom teachers (this includes part time staff).

The teachers used a story from the curriculum, Bronwyn Bancroft’s Remembering Lionsville as an entry-point for discussing storytelling about place. The teachers led activities in constructing adjunct artefacts to support the story. These artefacts took the form of drawings, voice recordings, and written text. This content was intended for inclusion into a digital tool that would help combine the various parts of the story. Though at this stage these artefacts have made it as far as a Google Drive Folder.

Picking up on the tributary metaphor and exploring notions of change, movement and social connections, the teachers encouraged conversation around family histories, and the changes in the family across generations. Another story from the curriculum that was used was Roald Dahl’s The BFG, which facilitated conversations around the move between the real and imaginary. This helped frame the conversation around the tributary as metaphor for the ‘course’ of history, place and time.
Students selected sites of personal significance in Bendigo and produced stories around their experiences and memories of those sites. This focussed a conversation around sharing personal stories, and how diverse those stories were in the Bendigo area due to the cultural diversity of the school with families from the Dja Dja Wurrung, Karen, Afghan and Hazara communities.

A consequence of this work was that the Afghani and Karen support workers in the school became involved in this sharing of stories. Teachers saw this as a key moment that encouraged a particular student from the same background to do the same using FlipGrid.

Being **given an opportunity to present his story in a different way, in a different medium, really elevated the particular student’s knowledge and experience.** This loose and free nature of sharing personal stories was supported by the platform, where the student was relieved of the pressure to tell the story in any particular way. Using digital technologies allows you to view, and re-record until you are really happy with how you are communicating your story, which really frees up some students.

In the end of year poetry unit, the students were asked to audio record their own poetry. This was a key activity that allowed the teachers to see the benefit of using this technology as a pedagogical tool.

They could evidence how students understood rhyme and rhythm in a new and effective way. Students can often struggle to edit their own writing, however, when they hear it, they had the ability to self-edit much more effectively.

In his class, Ben Fiegert used GPS coordinates and location-based material as pedagogical ideas that were introduced at the RMIT workshop. This was very successful and the students loved it, **though the literacy and skill level around this was too high to be of interest to the other teachers.**

In this class, Fiegert showed the students how to use the HP reveal app. The students found a picture of something they loved. They created a ‘Who Am I’ wall where the app would connect the student to the thing they loved. The students were really engaged with this activity, however, they had 2 classrooms with only 8 ipads, which was a challenge in terms of engagement and experience.

**FlipGrid ended up being a very successful tool to engage students in developing their stories** with various media artefacts. This was effective as the students could teach themselves how to use it, therefore the teachers were not required to have any digital literacy around this. The equipment and computers were readily available, and familiar to the students (i.e. there was no expensive or fragile equipment that had to be supervised). The students were engaged with this for hours both at school and at home. Many videos were made, and most interestingly, watched by other students. **The challenge was that the content had to be moderated for cyber safety reasons,** which became unsustainable for Ben Fiegert as the only moderator.
The RMIT team put the school in touch with ACMI (Australian Centre for the Moving Image) to organise a showing of the material the students had gathered over the past 6-12 months as a result of the project. The Primary School took on this communication with ACMI, and at this point the RMIT team ceased to have any involvement.

The relationship with ACMI did not eventuate, however, a relationship and plan was struck with Melbourne Museum, where a workshop would be conducted with the students. The group typically goes into the Indigenous area of the museum where staff talk about Bunjil, the various language groups in Victoria, and the Five Nations meeting point. The students have iPads and can record different aspects of what they were learning to include in a folio. This could include pictures, and video. The museum puts this material together into an artefact that they share with the school.

On the day, student behaviour made this workshop challenging and things did not quite go as planned.

**STAFF FEEDBACK ON THE PROFESSIONAL DEVELOPMENT WORKSHOP**

We conducted a short survey with the teachers involved in the Professional Development day at RMIT University to gauge whether workshops such as these are beneficial in terms of inspiring and upskilling teachers to introduce new technologies into their learning and teaching environments.

“Students are engaged by technology and if it can be a vehicle to engage them in learning then it is worth exploring” - Ben Fiegert Grades 3 and 4

“A great day of learning and inspiration” - Linda Bright Grades 3 and 4

“I found the PD engaging. It is a long way to travel... A regular online program (YouTube, etc) showing teachers programs/apps that can support learning would be an interesting way to engage teachers using technology.” - Ben Fiegert Grades 3 and 4

“PD related to literacy and numeracy is needed, not necessarily related to technology.” - Linda Bright Grades 3 and 4

During the two professional development days a conversation around assessing creativity emerged. It became apparent that this was another key area that the teachers felt they needed support in. Though this was of concern for the researchers from very early in the project, the timeline did not allow for a particularly in-depth investigation into this need. We do think it is of value to have unearthed this as an area in which teachers feel they need further support, and to this end, we offer Linda Payne Young’s ‘Rubric for Creative Thinking’ (2009). Young’s rubric is intended to develop, rather than just assess, creativity. Young’s approach is to develop criteria that do not assess the product but the student’s ‘use of imagination and creative thinking in solving problems’ (Young 2009, 75). Young argues that we need a rubric to assess creativity as a way of explicitly drawing the student’s attention to the creative element of the assignment.
# RUBRIC FOR CREATIVE THINKING

<table>
<thead>
<tr>
<th>Attributes to Stimulate Creativity</th>
<th>Using Attribute Effectively</th>
<th>Developing Attribute</th>
<th>Emerging Attribute</th>
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<tbody>
<tr>
<td><strong>Intellectual Skills:</strong></td>
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<td></td>
<td></td>
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<tr>
<td>• using conventional and nonconventional modes of thinking</td>
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<td>• in-depth analysis evident</td>
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<td>• recognizes ideas worth pursuing</td>
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<td><strong>Knowledge:</strong></td>
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<tr>
<td>• gaining knowledge and understanding of subject</td>
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<td>• effectively interprets information</td>
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<td>• innovative use</td>
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<tr>
<td><strong>Thinking Styles:</strong></td>
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<tr>
<td>• recognises important questions and topics</td>
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<td>• good use of new ideas or a new approach</td>
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<td>• questions and analyses assumptions</td>
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<td><strong>Creative Functioning:</strong></td>
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<td>• working to overcome obstacles</td>
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<td>• tolerates ambiguity</td>
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<td>• taking reasonable risks</td>
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<td>• taking responsibility for ups and downs in process</td>
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<tr>
<td><strong>Motivation:</strong></td>
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<tr>
<td>• focus on purpose of project rather than grade</td>
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<td>• demonstrating interest in project/ process developing personal angle for project</td>
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<tr>
<td>• working to “sell” conclusions and ideas</td>
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<tr>
<td><strong>Use of Resources:</strong></td>
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<tr>
<td>• using a variety of resources</td>
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<tr>
<td>• collaborates, discusses ideas with teacher/peers</td>
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<td>• uses feedback both positive and negative</td>
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LEARNINGS AND REFLECTIONS

One of the proposed outcomes of the project was the delivery of a mobile phone app that would house material created by the students of Kangaroo Flat Primary School, relating to interesting historical information about key sites along Bendigo Creek. It was intended that the app would be available free to the school and broader public community, where people could interact with, and add to the content as they engaged with the contemporary and historical stories and experiences of those sites.

For the researchers/creative professionals, the production of the app was not the focus or driving aim of the project. Platforms are transitory and surpassed by newer technologies very quickly. For this reason, the platform itself is not so interesting as how and what media artefacts are produced by students relating to significant places in their lives, and what is required at a pedagogical and skill level for teachers to guide the students through this process of making. It also became apparent after the first workshop with the Primary School Staff, that extant platforms may well suffice as a vehicle for the construction and sharing of stories, and that perhaps the development of a new app was not necessary in order to pursue the other key questions guiding the project.

For the researchers, the aims that drove the project centred around understanding the process of conducting a project that involved the introduction of media into rural primary schools, and what this meant pedagogically. They were interested in understanding what issues and concerns are at play in the design of a collaboration between government, education and community.

For the key partners at the Primary School, a range of factors worked to stall the project so that the initial aims and outcomes became impossible to achieve in the time-frame given to the project.

The nature of the demographic of students and dynamics in classrooms made it difficult to work at the pace that was initially set at the beginning of the year. Some of the students may have been too young to engage with any sophisticated equipment. Supervision at all times was required, which made some of the work slow, and difficult to involve the entire class.

After the workshops held at RMIT the aim was for the teachers to start introducing the use of various media in the classroom for the students to learn and use. It became evident that the teachers at this stage were still very resistant to using the new media and technologies as they were not familiar enough or comfortable enough with their skill levels. There was even somewhat of a resistance to learning these new skills. It was only at the end of the year that the teachers were really starting
to see the impact of technology on engagement. This was a significant move toward the teachers’ openness to upskilling and thinking about how they could continue to meaningfully introduce use of digital media in the classroom.

The project started with lots of energy and time invested in it, but this level of commitment became unsustainable, especially for the teachers that were dealing with day to day demands of an already-determined workload. Perhaps shorter and more frequent workshops between the teams would be helpful in this regard.

From the school perspective, there was an expectation for the RMIT team to develop an app, hand it over, and the Primary School team could populate it with artefacts they created in the classroom. As the RMIT team did not see themselves as this kind of service provider, and the app was not what was really at stake for the project, an app of this nature was not delivered. The School staff then needed to rely more on their own skills and knowledge of digital tools, which they were not comfortable with, therefore, the momentum of the project lagged.

We recognise that this was an issue in communication, where the RMIT team could have communicated better their research interests—in process rather than product delivery. We also recognise that the communication between the two teams wasn’t maintained, therefore the RMIT team lost track of where the Primary School was at in the project, and they were not aware of the difficulties the Primary School was having.

The question that arises for us all is: who should have led which part of the process? Who was responsible for checking in and keeping the project on track? What is the best way to maintain communication between the various partners?
KEY FINDINGS AND RECOMMENDATIONS

Timelines and Curriculum
The timeline of the project was difficult to align with the timeline of a school semester and planning and designing curriculum. The curriculum had been set before the project started, and it was difficult to redirect the curriculum too much throughout the year. The school’s own processes were changing at this time too, and it became too hard to do all of this at the same time. Ideally there would be a **3-month lead-in** to successfully implement the aims of the project into the curriculum (i.e. September of the year before).

Capabilities and capacities of participants
With hindsight, we came to the conclusion that the ambitions of the project were too high. The plan didn’t account for the pace of learning, the stamina of the children, and challenging behavioural moments that can stall a planned activity.

The start of digital literacy
One of the key questions is: where does the digital literacy for teachers start? Where should they be introduced to this? How do we inspire them, in the first instance, to want to learn how to use tools that will then enrich their curriculums?

Distance and (virtual) communication
The distance was a challenge, which Ben Fiegert acknowledges sounds like a contradiction when discussing ICT. But even connecting on Skype at the school in order to conduct a virtual meeting about the project was challenging. **Being digitally connected has limitations in the school setting.**

It would have been useful for us to **maintain a relationship** with the primary school throughout the process, rather than simply delivering/sharing our ideas and skills and ceasing regular involvement.

Project roles and responsibilities
We suggest that **more structure around the roles and nature of exchange, aims and outcomes** would have been beneficial.

In the first part of the project these roles were honoured, however, the point at which the RMIT researchers helped develop specific classroom activities was not reached. The university team understood that their ethical position in the dynamic was to allow the teachers to lead this aspect. The challenges at the school became too great to continue a close dialogue with the RMIT staff or be involved in further development opportunities.
REFERENCES


Creative Technologies

A CASE STUDY OF PLACE-BASED LEARNING AND TEACHING IN THE DIGITAL AGE