TE WHARE WĀNANGA O TE ŪPOKO O TE IKA A MĀUI

VICTORIA
UNIVERSITY OF WELLINGTON

Exploring Digital Technologies and Historical Thinking in undergraduate learning and teaching at VUW

Report February 2013

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Executive Summary

This project undertakes an environmental scan of the digital tools and technologies currently being used in undergraduate programmes at VUW that have an historical component, the aspirations of those staff involved in such digitally-enhanced learning and teaching programmes, and staff perceptions about the role of digital technologies in enacting historical thinking. It aims to help inform the VUW Digital Technologies strategy, and suggest ways in which staff can embed digital technologies into curricula and improve student learning outcomes.

The environmental scan indicated that both the range of and extent to which digital tools and technologies are currently being used for teaching courses with an historical component is limited. Those most commonly adopted are used for class management and communication; information and resource seeking; sharing, collaboration and content generation. The staff confident to experiment with and integrate tools and technologies are likely to have discovered and/or used them in the course of their own research.

The key benefits of using digital tools and technologies identified were increased efficiency, relevance, and interactivity; enhanced course content; and student engagement, collaboration and reflection. A number of challenges involved with using digital tools and technologies and reasons for non-adoption were also identified; the main themes that emerged were digital literacy, impact on other aspects of teaching and learning, limited student use, time and effort, and IT support.

The digital tools and technologies that participants aspire to use in the future can be categorized as augmented reality, better quality equipment, increased access and those directly supporting teaching and learning. With regard to the teaching and learning environment in which digital technologies and tools are used, aspirations related to research, knowledge sharing, collaboration, digital literacy and critical thinking.

The project identified various ways in which digital tools and technologies contribute to historical thinking, which relate to experience, context, history as construct, new questions, distant reading, reflection, and diversity. This suggests that, despite being influenced by context, digitally-enabled historical thinking is inherently similar across different disciplines.

The relationship between digital literacy and critical thinking emerged as a key issue. With regard to the various challenges that impact on the use of digital tools and technologies and the rate of adoption, it is recommended that a VUW Digital Technologies strategy takes into account the role of digital literacy, critical thinking, pedagogy, knowledge sharing, course design, and IT training and support, in the effective use of digital tools and technologies for teaching and learning.

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1. Background

Digital technologies drive New Zealand's knowledge-based economy and underpin assumptions about the nature and function of twenty-first century teaching and learning (Bolstead & Gilbert, 2008). However, little research has been conducted in New Zealand to date that measures the adoption, effectiveness and impact of the wired classroom, examines how the acquisition of information-processing skills translate into new forms of knowledge, or investigates how disciplinary thinking is engaged, enacted, and enhanced through digital media.

The "Report of the Working Party on Teaching and Learning at Victoria using Digital Technologies" (April 2011) coming out of the VUW Review of Undergraduate Education suggests a new vision for VUW and a strategic way forward based on the university-wide adoption of digital technologies. Coupled with the Digital Vision Scenario Workshop (18 April 2012), the Digital Futures session at Ako Victoria (14 June 2012), and the report on "Vision and Strategy for Digital Learning and Teaching at Victoria 2012-2017" (August 2012), the time is ripe for evidence-based research that provides local and institution-wide contexts, data, and analyses to direct implementation of VUW's vision.

2. Purpose of the project

The project "Exploring Digital Technologies and Historical Thinking in undergraduate learning and teaching at VUW" builds on current research on historical thinking in New Zealand secondary schools (Sheehan, 2011; Harcourt, Fountain and Sheehan, 2011; Howson and Sheehan 2012) and extends it to VUW's undergraduate programmes that have an historical component. It undertakes an environmental scan of what digital tools and technologies are currently being used in undergraduate programmes at VUW that have an historical component, the aspirations of those staff involved in such digitally-enhanced learning and teaching programmes, and staff perceptions about the role of digital technologies in enacting historical thinking. In addition to helping inform the VUW Digital Technologies strategy, the project suggests ways in which staff can embed digital technologies into curricula and improve student learning outcomes.

3. Project objectives

1. Identify the variety of digital technologies and tools for undergraduate learning and teaching currently being used by VUW staff in disciplines with an historical component
2. Discover the future aspirations of VUW staff in disciplines with an historical component with regard to digital technologies and tools in the undergraduate classroom
3. Investigate how staff perceive the contribution of digital tools and technologies to their undergraduate students' development of historical thinking
4. Analyze whether digitally-enabled historical thinking is similar or different across different disciplines

4. Benefits of the study

- Providing evidence about current practices and future aspirations for digital tools and technologies in historical disciplines at VUW to inform decision-making about VUW's vision for digital technologies and its role in reshaping undergraduate education at VUW
- Sharing best practice between VUW staff involved in undergraduate learning and teaching in historical disciplines with a view to demonstrating to the wider VUW community how to integrate digital technologies into teaching praxis
- Understanding disciplinary thinking and how that feeds into VUW's Graduate Attributes, particularly "critical and creative thinking"
- Findings about the relationship between digital technologies and historical thinking can inform curriculum design and delivery and thus empower the net-generation to become active creators as well as consumers of their own learning
- Increased student engagement and motivation using a proven range of tools and technologies of relevance and interest to digital learners
- This project also has the potential to be replicated amongst a student cohort to understand students' perceptions and needs with regard to digital technologies and their reflective understanding about the relationship between content, delivery, and historical thinking.

5. Methodology

This project used a sequential, mixed method qualitative approach to gathering and analysing research data and was informed by a grounded theory perspective (Glaser and Strauss, 1967; Strauss and Corbin, 1998) that encourages exploration, recursive interactions, and the management of rich, complex data bounded and structured by the research objectives.

Initially, several individuals were personally invited to participate in the project, and asked to recommend other potential participants. An examination of the VUW undergraduate course list for 2012 identified 134 courses with an historical component from the following disciplines: History, English, Art History, Geography, Architecture and Design, Religious studies, Theatre, Classics, Languages, Maori studies, Pacific studies, Anthropology, Sociology, Music, Media, Commerce, Law, Film, Philosophy, Political studies, Education and Science. These courses were matched with 113 current teaching staff using Faculty webpages and the VUW course search function. An invitation to participate was sent to this group via email, before a final invitation to participate was sent to the Humanities Faculty list-serv. A total of 36 teaching staff expressed interested in participating, 18 of whom were available to participate.

In the first phase, a cross-Faculty focus group convened for a full-day workshop, in part modelled on the Digital Vision Scenario Workshop. A total of 28 people participated in the workshop, including 18 teaching staff, 9 members of the research team, and a representative from ITS. Note taking and photographic stills were used for data capture.

In the second phase, seven workshop attendees participated in semi-structured interviews with the aim of exploring in more detail the issues raised in the workshop as well as those not yet identified. Interviews were tape recorded and transcribed, as well as recorded by the note-taker in attendance. Project notes and interview transcripts were manually coded based on high-frequency terms and concepts and dominant themes. Data analysis tools employed to assist with coding generation, and content and discourse analysis included NVivo, Leximancer, and Cirrus (Voyant).[1] Constant comparative and educational evaluation methods (Lincoln and Guba, 1985; Eisner, 1991) were used throughout the project in order to ensure that emergent patterns were scrutinized in both their individual disciplinary settings and across the various historical disciplines. A draft project report was made available to the Steering Committee, project assistants and workshop participants for additional comment and critique via Google Drive before completion of the final report. The draft prompted positive feedback from two participants via email, and an invitation to share the results with the wider community. See Appendix 1 for details about the project's quality assurance process.

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[1] While Leximancer in particular offers a range of tools for rigorous content analysis, trial users from the research team observed that is better suited to a larger corpus than that produced by this study.

6. Results

6.1.   Digital technologies and tools

The environmental scan identified a limited range of digital technologies and tools currently being used by VUW staff for teaching courses with an historical component. These include technologies and tools for class management and communication; information and resource seeking; sharing, collaboration and content generation; data analysis; virtual reality; and digital content production (see Table 1). All interview participants use online material to supplement face-to-face lectures and tutorials. Several participants made connections between personal research and the use of digital tools and technologies for teaching; confidence to experiment with new tools and approaches for teaching has come from research experience, and the use of digital technologies for research and teaching have developed in parallel.

Class management and communication	• Blackboard • Powerpoint • Digital whiteboards • Clickers • Online survey software • Cloud file storage/transfer • Turnitin plagiarism software • Video conferencing • Skype
Information and resource seeking	• Google search • Youtube • Databases
Sharing, collaboration and content generation	• Blogs • Wikis • Social networks (Facebook) • Google docs
Data analysis	• Mapping software • Language translation tools • Data analysis software • Interactive data visualization tools
Virtual reality	• Virtual acoustics software
Content production	• Video cameras • Website building software

Table 1 Digital tools and technologies used by VUW staff in disciplines with an historical component

Benefits

The key benefits of using digital tools and technologies identified by participants were increased efficiency, relevance, and interactivity; enhanced course content; and different ways to learn.

Efficiency: All interview participants use Blackboard, but the majority use it only for delivering course information, static course content and announcements. One participant is investigating Wikiversity as a potential alternative to Blackboard. Digital tools and technologies can also accelerate content delivery and aid evaluation.

Relevance: Digital tools and technologies such as Google Drive are used to facilitate project-based learning approaches that can empower students, and prepare them for practical, real-world applications. Students' work also becomes more meaningful, by being shared, archived, and made available for other research projects, in the spirit of open source software and open access resources that benefit a wider community. Website building and online communication skills for self-promotion are encouraged.

Interactivity: Blogs and wikis are used to supplement face-to-face teaching and, for one participant, make up for less tutorial time. Publicly available tools are preferred, with only one participant using these Blackboard functions. Blogs and wikis offer flexibility, allowing students to contribute content and post comments at any time. Content and discussion is more student-driven than face-to face classes, and demonstrates how students can meaningfully contribute to knowledge creation for a wider audience. Public-facing wikis and blogs mean students' work is open to public comment, and one participant has found that public criticism concerning writing quality and citations is more effective than if it had been given by the teacher. Online discussion also gives teachers a chance to address mistakes or misunderstandings with real-time feedback. It was observed that some students enjoy the wiki approach more than others, and blogs see more interaction. Quality interaction is scaffolded, using response templates and criteria, and participation is rewarded through assessment. Social networks such as Facebook also enable interactivity between students, and serve as independent study groups for discussion and collaboration. These groups are generally not accessed, monitored or mediated by teachers.

Course content: Digital access to obscure material can make a discipline more accessible, and digital tools can enhance content presentation and enable content manipulation. Wikis and blogs are used to build up a knowledge base to supplement course content, and follow up on issues raised in class; one participant uses the same blog from year to year, allowing students to access, add to, and comment on existing contributions. Cloud storage tools such as Dropbox allow students to add course-related content to shared folders. Course content is also supplemented with online lectures by leading scholars via YouTube.

Learning: The main themes that emerged in relation to the benefits of digital tools and technologies for student learning were reflection, collaboration, engagement, and learning styles. Blog posts serve as reflective, post-lecture journal entries that are enhanced by student comments and discussion, and wikis are used for collaborative work (such as creating and editing a Wikipedia article) to practice critical thinking and writing skills. Autonomous learning and online interaction allows more time for reflection than face-to-face classes, and one participant observed that by the second

year, students using these tools are demonstrating more developed critical thinking. In one class, students are using smartphones to record feedback given in face-to-face classes for later reference. The use of digital tools and technologies is also increasing engagement, by making learning more fun and interactive, and, as one participant described, leveraging the power of visual resources to challenge perceptions and effectively convey what would otherwise be imperfect description. Powerpoint and YouTube are commonly used for this purpose. Less common are interactive data visualization tools, which are used for analysis and interpretation. It has been observed that online approaches draw out students who don't contribute much in face-to-face classes, and students who enjoy writing and social media often flourish.

Challenges and reasons for non-adoption

Participants identified a number of challenges involved with using digital tools and technologies, and reasons for non-adoption. The main themes that emerged were digital literacy, impact on other aspects of teaching and learning, limited student use, time and effort, and IT training and support.

Digital literacy: A low level of digital literacy and lack of digital skills has been observed in first year students. While students may be reasonably savvy when it comes to search engines and some forms of social media, it cannot be assumed that they are "digital natives" in the sense that digital tools in general are intuitive. It was observed that their engagement with digital technologies is driven more by social needs than learning needs. Teachers cannot assume digital skills, even with common applications like Excel, which impacts on their ability to analyse big data that lacks structure and context. Related to digital literacy is plagiarism, which is exacerbated by the ease of manipulating online information and a lack of understanding about the implications. Equality of Internet access is also an issue, and it has been observed that Pacific Island students in particular may not have Internet access at home, may not live near campus to use computers outside of peak hours, or may have family commitments that impact on their learning time.

Impact on learning: The use of digital tools and technologies increases complexity for new students, and may distract from the questions being posed. Non-traditional approaches can also confuse students about what is expected. Participants observed that essential academic skills such as idea generation, essay writing, citation rules, and presentations could suffer from students' reliance on digital tools and technologies if the basics are not being taught. One participant has noticed that face-to-face interaction in common areas appears to have reduced since the introduction of wireless and an increase in the use of mobile devices. Students that use online versions of textual resources that lack the supporting explanations provided in the required print version may struggle to follow the text. Texting is impacting negatively on the quality of some students' writing, and some students are unable to identify errors in citations and bibliographies generated with tools like Endnote because they have not learned citation rules. While students may demonstrate competence using presentation software like Powerpoint and Prezi, their presentations lack sufficient content and analysis.

Student use: One participant observed that in general, students only engage with digital resources and tools if the activity is assessed. Lack of genuine motivation seems to correspond with increased demands on students' time over the course of the term/academic year. When students are under more time pressure they tend to select the more traditional options for assessment, such as essays, over more experimental technologies. Another participant raised the issue of student expectations based on sophisticated consumer products like Google, using the example that only 7% of students use their VUW email address, which is a problem for teachers using this as an official communication channel. Other participants have found that wikis stimulate little comment, blogs have suffered from lack of interaction, and online content is rarely accessed even when it is made available on request. There is a perception that students don't use Blackboard much, so it is not worth the investment of time. One participant commented that some students aren't interested in learning the skills required to use digital tools and technologies, because it doesn't reflect their motivations for choosing the discipline.

Time and effort: Additional time and effort is required to use digital tools and technologies, which may involve extra administration, student training, digital format conversion, and complex assessment of collaborative projects. There is also the time and effort required to select "the right tool for the job" and rethink and collaborate to make new approaches work. In this regard, one participant observed that it isn't always clear whether the coordinator, lecturer, or tutor is responsible for embedding and managing digital tools and technologies. One participant explained that clickers were dropped after a year because there were no question banks available for the courses, and the time required to write questions outweighed the benefits.

Teaching: Digital tools and technologies can complicate the teaching routine, particularly if technology fails or teachers are not sufficiently trained. While some participants see large class sizes as a deterrent, others see it as an opportunity to produce "big data" for class projects. However, it was acknowledged that the disadvantage of large-scale big data projects is that there isn't sufficient time to provide extra support to students who are struggling with this approach. Co-teaching can restrict the ways in which digital tools and technologies can be embedded and managed, as can teaching students with different backgrounds and needs in courses that are co-labelled or taught to different levels. It was observed that old technology in teaching spaces limits ability to use new technologies, as does a lack of staff training in newly renovated teaching spaces. For some participants uncertainty about copyright and Human Ethics concerns (e.g. oral history) are deterrents. One of the reasons for limited adoption of social networks like Facebook is uncertainty about the necessity to moderate and the potential for misinformation in the absence of moderation.

Limited IT training and support: Participants who use digital tools and technologies for teaching differed in their experiences of VUW ITS support, from avoiding contact with ITS in general, to not counting on ITS for anything beyond basics like Blackboard, to relying on VUW training sessions. As one participant observed, the use of innovative technologies are being driven by individual academics, and attempts to scale up or roll out across the university can be problematic. They require additional training and support, which may not be worthwhile if not widely used, or academics may leave the institution without making the code available. It was also observed that the university's current IT focus is

human resources and finance, which prioritizes security over teaching, learning and research.

6.2. Future aspirations

The workshops and interviews identified various aspirations for the future, in relation to both digital technologies and tools, and the teaching and learning environment in which they are used. The digital tools and technologies that participants aspire to use in the future relate to augmented reality, better quality equipment, increased access and those that directly support teaching and learning (see Table 2).

Augmented reality	• Simulation • Virtually immersive environments • Tools that enable students to experience different states of mind • Holograms that recreate historical moments
High-quality equipment	• Better quality audio equipment (quality headphones vs. computer speakers) • Higher image resolution (iPads vs. Powerpoint) • Staging technology to promote performative approaches to presenting history • Mobile devices with more data storage
Increased access	• More open access data • More data available digitally • More open source tools • More federated search • Digitisation of resources covered by research funding • Public-facing websites for individual courses
Digital tools for education	• Mobile applications that can be used as teaching tools • Better "on the fly" assessment tools for determining whether students are "getting it". • More haptic learning (learning by doing) • Game theory e.g. a fun teaching platform that charts students' progress in relation to learning objectives over the term.

Table 2 Future aspirations: digital tools and technologies

With regard to the teaching and learning environment in which digital technologies and tools are used, participants shared aspirations concerning research, knowledge sharing, collaboration, digital literacy and critical thinking. There was a call for robust research that addresses the impact of digital technologies on learning, and more time for professional reflection. Sharing of knowledge and resources was also identified as important; sharing new projects and tools across disciplines lends credibility, attracts funding, and prompts alternate uses thereby increasing value. While increased collaboration could be advantageous for many, it was felt that the PBRF system does not support inter-institutional collaboration.

While many participants agreed that a higher degree of digital literacy among staff and students would better support the use of digital tools and technologies, suggestions for addressing the issue varied. A compulsory course for first-year students that covers generic digital skills was put forward, but it was argued that disciplines have their own approaches, and specific skills and resources need to be covered. Another approach is to assign assessments that teach digital skills as part of the work. Related to the need for digital literacy was the call for a greater emphasis on critical thinking in the form of explicit learning objectives; first and second year students in particular need to learn how to question information, provenance and context, and identify what it can be used for. One participant also commented that smaller class sizes might enable greater use of digital technologies and tools, such as group interpretation of historical moments.

6.3.   Digital technologies and historical thinking

Based on their experience, several participants shared seven key ways in which digital tools and technologies can contribute to undergraduate students' development of historical thinking:

Experience: Virtual reality software enables students to experience past time and space. Recorded music of the period also evokes a sense of time and place.

Context: Digital resources support comprehension of historical context. Film in particular is an effective method of conveying time, place, and action.

History as construct: Contrasting historical literature with archival film footage and modern film adaptations demonstrates history as construct.

New questions: Online availability of non-NZ primary sources in particular has revolutionized teaching, and prompted the design of new questions for teaching.

Distant reading: Digital tools enable distant reading of a large corpus, which can be used to challenge or support past research and identify new research questions

Reflection: With more time for reflection, students may be more likely to draw on their broader backgrounds in an online forum than a face-to-face class.

Diversity: Multiple digital images can better demonstrate diversity across time and place than text.

While the ways in which digital tools and technologies contribute to historical thinking as identified by participants suggest that digitally-enabled historical thinking is similar across different disciplines, two key points were made in relation to this question: Each discipline will have its own agenda for enabling historical thinking, and the ways in which historical thinking can be enabled by digital tools and technologies may depend on the context. For example, the period of history being covered may require more or less contextualisation, and a qualitative and quantitative approach will require different skills.

The investigation into how staff perceive the contribution of digital tools and technologies to undergraduate students' development of historical thinking identified several related issues. Interviewees often returned to the importance of critical thinking skills. One participant observed that students are generally able to manipulate technology, but lack the ability to critically assess information. Students struggle with identifying academic relevance, and relationships between facts, and it is uncertain whether digital tools and resources can address this issue. It was also observed that it is difficult to establish the contribution of digital technologies to the development of critical thinking without tools that evaluate student development over the course of their undergraduate degree.

One participant observed that undergraduate students' competence in terms of historical thinking ranges widely. Others observed that students arrive with a very basic sense of history, and that over the last decade fewer students are familiar with key historical events such as WWII. One participant has observed a lack of imagination and curiosity among students, which is necessary for meaningful engagement with digital resources and tools. Another commented that digital tools cannot counter the "political correctness" of New Zealand students, who are often unwilling to critique other systems of thought, or impose their "Western" beliefs.

During the workshop it was noted that the discussion indicated that the question of digital technologies and historical thinking is less of a priority than those surrounding other academic challenges, such as teaching students how to structure a research question or search effectively online for information. One participant emphasised the importance of writing as a tool for thinking and expressed concern about students' misconception of learning styles, whereby text is considered interchangeable with video or images. Others commented on the challenge of shifting historical preconceptions that students bring to class based on media like film, and emphasised the importance of teaching students how to critique.

7. Discussion

The Technology Outlook for NZ Tertiary Education 2011-2016 identified the four digital tools and technologies most likely to see mainstream adoption within one year or less: cloud computing, collaborative environments, mobile applications, and tablet computing; of these, only cloud computing and collaborative environments are currently being used by participants for teaching undergraduate courses with an historical component, in the form of shared file storage, blogs, wikis, and Google Drive. These tools facilitate teamwork and group communication, with a view to preparing students for professional work that is increasingly collaborative (Johnson, Adams & Cummins, 2012, p. 4). Further research is required to determine the extent to which the non-adoption of tablet computing and mobile applications is due to limited ownership of tablets, and/or limited understanding of how mobile applications might be used for teaching and learning. Blackboard continues to be a focus in discussions about digital tools (Report of the Working Party, 2011), however its use is generally limited to course announcements and content delivery. The limited adoption of digital tools and technologies overall is consistent with the Technology Outlook for NZ, which found that "most academics are not using new and compelling technologies for learning and teaching, nor for organising their own research" (Johnson, Adams & Cummins, 2011, p.3). Consistent with the digital tools and technologies projected for mainstream adoption within the next five years in the 2012 Horizon Report, are staff aspirations for mobile applications, tablet computing, game-based learning, and various forms of augmented reality (AR). The latter is not surprising, given AR's potential for facilitating historical thinking by providing "powerful contextual, in situ learning experiences" (Nye et al. 2011, p. 13).

The importance of integration was raised in the 2011 Report of the Working Party, and echoed by participants, who emphasised the need for holistic course design that embeds digital tools and resources in a meaningful way. The 2011 Report of the Working Party and Digital Futures session at Ako Victoria also emphasized the importance for teachers of a pedagogically sound basis for adopting new technologies and practices, and discussions with participants indicated that insufficient evidence was a major barrier to adoption. Participants want to be clear about why they are using digital technologies, and what they want students to achieve with them, so they can be evaluated. Several participants agreed that the most common motivation for adoption is evidence of effective use by other academics, and it was mentioned that the relationship between ITS and CAD is key to driving the pedagogical aspects of this issue. It was suggested that shifting from a focus on tools to potential outcomes, by showcasing how digital technologies can be enablers, might serve to stimulate curiosity and drive motivation and innovation. It was also stressed that an institutional message that focuses on cost-cutting and general efficiency would not be well received; teaching with digital tools needs to be a strategic decision, based on positive improvements not compromise. Another barrier to experimentation and adoption identified by participants was the demand on time for research. This is reflected in the 2012 Horizon Report, which observes that, "institutional barriers present formidable challenges to moving forward in a constructive way with emerging technologies" (Johnson et al., 2012, p. 6). One participant highlighted the role of strategy in addressing challenges related to IT infrastructure and support, explaining that ITS need to work strategically to accommodate digital life cycles, and convey the necessary information to staff.

The Technology Outlook for NZ Tertiary Education 2011-2016 reported that digital literacy "continues to dominate conversations about the challenges likely to impact the acceptance of technology in tertiary education worldwide, and New Zealand is no different" (Johnson et al., 2011, p. 3). This was expanded in the 2012 Horizon Report, which observed that, "despite the widespread agreement on the importance of digital media literacy, training in the supporting skills and techniques is rare in teacher education and non-existent in the preparation of most university faculty … the lack of formal training is being offset through professional development or informal learning" (Johnson et al., 2012, p. 6). These observations were reflected in discussions with participants, some of whom called for compulsory, regular IT training sessions for staff, and a generic, compulsory course for undergraduate students, which might include other essential academic skills such as referencing, information gathering, and constructing arguments.

During the course of the project the research team observed that several of the participants championing the use of digital tools and technologies for teaching and learning shared a common profile. They are likely to be a new and relatively young staff member, possibly working on the department 'periphery' as a co-teacher or tutor. The use of digital tools and technologies is partly motivated by recent research experience and/or exposure to teaching and research practice overseas. This highlights the potential for grassroots change, which needs to be reflected in strategic objectives that facilitate communication and collaboration between these 'champions' and senior colleagues, and prioritize support and enablement for all members of staff, regardless of seniority.

Several project-related outcomes also suggest directions forward. Knowledge sharing between participants who met for the first time at the workshop has prompted informal monthly sessions for digital technology and historical thinking advocates and practitioners, to commence in early 2013. The sessions will be supplemented with a Digital History blog, for the sharing of knowledge and resources. The purpose of these sessions will be to share best practice between VUW staff involved in undergraduate learning and teaching in historical disciplines with a view to demonstrating to the wider VUW community how to integrate digital technologies into teaching praxis. Dr Sydney Shep has proposed an interdisciplinary MA in Digital History, to meet a gap that has seen almost two decades of scholarly activity and pedagogical reflection overseas. Dr Valerie Wallace, coordinator of the award-winning Transcribe Bentham digital history project, has been appointed to the School of History, Philosophy, Political Science and International Relations, and contributed to an inter-disciplinary meeting on teaching Digital History held in November 2012. New Zealand's first Technology and Humanities Camp (THATCamp) was held at VUW in November, following the National Digital Forum conference. The open, informal 'unconference' was attended by about fifty people, and included a session facilitated by Marcus Frean (School of Engineering and Computer Science), on a potential curriculum for a Computing for Humanities course at VUW.[2] During the course of the project a bibliography was compiled in Zotero, and used to supplement the project activities. The bibliography is a work in progress and will be made available for updating by other interested parties (see Appendix D).

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[2] For more details see THATCamp Wellington 2012. (2012). Retrieved February 9, 2012 from http://wellington2012.thatcamp.org

8. Conclusion

The environmental scan indicated that both the range of and extent to which digital tools and technologies are currently being used for teaching courses with an historical component is limited. Those most commonly adopted are used for class management and communication; information and resource seeking; sharing, collaboration and content generation. Staff confident to experiment with and integrate tools and technologies are likely to have discovered and/or used them in the course of their own research.

The key benefits of using digital tools and technologies identified were increased efficiency, relevance, and interactivity; enhanced course content; and student enagagement, collaboration, and reflection. A number of challenges involved with using digital tools and technologies and reasons for non-adoption were also identified; the main themes that emerged were digital literacy, impact on other aspects of teaching and learning, limited student use, time and effort, and IT support.

The digital tools and technologies that participants aspire to use in the future can be categorized as augmented reality, better quality equipment, increased access and those directly supporting teaching and learning. With regard to the teaching and learning environment in which digital technologies and tools are used, aspirations related to research, knowledge sharing, collaboration, digital literacy and critical thinking.

The environmental scan identified various ways in which digital tools and technologies contribute to historical thinking, which relate to experience, context, history as construct, new questions, distant reading, reflection, and diversity. This suggests that, despite being influenced by context, digitally-enabled historical thinking is inherently similar across different disciplines.

This project has suggested ways in which VUW staff can embed digital technologies into curricula and improve student learning outcomes. It has also identified various challenges that impact on the use of digital tools and technologies and the rate of adoption. The relationship between digital literacy and critical thinking in particular emerged as a key issue. It is recommended that a VUW Digital Technologies strategy take into account the role of digital literacy, critical thinking, pedagogy, knowledge sharing, course design, and IT training and support, on the effective use of digital tools and technologies for teaching and learning.

9. Appendices

Appendix A. Quality Assurance Process

The Steering Committee on Digital Technologies and Historical Thinking at VUW is comprised of mid- and senior-management academics whose programme/department/school includes a historical component in undergraduate courses. Committee members were responsible for quality assurance throughout the project, having opportunities to consult with the researchers after the focus group, interview cycle, and final draft report phases.

By being a member of the Committee, s/he is the point of contact through which dissemination of the project results to the programme/department/school will occur in a manner agreed upon with the researchers. For transparency and accountability, Steering Committee members are ineligible to be part of the project's focus group or interview cohort.

Appendix B. Workshop Outline

DTHT Workshop I Outline

Project Title: **Exploring Digital Technologies and Historical Thinking in undergraduate learning and teaching at VUW.**

Researchers: **Sydney J Shep & Mark Sheehan with Mark Crookston, Larissa Kus, Donelle McKinley, Diane Clifford, Susann Liebich, Sienna Latham & Elizabeth Haynes**

When: Saturday 15 September 2012, 9 for 9:30am-4:00pm

Where: Kelburn Campus, Alan MacDiarmid Building, Room 103

What: Using a combination of facilitated large and small focus group sessions, brainstorming, role-playing, and scenario-building, the workshop will explore:

1. **what digital resources and tools are currently being used by VUW academics in undergraduate teaching with an historical component;**
2. **positive and challenging teaching and learning experiences;**
3. **perceptions about historical thinking, evidence, interpretation;**
4. **what role(s) digital media currently play(s) in fostering historical thinking @ VUW;**
5. **how teachers think students use digital media;**
6. **future aspirations for digital technologies and historical thinking @ VUW.**

Why:

1. **to identify the variety of digital technologies and tools for undergraduate learning and teaching currently being used by VUW staff in disciplines with a historical component;**

2. **to discover the future aspirations of VUW staff in disciplines with an historical component with regard to digital technologies and tools in the undergraduate classroom;**
3. **to investigate how staff perceive digital tools and technologies contribute to their undergraduate students' development of historical thinking;**
4. **to analyse whether digitally-enabled historical thinking is similar or different across different disciplines.**

- Human Ethics Committee information sheets and consent forms to sign available on the day.
- Morning and afternoon teas and lunch will be provided. Let us know your dietary preferences.
- Any questions? Please contact: sydney.shep@vuw.ac.nz

Workshop I Schedule

9am-9:30	Arrival, coffee, intros & chat		
9:30-9:45	WELCOME		HEC consent forms
9:45-10:05	Setting the stage: 5/6 provocative quotes, covering each of Q1-Q6, one for each group	Small group discussion & report back	Tables and chairs in 5/6 pods
10:05-10:15	Digital resources and tools currently being used (Q1)	Large group brainstorming with RAs as whiteboard scribes	3 whiteboards (1 for resources/ 1 for tools/ 1 for 'parking lot' good ideas out of scope
10:15-10:30	Positive and challenging digitally-mediated teaching and learning experiences (Q2)	Individual activity write down one positive, one challenging experience per post-it note	Post-it notes & pens, window wall for posting
10:30-10:45	MORNING TEA	Moving around post-it notes to thematic clusters	
10:45-11:45	Discussing a thematic cluster and sharing teaching and learning experiences (Q2)	Small groups, each given post-it-note thematic cluster	
11:45-12:00	What is historical thinking? (Q3)	Mark Sheehan, EDU	
12:00-12:30	Historical thinking discussion (Q3)	Large group	
12:30-1:15	LUNCH		
1:15-2:00	What is the relationship between historical thinking and digital media? (Q4)	Large group	
2:00-2:10	At the coalface – the user experience (Q5)	Mark Crookston, ATL	
2:10-2:30	Perceptions of students' use of digital media (Q5)	Small group discussion & report back	
2:30-2:40	AFTERNOON TEA		
2:40-3:45	Future aspirations (Q6)	Large group	
3:45-4:00	Wrap-up & evaluation	individual	Post-it-notes, one per heading: Success, Improve, Different

Appendix C. Semi-Structured Interview Schedule

Semi-Structured Interview Schedule

Project Title: **Exploring Digital Technologies and Historical Thinking in undergraduate learning and teaching at VUW.**

Researchers: **Dr Sydney J Shep & Dr Mark Sheehan**

Background questions:

- What is your: job title; teaching experience (years and levels); teaching qualification; digital technology adoption/training.

Course delivery questions:

- What are your typical/preferred teaching: format(s); mode(s); platform(s).
- Have you ever tried anything different/more experimental? Describe/explain.

Digital resources questions: *the following sections distinguish between digitised resources and tools for accessing and using those resources.*

- Do you use digital resources in your teaching? Types? How often? Where/how accessed?
- Are these digital resources ones you have found while undertaking your own research?
- Why do you use digital resources in your teaching? If not, why not?
- How do digital resources contribute to historical thinking? Yours/your students?
- What do you think are the benefit(s) to your students in using digital resources in teaching?
- How do you integrate digital resources into assessments? Evaluation criteria? Issues?

Digital tool questions:

- Do you use digital tools in your teaching? Types? How often? Where/how accessed?
- Are these digital tools ones you have found while undertaking your own research?
- Why do you use digital tools in your teaching? If not, why not?
- How do digital tools contribute to historical thinking? Yours/your students?
- What do you think are the benefit(s) to your students in using digital tools in teaching?
- How do you integrate digital tools into assessments? Evaluation criteria? Issues?

Digital support questions:
- Where do you currently go if you have questions/need help about resources/tools/pedagogy?
- Are there delivery modes/resources/tools you would like to use but can't?
- What kind(s) of digital training needs do you have?
- In ten years' time, what is your vision for digitally-mediated history teaching @ VUW?

Any other questions/comments?

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See http://www.zotero.org/groups/digital_technologies_historical_thinking

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