



**Professional staff as leaders in enhancing student engagement: building capacity in emerging technologies through cascade and viral leadership
(The ALTC-Viral Leadership project)**

Final report 2012

The University of Western Australia
(Lead institution)

Murdoch University

Edith Cowan University

Dr Lisa Cluett, project leader and report author

Project team members:

Winthrop Professor Jane Long, project sponsor

Dr Judy Skene

Associate Professor Mark Pegrum

Project website <www.altc-viral.groupsite.com>



Support for the production of this report has been provided by the Australian Government Office for Learning and Teaching. The views expressed in this report do not necessarily reflect the views of the Australian Government Office for Learning and Teaching.



With the exception of the Commonwealth Coat of Arms, and where otherwise noted, all material presented in this document is provided under a Creative Commons Attribution 3.0 Australia licence (<http://creativecommons.org/licenses/by/3.0/au/>).

The details of the relevant licence conditions are available on the Creative Commons website (accessible using the links provided) as is the full legal code for the CC BY 3.0 AU licence (<http://creativecommons.org/licenses/by/3.0/au/legalcode>).

Requests and inquiries concerning these rights should be addressed to:
Office for Learning and Teaching
Department of Industry, Innovation, Science, Research and Tertiary Education

GPO Box 9880,
Location code N255EL10
Sydney NSW 2001

<learningandteaching@deewr.gov.au>

2012

ISBN 978 1 922125 50 7

Contents

Executive Summary.....	3
Recommendations.....	3
Project Goals and Outcomes.....	4
Methodology.....	5
Building network and leadership capacity.....	5
Formal learning – ALTC Viral Emergent Technologies courses.....	5
Building the ALTC Viral network.....	7
Research methodology.....	7
Phase 1 - Network observations and membership.....	7
Phase 2 – Social network analysis (SNA).....	8
Table 1: Example of a two-way relationship map.....	9
Links to knowledge.....	10
Success factors.....	11
Implementation of project outcomes.....	12
Materials generated by the project.....	13
Publications.....	13
Emerging Technologies projects.....	14
Network and showcase presentation summaries.....	14
Dissemination.....	15
Face-to-face dissemination.....	15
Online dissemination.....	15
Written dissemination.....	15
Evaluation.....	16
Formative Evaluation – methods and findings.....	16
Ongoing (cyclic) evaluation of project events.....	16
Evaluation of 2010 emergent technologies course.....	16
End of year 1 evaluation visit, meetings and report.....	16
Summative evaluation.....	16
Evaluation of 2011 emergent technologies course.....	16
End of project evaluation visit, meetings and report.....	16
Recommendations.....	17
Conclusion.....	17
Appendices.....	18
Appendix A – course application form.....	18
Appendix B – Extract of course outline.....	19
Appendix C – Reference Group Membership 2011.....	28
Appendix D – Refereed paper presented at 2011 EDUCAUSE Conference 2011.....	29
Appendix E – Summative evaluation (SPOT results).....	39
Appendix F – Year 2 evaluation report from the expert evaluator.....	43

Executive Summary

The ALTC-Viral Leadership project was funded under the ALTC's Leadership Excellence scheme from the 2009 round of grants. The University of Western Australia acted as lead institution, with partners Edith Cowan and Murdoch Universities. The project acknowledged the contributions of non-teaching staff to student engagement and the student experience by providing a scaffolded, sustainable way of building capacity in emerging technologies that enabled staff to understand, use, maintain and evaluate the tools used on a daily basis by our students. Building from the more traditional cascade leadership model, the project also explored the potential of a new concept of viral leadership.

The goals of this project were threefold: to develop an on-going, Western Australian-based network of professional-staff leaders who could foster student engagement through emerging technologies; to design, implement and evaluate web-based resources to support this network and to ensure its continuity; and to create a new model of leadership for application in the tertiary sector based on applying the cascade/viral model to building leadership capacity. The project has hosted a wide range of networking events attended by more than 400 staff across 4 WA campuses and the interest shown demonstrates that a lively community of practice has developed. In addition 40 staff members have participated in a 5-session emerging technologies course and have embarked on applying emerging technologies in their workplaces.

Viral leadership is a new and emerging approach and was defined by this project as the proliferation of leadership skills and capacity via informal personal connections based on mutual interest and enthusiasm. This ALTC-Viral Leadership project has delivered a new conceptual model of leadership that will help the tertiary sector move beyond local experiments with emerging technologies to a wider engagement. The use of Social Network Analysis theory to evaluate key features of the networks established through project activities is leading to new insights on strengths of the viral approach to knowledge transfer and findings have been disseminated through publication and conference presentations.

Recommendations

The key recommendation from this project is that staff development around learning new technologies should be deconstructed so that knowledge about online tools can be transmitted using the viral model..

Institutions should be encouraged to move away from formal learning courses that may take many hours or days to complete and are typically costly to run resulting in attendance by individual/representative staff rather than groups. Learning and leadership around emerging technologies achieves better results when opportunities for staff upskilling are based around frequent, short (less than 90 minutes long), informal sessions that include a networking component and online support or follow-up.

Further recommendations are that:

- leadership in emerging technologies should not rely on job title or description and those who display sustained curiosity and enthusiasm for applying new online tools should be recognised as leaders in institutional change around the use of technology for student engagement; and
- middle-management need to be engaged as 'surface infectors' active in promoting the network to their staff and supporting the leadership demonstrated by more junior staff in spreading the emerging technologies' virus.

Project Goals and Outcomes

The project proposal listed 9 specific outcomes. This section summarises progress against those projected outcomes and notes that all project outcomes have been achieved.

Specified Outcome 1 – Establish Reference Group and institutional collaboration framework

A Project Reference Group including the project team, senior staff from partner institutions, project mentors and expert evaluator was established in the initial stage of the project and met regularly.

Specified Outcome 2 – Initiate, develop and maintain a constantly expanding community of professional staff as 'change agents and ICT leaders'

The community was established early and grew throughout the project. It consisted of professional staff from across the partner institutions that became members of the online community, attended networking events and participated in the ALTC Viral Emerging Technologies Course.

Specified Outcome 3 – Deliver structured emerging technology courses for professional staff from partner institutions.

The formal learning component of both ALTC Viral Emerging Technologies courses has been completed successfully.

Specified Outcome 4 – 1st Generation leaders apply knowledge to their projects

Participants from the 2010 and 2011 courses have completed projects using emerging technologies and delivered presentations.

Specified Outcome 5 – Create a new model of leadership that combines aspects of viral and cascade models

The 'viral' model of educational leadership has been defined and developed and is the subject of ongoing research.

Specified Outcome 6 – Improve our understanding of the leadership actions required to build community

Research into how the viral leadership model can be applied to the educational setting has resulted in the definition of 7 categories of leaders (or 'infectors') that describe the characteristics of network members. These categories are outlined in the reviewed EDUCAUSE paper and are being refined using social network analysis.

Specified Outcome 7 – Share insights and knowledge gained across the HE sector

Dissemination activities have been embedded in the project since the initiation phase and have included a range of online and face-to-face activities and publications.

Specified Outcome 8 – Develop web-based resources such as a wiki, community network, workbooks and examples of applied technologies

The project website (www.altc-viral.groupsite.com) acts as the home of the online community as well as the repository for all resources.

Specified Outcome 9 – Prepare a series of conference papers, journal articles and an edited book (stemming from a WA-based ICT leadership symposium in January 2012). The leadership symposium was cancelled due to the closure of the ALTC in November 2011.

Research and dissemination activities are embedded throughout the project schedule. One refereed conference paper is now published and a variety of non-refereed conference workshops have been presented.

Methodology

The project adopted an action research methodology that was experience-based and drew on team members' previous research and expertise. It addressed a critical gap between structured learning in the academic context of an e-learning course and transferring that knowledge to building leadership capacity within individual work contexts that include mentoring others, experimenting with new tools and creating a community of practice.

Building network and leadership capacity

The viral model of leadership was developed and applied in order to build a network of professional staff who are curious, enthusiastic and skilled in emerging technologies. This new model of leadership was applied in two main ways – via a formal learning component and via a program of networking events aimed to incubate and spread the leadership 'virus'.

Formal learning – ALTC Viral Emergent Technologies courses

The formal learning component consisted of a 5-session course in emerging technologies delivered by Associate Professor Mark Pegrum to 20 participants from partner institutions who were required to enter a competitive process to gain a place (application form at Appendix A). The sessions ran from 8.30am to 2pm, and were offered in blended mode. The program included:

Thematic session I entitled **From Novelty to Normalisation**. It gives an overview of recent technological developments, relating them to contemporary educational approaches. It introduces the theory of normalisation and its implications for the integration of digital technologies into everyday educational contexts;

Tools session A showcases **Basic Technologies**, including [VLEs](#), [discussion boards](#), [blogs](#) and [wikis](#);

In the *guided exploration*, participants engage in a hands-on exploration of the tools covered. There is the opportunity for participants to begin work on the course project. (In the extended version of the course, participants also log into the [class wiki](#) and set up a series of personal pages, and then begin commenting on each other's pages);

Thematic session II examines **Online Learning**, focusing on key theories and frameworks – social constructivism, communities of practice, and the community of inquiry model – which typically underpin the use of [web 2.0](#) in education. We then go on to examine the role of [PLNs](#) (personal learning networks), [PLEs](#) (personal learning environments) and [e-portfolios](#) in tying together the various elements of online learning. We also briefly consider blended learning;

Tools session B showcases **Networking Technologies**, including [social networking](#), [chat/IM](#) (instant messaging), [microblogging](#) and [polling](#);

In the *guided exploration*, participants engage in a hands-on exploration of the tools covered. There is the opportunity for participants to continue work on the course project;

Thematic session III covers **Digital Literacies**: after contextualising our current [web 2.0](#) phase with respect to [web 1.0](#) and [web 3.0](#), it examines [digital literacies](#), covering print, texting & hypertext literacy; multimedia literacy; search & tagging literacy; information & filtering literacy; network & participatory literacy; cultural & intercultural literacy; and remix literacy;

Tools session C showcases **Informational Technologies**, including [search](#), [folksonomies](#) (social tagging, social bookmarking), [RSS](#) and [social sharing](#);

In the *guided exploration*, participants engage in a hands-on exploration of the tools covered. There is the opportunity for participants to continue work on the course project;

Thematic session IV takes in the big picture, with an emphasis on **Trends & Issues**. Using a series of [five lenses](#), it examines current trends and issues in using digital technologies in education. The lenses include a technological lens (with a focus on the internet of things and augmented reality); a pedagogical lens (teacher training); a social lens ([safety, privacy and reputation](#)); a sociopolitical lens (censorship, surveillance and copyright); and an ecological lens (health and e-waste). This session draws on the latest developments, including some of those covered in the regular updates in Mark Pegrum's [Twitter feed](#), the [E-learning tag cloud](#), and the [E-language blog](#), as shown in the [BloggyBits](#) social widget at the top left of this page. (Click on the icons to move between views of Twitter, Delicious, and Edublogs.);

Tools session D showcases **Multimedia Tools**, including [podcasting](#), [VoIP](#) (Voice over Internet Protocol), [vodcasting](#), [digital storytelling](#), [data visualisation](#), [virtual worlds](#) (also known as MUVES, or Multi-User Virtual Environments), [machinima](#), gaming (including [MMOs](#), or Massively Multiplayer Online [games]), and [m-learning](#) (mobile learning);

In the *guided exploration*, participants engage in a hands-on exploration of the tools covered. There is also the opportunity for participants to continue work on the course project;

Thematic session V consists of a **Course Review**; and

In the *final session*, **Participant Presentations** give everyone a chance to share ideas on the individual projects participants have worked on during the course.

Each class included:

- tutorials focusing on practical applications of digital technologies;
- workshops focusing on experimenting with various digital tools;
- an online class wiki where participants reflected on progress, engaged in discussion and received feedback on project ideas; and
- time to build online resources as part of the project/assignment.

In addition, lunch was provided after each class to encourage networking, peer-learning and discussion of ideas. The course outline is provided at Appendix B (the reading list has been removed).

The course was promoted to professional staff through information sessions and staff were invited to apply (both the 2010 and 2011 courses were over-subscribed). Places were allocated by the Project Reference Group (membership at Appendix C) to staff according to the following criteria:

- they worked in roles that directly impact the student experience;
- they had an opportunity to use online interaction to improve the student experience at university; and
- they had the potential to pass on their curiosity, enthusiasm and awareness of emerging technologies to other staff.

Participants were required to undertake an individual project using emerging technologies to engage students in a way relevant to their individual contexts. Staff were asked to consider student needs, institutional constraints, sustainability, accessibility and a range of other factors in developing their projects although it was not necessary to make these tools 'live' and operational.

Building the ALTC Viral network

Recognising that staff require a variety of development opportunities and in order to test the viral model of leadership, the project built a network of leaders using regular, accessible and interactive networking and development events open to professional staff across all partner institutions.

A panel discussion format was chosen for the networking events with a large-scale forum at the end of each project year. Panel discussions were framed around a particular emerging technologies topic and a small group of staff and/or students with expertise or experience in the topic were invited to be on the panel. Prompt questions were used to stimulate discussion and audience participation formed a major part of the event. Events were audio-recorded and notes from each event were written-up and provided to the project community via the website.

The project's online community was hosted using a free web service (www.groupsie.com) which offered the free features needed by the project including:

- member profiles;
- events calendar and rsvp management;
- hosting and sharing files including event notes and presentation slides;
- email distribution with attached discussion boards; and
- embedded twitter feed.

The online community had 112 members by November 2011; mostly drawn from partner institutions (UWA, ECU, Murdoch) but also included a growing number of people from institutions across the sector such as RMIT, Curtin University, Notre Dame (Perth), Scotch College (high school), Deakin University, Presbyterian Ladies College (high school), Returned and Services League of Australia (WA Branch), Massey University (NZ), the Australian Learning and Teaching Council, University of Canberra and Queensland University of Technology. Online application forms and feedback surveys are hosted in Survey Monkey and linked to the project webpage.

Using a free, simple online service meant that the project was able to build an online community very early on in the project. This website was complemented by the project's use of microblogging site Twitter which allowed an additional dimension to network building and promotion, particularly during project events when the #altcviral hashtag was used and became a 'trending topic' in Perth.

Research methodology

The viral model of leadership was both the subject and the product of this project. As such the project team split the model development into two phases; 1) hypothesis drafting through observations of network growth and 2) hypothesis testing through social network analysis.

Phase 1 - Network observations and membership

Observations of the network, including the characteristics of members and how they infect other staff were made during the first year and were summarised into a hypothesis that listed seven types of network members listed below:

- *Super-infectors*, much like Gladwell's¹ 'connectors' or Barabási's² 'hubs', are key points of contact for other network members, and easily see connections between work areas, ideas and projects. They typically have established relationships with other staff in the network, frequently spread ideas virally through the network, often infect new staff (thus recruiting them to the network), and are vocal in their

¹ M. Gladwell, (2002). *The tipping point: How little things can make a big difference*. New York: Back Bay Books.

² A-L Barabási, (2003). *Linked: How everything is connected to everything else and what it means for business, science, and everyday life*. New York: Plume.

support of the network. They attend and assist with networking events and are regular contributors to the online community;

- *Regular infectors* make up the bulk of members and are primarily seeking to build their own knowledge and skills, but also help spread ideas virally within the network, and infect a moderate number of new staff. They attend networking events and participate in the online community;
- *Niche infectors* participate in the network for particular professional reasons. They seek specific types of connections and gather or spread specific types of ideas. They infect and/or may be infected by staff they see as relevant to their niche and typically make such links quickly, but they are less likely to make connections with network members outside their niche area of interest. They attend face-to-face events directly relevant to their area of interest, and participate in the online community with the same focus;
- *Edge infectors* have a peripheral relationship with the network in that they are infected by other staff and take on board ideas from the network, but are unlikely to spread ideas further or to infect new staff. They may have a casual interest in network activities and willingly participate for their own development. They may attend some events if infected by another member and may join the online community, but tend to have little ongoing involvement;
- *Surface infectors* have a twofold relationship with the network by being strong advocates and infecting new staff, whilst only having minimal participation themselves. They rarely attend networking activities and are unlikely to join the online community; and
- *Formal infectors* participate in the network as a result of their official role or job title. They may be senior members of staff with direct control or responsibility for staff development, professional training or emerging technologies, and are often active in promoting the network. They are fairly likely to attend face-to-face networking events and participate in the online community.

These types of network member were identified in the refereed paper presented at the 2011 EDUCAUSE conference (full paper at Appendix D).

Phase 2 – Social network analysis (SNA)

In the second phase, relationships in the viral model were analysed from data collected from participants at each networking event. At the conclusion of each event, the participants were asked to complete an online survey comprising the following questions:

- Who did you know before the event?
- Who did you know by the end of the event?
- Who told you / invited you to the event?
- Who do you plan to follow up with contact after the event?
- Who would you ask a question about technology?
- Who do you follow in Twitter, friend on Facebook or contact on LinkedIn?

Data Analysis

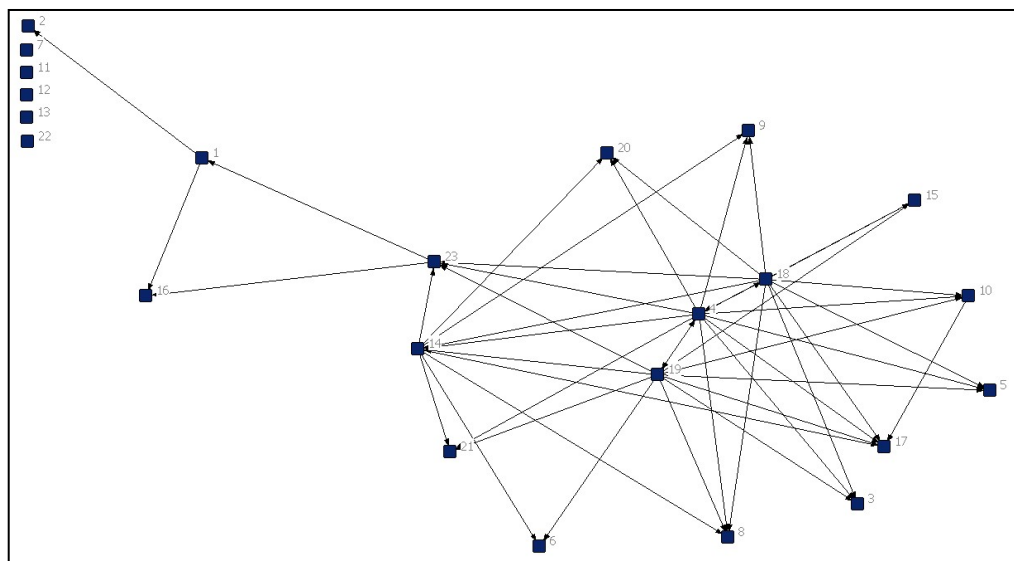
Survey responses facilitated mapping of the growth of the network and the spread of infection. Because it is a socio centric network, the relational ties of the members of the network were also mapped. Initially, frequencies of interaction were analysed and data presented through charts that provided a visual representation of participation. At the outset, it was not anticipated that reciprocal relationships would be present or that all participants would know each other. As the network grew, it became increasingly evident that more sophisticated tools were needed to explore the reciprocal relationships.

Data analysis was then conducted using UCINET 6. Reciprocal relationships are represented by nodes connected by two way arrows. The first events were analysed in terms of all

relationships, reciprocal and non-reciprocal. Wasserman and Faust³ suggest a relationship should be counted as being present only if it is reciprocal, hence in the last two analyses only the relationships with two way arrows were counted.

Each of the questions was taken as a separate relationship; therefore in this analysis six relationships were explored. Social network maps were created for each question asked of each group of network members and these maps have been used as the foundation for understanding how people within the network are linked together (see example below):

Table 1: Example of a two-way relationship map



Measures of a Network

For each network of relationships, density of ties, network centralisation and degree of centrality were calculated. *Density* is the basic measure of SNA which is measured by dividing the total number of relational ties by the total number of possible ties. *Network centralisation* shows the extent to which a network is centralised or is dominated by a few⁴ *Degree of centrality* on the other hand shows the number of direct relationships a person has with other people in the network. This shows popularity or a significant position in the network. *Betweenness* is a measure of a number of times an actor connects pairs of other actors who are otherwise not connected and *Closeness* is a measure of independence or efficiency; these measures were also calculated, as was *Ego network size* (number of people connected to the main person).

Once SNA mapping of the ALTC Viral network participants' relationships was completed, the results were then analysed to test the categories identified in Phase 1. The results of applying Social Network Analysis theory to the data collected during this project are in process of being written up with the intention of publication as a refereed journal article.

³ S. Wasserman & K. Faust, (1994). *Social network analysis: Methods and applications*. Cambridge: Cambridge University Press.

⁴ L. C. Freeman, (1979). Centrality in social networks: Conceptual clarification. *Social Networks*, 1, 215-239

Links to knowledge

The ALTC-Viral Leadership project addressed a critical gap between structured learning in the academic context of an e-learning course and the transfer of that knowledge to building leadership capacity within individual work contexts that included mentoring others, experimenting with new tools and creating a community of practice. As professional staff members are often the first 'port-of-call' for students they are in the front-line of student engagement. It is critical, therefore, that they have the leadership capacity to use the tools that students themselves use to communicate in a manner that models innovative practice in the educational setting. In encouraging student engagement beyond the classroom through the use of students' preferred communication modes, professional staff members have the opportunity to enhance students' learning experiences.

In bridging this critical gap between student expertise and staff knowledge, the project developed a new theoretical paradigm of viral leadership that balanced the need for a structured approach with the rapidly evolving nature of the subject matter of emerging technologies. Building a sustainable community of practice required an approach that developed skills and leadership capacity in a planned and ordered progression. The cascade model of skills development that formed part of the project design addressed this requirement, through delivery of the ALTC Viral Emerging Technologies courses in 2010 and 2011, and also provided a framework for collaboration with partner institutions. The cascade model fitted well with the project timeline, with clear interim goals and deliverables identified at each stage.

The cascade model provided rigour and structure, but only a rapid response, non-linear leadership model can provide the necessary flexibility needed in this swiftly evolving area. The project team therefore proposed a model that married a cascade approach with a 'viral' approach to sharing skills, ideas, knowledge and experience. Viral leadership is a new and emerging approach and was defined by this project as the proliferation of leadership skills and capacity via informal personal connections based on mutual interest and enthusiasm, possibly though not exclusively in the context of a scaffolded community. The viral approach spills across boundaries, brings in new participants who might not have been formally identified through the cascade model and is adaptable enough to allow and encourage responsiveness to rapid change.

The project has delivered a new conceptual model of leadership that will help the tertiary sector move beyond local experiments with emerging technologies to a wider engagement. The use of Social Network Analysis theory to evaluate key features of the networks established through project activities will lead to new insights on strengths of the viral approach to knowledge transfer. A clearer understanding of how viral leadership contributes to the development of a vibrant community of practice is an important contribution to our understanding of how to structure and support professional development in the use of emerging technologies. A model of a face-to-face and a digital community where members have different roles and have varying levels of input but where all can share and exchange ideas and skills is a robust model that can sustain the learning over time in a way that attendance at a workshop cannot.

The project has generated a number of findings that can be applied across the sector in institutions aiming to increase the capacity of their staff in emerging technologies. These findings have highlighted that it is important to build community in order to sustain staff learning in emerging technologies; that staff benefit from frequent, small-scale networking opportunities where they can share experiences about how they use technologies; that staff need time, space and 'permission to play' with online tools in order to properly understand how emerging technologies can complement face-to-face programs and that project networks are built around a variety of types of staff involvement - from the highly connected 'super-infectors' to staff that take advantage of learning about new tools as needed.

On a practical level, the project has delivered a community of leaders in Western Australia and a comprehensive series of resources that have been tested in different institutions and are transferable across the sector.

Success factors

The concept of a virus was highly popular and a successful metaphor for explaining how the project's model of leadership was accessible, different and applicable to staff work environments. The viral concept also matched the topic of emerging technologies very well and staff could easily see how they could get involved. The project title was quickly abbreviated (ALTC-Viral Project) to a working version that staff could talk about, understand and pass on and this meant that it was easy to gain early adoption and commitment from a range of staff – thus overcoming a challenge often reported by other ALTC projects of requiring a lengthy set-up time.

The ability for staff to become involved in the projects in a very flexible way was also a key success factor. Because the model of combining formal learning was matched with regular networking and with the way that professional staff best learn new skills, it meant that project participants could make a commitment to the project as appropriate to their needs, workloads and changing roles.

A series of criteria for networking sessions were developed that generated wide uptake and contributed to the success of these events. These criteria are that the sessions should be:

- short (90 minutes or less) rather than half, one or multiple day events;
- useful/practical rather than general or abstract with no experts in attendance (topics are suggested by network members. Panel guests offer their experiences but audience members have lots of opportunity for discussion);
- informal (morning tea is scheduled at the start of the event so that attendees can network prior to the panel discussion) as opposed to leaving discussion and networking at the end when participants often have to return to work; and
- regular (events should be scheduled every 6-8 weeks in order to become 'normalised' in the staff development calendar and to cover topics as identified by the project's community).

This type of networking and learning event does not offer the economies of scale that larger and longer events do (ie short, frequent events require the same level of administration, promotion, management, technical support and follow-up that larger events do) but the benefits outweigh this consideration.

A simple, streamlined but well planned online presence and community has been crucial to the success of the project. A free community website (groupsite.com) was supplemented by social media (mostly Twitter accounts and hashtags) to promote the project, manage the community, connect members and administer events including managing rsmps and hosting presentation files. Participants in the formal learning course also used a free wiki tool to experiment with emerging technologies, participate in online discussion, create pages and brainstorm their projects. Simple, fit-for-purpose online tools used wisely and for good reason meant that expensive, purpose-designed tools were unnecessary. It also meant that the project's online presence was launched very early in the project without waiting to have a project website 'built'.

Project management

This project took the unusual step of combining the roles of project leader and project manager. Dr Cluett took responsibility for both these roles and this structural arrangement has resulted in the project making rapid progress in its early stages and maintaining momentum throughout. In the opinion of the Project Management Committee, the structure was highly effective.

The project team met informally on a regular basis to discuss the progress of the project and the research outputs. The project team met with members of the Project Management

Committee, which included representatives from all three universities, twice annually to monitor progress and consult.

Communication with network members

Communication with network members has been refined over time as the ideal process for timing, locating and promoting networking events across three campuses became evident. An additional strategy to improve communication of project objectives in 2011 was to target 'middle-manager' and team leader type roles in project communication. Online dissemination and communication was further refined by deciding against using a project blog (as suggested in the proposal) and instead using an interactive HTML e-newsletter that could be archived on the website. This removed the burden on network members to regularly check the blog and instead allowed the project team to have more direct control over sending out news to members whilst also encouraging interaction through the related discussion boards.

The project proposal identified that we would run student focus groups and surveys to determine the needs, skills and expectations of the cohort. However in practice it has been a better approach to involve students in core project activities rather than treat them as a separate stakeholder group. As such the first networking event was a student discussion panel to highlight student engagement as the key driver of the project. Small groups of student 'experts' were invited to all other networking activities.

The Project Team quickly decided that the aim of the project was to spread the virus (of enthusiasm and curiosity in emerging technologies) throughout our partner institutions and that our energies should focus on spreading the virus rather than restricting access to information and activities. Therefore while project activities are still targeted at professional staff at ECU, UWA and Murdoch Universities we welcomed:

- any interested individual to join the online community and receive the e-newsletter (see above for examples of the groups and agencies who have joined the online community); and
- academic staff, staff from non-partner institutions, students and others were welcome to attend networking activities provided logistics (venue, catering, speakers) permitted and that they were members of the online community and that they registered for the event.

Implementation of project outcomes

The Viral Leadership project has delivered a model of viral leadership that can complement more traditional leadership models based on formal learning. The viral leadership model is well suited to building skills amongst professional staff in emerging technologies, so that they are better equipped to engage students through use of these technologies. In a rapidly changing field where students are the expert users, it is important to have a flexible, creative approach that captures the immediacy of 'viral infection' as a form of knowledge transfer for professional staff who work directly with students.

The model is readily transferrable to other institutions and contexts because it is very flexible and allows participants to contribute and engage at every level from minimal to highly engaged. It can work across institutional boundaries and flourishes if there are one or more super-infectors to establish the network and provide some opportunities for face-to-face contacts. A relatively small investment by institutions could ensure that the necessary staff and resources were available to establish networks. Increasingly universities are making appointments in digital literacy and social media, so these staff members may already be in place in some instances. In other contexts, there is often a 'super-infecter' who has developed the requisite skills through their own explorations and who could be remunerated for accepting the responsibility for managing a network.

The project has also developed an effective process for building a network within and across universities. It consists of three connected elements: the structured learning and professional development opportunity through the ALTC Viral course; the networking events; and the online discussion. This model has been effective in meeting the differing needs and timetables of participants. The combination of activities has helped maintain momentum and continuity. Again, the model is easily transferrable and adaptable.

Resources developed in the course of the Viral Leadership project are noted in the next section of the report.

Materials generated by the project

A range of resources are counted as outcomes of the ALTC-Viral Leadership project.

Publications

A refereed conference paper was presented to the EDUCAUSE conference in 2011. The abstract of the paper is included below and the full paper can be accessed at: <https://ocs.arcs.org.au/index.php/educause/ccae2011/paper/view/155%20ForceRecrawl:%200>

Abstract

The role of professional staff 'outside the classroom' is increasingly recognised by Australian universities as vital for student engagement, retention and satisfaction. Staff who deliver information, programs and services at all stages of the university calendar have a relationship with students very different from that of academic staff. This important connection between staff and students typically occurs face-to-face although there is a growing expectation that existing programs will be complemented by flexible online delivery and engagement, often involving emerging technologies that students feel comfortable and confident using. This paper introduces a new model of educational leadership that uses the 'viral' metaphor to explore how professional staff can acquire, apply and spread knowledge about emerging technologies. By departing from traditional leadership models which typically rely on a top-down, cascade style of knowledge transfer, the viral model enables leadership to develop within a network structure, where staff can lead change in ways that are not predetermined or even entirely predictable. The result is an organic, responsive, multidirectional leadership network. With funding from the Australian Learning & Teaching Council (ALTC), we are applying and testing this viral leadership model across three universities in Western Australia using a short structured course and ongoing scaffolded networking. Early findings suggest the emergence of a number of 'infector' types within the underlying network, to which we have assigned the following preliminary classifications: *super-infectors*, *regular infectors*, *niche infectors*, *edge infectors*, *surface infectors* and *formal infectors*. Our ongoing research focuses on describing and visualising the face-to-face and online connections between these types of infectors in order to better understand how universities can create a sustainable and flexible model of leadership in emerging technologies for professional staff.

Emerging Technologies projects

Applied emerging technologies projects by course participants:

- Aspire UWA Blog (Blogspot blog + Flickr slideshow + tag cloud);
- Currrie Hall Peer Mentoring (Wikispaces wiki + *inbuilt* discussion boards + Vokis);
- ECU Current Students (Facebook);
- ECU Library Staff Forum (Blackboard VLE);
- ECU Sports (Facebook);
- Elearning team Murdoch (Grou.ps social network + vodcasts);
- Facebook Guest Bloggers (Facebook);
- Murdoch University: Extend Your Online Unit (Blackboard VLE + folksonomy + Google Maps + RSS + Twitter + wiki = YouTube); and
- Indigenous Science Club (Moodle VLE + RSS + tag cloud + *inbuilt* blog + *inbuilt* discussion boards + *inbuilt* wiki)

Network and showcase presentation summaries

Summary notes from networking events and showcase forum presentations were compiled, covering the following topics:

- Student expectations of university technology;
- University social media policies;
- Viral Leadership. Context-setting for the digital age;
- Teaching the students we have;
- Managing an online community: behind the scenes;
- Why accessibility (incorporating accessibility in social media projects)?;
- How to build an online presence that blends and streams different aspects of life and work;
- Online and offline: how the two worlds collide;
- How active is interactive; connecting, communicating, or responding online?;
- Mobile technologies in universities;
- Managing and stimulating online student discussion;
- What to do if something goes wrong online;
- Handling the student digital divide;
- The future is here; it's just not evenly distributed in universities;
- Activism, human rights and social media;
- Digital Collaboration;
- From Conversation to Connectedness: Taking the Brand/Consumer Relationship to the Next Level;
- The internet has left the building;
- Blurred Roles and Audiences; and
- Effective integration of ICT resources in the modern primary school classroom to further develop teaching and learning.

Many of the above resources also led to further discussion and policy development within individual institutions on issues such as social media policies and managing public relations implications for universities when things go wrong online.

Dissemination

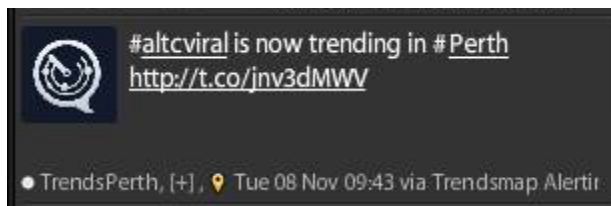
One of the major goals of the project has been to build a network of leaders, so dissemination started very early in this project. There were three main streams of dissemination activity; face-to-face, online and written.

Face-to-face dissemination

Every face-to-face event (more than 25 face-to-face networking events were held) was used as part of the dissemination strategy. Each event had a primary purpose (to promote the course/network, to share updates, to host PD and discussion etc) but also a secondary one – to recruit new network members. Early findings of the project were disseminated at conferences during the project's 2nd year.

Online dissemination

The project website is the main source of online communication and dissemination and was used to manage, distribute and follow-up the project e-newsletter. An email distribution list was managed specifically to promote events and all traffic was redirected back to our website (to register for events, view the speaker list, download the map etc). Facebook or similar social networks were avoided following feedback on the project proposal; instead the project manager chose groupsite to host our web presence. She has, however, also made extensive use of Twitter to engage new members and disseminate news and event invites. The #altcviral hashtag and @altcviral account were used widely to promote events, communicate with members and distribute news on micro-blogging site Twitter. The altcviral topic was rated one of the most popular topics in Australia during both of the annual showcase forum events (see images below)



Written dissemination

The project has generated a number of conference papers and developed resources that can be disseminated to interested parties.

Cluett, L. (2011) Spreading the emerging technology 'virus': how all staff can learn, apply and build community around using interactive tools. [Keynote Workshop](#) presented at the ALIA Access Library Technicians conference 12th - 16th September 2011. Perth

Cluett, L. (2011) Viral Leadership and emerging technologies. Presentation at TEDXWhadjuk. 26th March 2011

Cluett, L., Skene, J. & Pegrum, M. (2011) Infecting professional staff with the emerging technology 'virus': how the leadership game has changed. [Refereed paper](#) presented at the 2011 EDUCAUSE Conference, 4th - 6th April 2011. Sydney.

Evaluation

Because the project operated in two annual cycles, all year 1 evaluation can be considered formative. Summative evaluation occurred in year 2.

Formative Evaluation – methods and findings

Three types of evaluation were undertaken during year 1 - evaluation of individual events, anonymous surveying of formal learning component and the year 1 evaluation report from the expert evaluator.

Ongoing (cyclic) evaluation of project events

Every information session and networking event was evaluated using an online survey of participants who were asked about the topics covered (suitability, appropriateness, timeliness etc), the format of the event (discussion coverage, audience participation, suggestions for improvement etc) and the suitability of the logistics (venue, handouts, promotion etc).

Evaluation of each networking event occurred via an online form emailed to attendees within 4 days of the event.

Evaluation of 2010 emergent technologies course

The 2010 ALTC Viral emerging technologies course was evaluated using The University of Western Australia's institutional evaluation tool SPOT (Student Perceptions of Teaching). Results were overwhelmingly positive and were used to make some small changes to the year 2 course.

End of year 1 evaluation visit, meetings and report

Dr Meg Poore visited Western Australia at the end of the project's first year and conducted interviews with stakeholder groups from all partner institutions. The year 1 evaluation report is included at Appendix E and findings from this report were used to amend some networking and promotional activities in Year 2.

Summative evaluation

Evaluation of 2011 emergent technologies course

The SPOT survey was repeated for the 2011 course and the overwhelmingly positive results can be found at Appendix F.

End of project evaluation visit, meetings and report

Dr Meg Poore visited Western Australia at the end of the project's 2nd and final year and conducted interviews with stakeholder groups from all partner institutions. The year 2 evaluation report is included at Appendix G.

Recommendations

The key recommendation from this project is that staff development around learning new technologies should be deconstructed so that knowledge about online tools can be transmitted using the viral model..

Institutions should be encouraged to move away from formal learning courses that may take many hours or days to complete and are typically costly to run resulting in attendance by individual/representative staff rather than groups. Learning and leadership around emerging technologies achieves better results when opportunities for staff upskilling are based around frequent, short (less than 90 minutes long), informal sessions that include a networking component and online support or follow-up.

Further recommendations are that:

- leadership in emerging technologies should not rely on job title or description and those who display sustained curiosity and enthusiasm for applying new online tools should be recognised as leaders in institutional change around the use of technology for student engagement; and
- middle-management need to be engaged as 'surface infectors' active in promoting the network to their staff and supporting the leadership demonstrated by more junior staff in spreading the emerging technologies' virus.

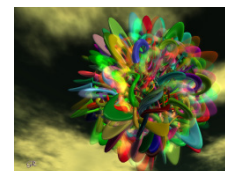
Conclusion

The 'viral' model of leadership makes a genuine contribution to our understanding of how universities initiate and manage change around emerging technologies and social media. This project has developed the viral model by building on strong connections to established practices such as story-telling and personal networks, widely accepted models of companionate, cascade and distributed leadership and newer ideas of 'reverse mentoring' and online networking. The concept and language used by the viral project (including terms such as infection, incubation, resistance, quarantine) has allowed discussions of leadership to be held informally and across institutions and professional staff working at all levels.

The methodology developed in the course of the project of applying Social Network Analysis in educational leadership contexts will be refined and further developed for publications that are in process. The new theoretical paradigm of viral leadership captures the rapidly evolving nature of the subject matter of emerging technologies and the practical application has delivered both a lively community of practice and resources that have been widely disseminated. The ALTC-Viral Leadership project has demonstrably met all its objectives.

Appendices

Appendix A – course application form



ALTC-Viral Emerging Technology Course Application Form

Applicants should address the following questions with short answers (max 250 words each).

- What experience do you already have (if any) in using emergent technologies*?

- How *might* you use emergent technologies* to engage students?

- How might you 'pass on' what you learn about emergent technologies to other staff?

*Remember – you don't have to have existing knowledge of emerging technologies. We are just interested in your background in this area and any ideas you may be pondering (or have seen elsewhere) about using technology to engage your students. More information on emergent technologies can be found at: <http://e-language.wikispaces.com/emergent-technologies>

An online version of this form is available via the project website www.altc-viral.groupsite.com. Completed forms should be submitted by 30th June 2010 (either email lisa.cluett@uwa.edu.au or submit the form online)



Graduate School of Education

ALTC
Emergent Technologies in
Education

Professional Development Course

July – October 2010

Perth

Course Outline

Co-ordinator: Dr. Mark A. Pegrum

Course details

PD Course: [ALTC] Emergent Technologies

Graduate School of Education
University of Western Australia
2006-2010

Authorship

Course developed by M.A. Pegrum, 2006-10
Outline written by M.A. Pegrum, 2006-10

Copyright notice

All material reproduced herein has been copied in accordance with and pursuant to a statutory licence administered by Copyright Agency Limited (CAL), granted to the University of Western Australia pursuant to Part VB of the Copyright Act 1968 (Cth).

Copying of this material by students, except for fair dealing purposes under the Copyright Act, is prohibited. For the purposes of this fair dealing exception, students should be aware that the rule allowing copying, for fair dealing purposes, of 10% of the work, or one chapter/article, applies to the original work from which the excerpt in this course material was taken, and not to the course material itself.

Overview

Welcome to the *PD Course – Emergent Technologies in Education*.

Introduction

This course provides an overview of the rapidly changing forms and uses of digital technologies, especially web 2.0 and the social media which build on it, in the context of higher education. In recent years, e-learning and, more broadly, digital technologies have come to prominence in higher education for a variety of reasons:

- ◆ their compatibility with current theories of teaching and learning, including social constructivism and associated active, collaborative, problem-solving pedagogies;
- ◆ a proliferation of usable, mostly interactive technology (especially web 2.0 or 'social media' tools such as blogs, wikis, folksonomies, RSS, podcasting, virtual worlds, etc);
- ◆ increasingly experienced academic and professional staff who are willing to move away from tried-and-tested methods which work in face-to-face situations and experiment with the possibilities offered by digital technologies;
- ◆ a growing body of critical literature based in theory as well as empirical research, from which a consensus on best practices is beginning to emerge.

This course will give you the chance to explore this exciting new area, find out about the latest developments, consider how to integrate digital technologies into your own professional context, and discuss your views and opinions on the future development of the area. You will also have plenty of opportunity to address practical issues in the process of gaining hands-on experience of digital tools.

Content

The course is oriented around the following **Themes** sessions which build progressively across a series of tutorials:

- ◆ From Novelty to Normalisation
- ◆ Online Learning
- ◆ Digital Literacies
- ◆ Sociopolitical Issues
- ◆ Course Review

There are four accompanying **Tools** sessions focusing in more detail on specific technologies:

- ◆ Digital Technologies
- ◆ CMC Technologies
- ◆ Networking Technologies
- ◆ Cutting Edge Technologies

The first four tutorials conclude with a hands-on *workshop* in a computer lab, where you will receive guidance as you explore relevant technologies and begin work on your individual course project.

In the last tutorial, the *Tools* session and guided workshop are replaced by student presentations.

While grounded in relevant theory and pedagogy at all times, the course will have a strong practical component, as reflected in:

- ❖ class discussions of practical applications of digital technologies;
- ❖ the workshops where you can experiment with various digital tools;
- ❖ a class wiki where you will have dedicated pages on which to record your thoughts, engage in discussion, and receive feedback on your project;
- ❖ the building of online resources as part of your project.

Overarching Aim

The overarching aim of this course is for you to broaden and deepen your understanding of digital technologies and their applications in the context of higher education. You will participate in tutorials and extensive class discussions, while gaining practical experience in the workshops and through the building and running of the class wiki. You should be able to demonstrate your understanding of how to use the available technologies in a pedagogically and contextually appropriate manner in your project.

General Learning Outcomes

On completion of this course, you should:

- ①① be familiar with **key knowledge, theories and research about e-learning and digital technologies**;
- ①② be familiar with **key knowledge, theories and research about web 2.0 and social media**;
- ①③ be familiar with **key educational theories and frameworks** which are relevant to e-learning and/or web 2.0;
- ①④ be familiar with **key sociopolitical commentary** on and critiques of e-learning, web 2.0, and relevant educational theories;
- ①⑤ be familiar with **key terminology** referring to e-learning, digital technologies, web 2.0, social media, relevant educational theories, and relevant sociopolitical commentary;
- ①⑥ be familiar with **key theorists and researchers** in the areas of e-learning, digital technologies, web 2.0 and social media, as well as relevant areas of education and sociopolitical commentary;
- ①⑦ be familiar with **current research directions** in e-learning, digital technologies, web 2.0 and social media, as well as relevant areas of education and sociopolitical commentary;
- ①⑧ have a **theoretical familiarity with a range of key examples of e-learning/digital technologies**;
- ①⑨ have a **practical familiarity with several key examples of e-learning/digital technologies** which may be of relevance to your own professional context;
- ①⑩ have explored ways in which e-learning and digital technologies may support the learning processes, learning outcomes and/or engagement of students and/or other target audience(s);
- ①⑪ be able to talk and write confidently about theories and research relevant to the topics introduced in this course;
- ①⑫ have further developed your own academic literacy and learning skills by improving your ability:
 - ❖ to *listen* in a balanced and reflective way to new information and opinions presented by critics, lecturers and peers;

- ❖ to *read* scholarly texts selectively, comparing and contrasting what you read with other information and your prior knowledge and experience;
 - ❖ to *speak* confidently, using terminology current in the literature on the topics studied in the course;
 - ❖ to *write* in clear, concise ways, *analysing* what you read and hear, and *synthesising* information from different sources to present your own considered points of view on topics you investigate;
 - ❖ to assess your own academic skills, development and general proficiency levels;
- ①③ have further developed your multiliteracies skills by improving your ability:
- ❖ to *process* multimedia and multimodal texts, especially online;
 - ❖ to *express* yourself through multiple media and multimodally, especially online.

Specific learning outcomes listed for each topic described below will help you to work towards the broad learning outcomes outlined above.

Please note that your achievement of the outcomes, both general and specific, depends on the effort you put into the following areas:

- 1) carefully reading/viewing the majority of key references and at least some optional references;
- 2) attending class regularly;
- 3) participating fully in face-to-face discussions;
- 4) participating fully in the guided workshops;
- 5) completing the work required in the online sessions;
- 6) completing all set tasks, whether or not directly assessed.

Formative feedback will be provided as you progress through the course.

Please feel free to seek clarification on any aspect of the course, including the learning outcomes, from the lecturer at any time.

Audience

The course is designed for professional staff – including, but not limited to, administrators, librarians, student services staff, academic support staff and IT staff – who regularly interact with students, and who wish to learn more about e-learning and digital technologies; to understand appropriate teaching and learning frameworks to use with digital technologies; to begin making greater use of new technologies in ways relevant to their professional contexts; and to engage in the exchange of practical ideas about the field. It is relevant to those who wish to deliver courses or materials online or in blended mode, or to use digital technologies in a supporting role, but also to leaders and managers whose staff are in the process of integrating digital tools into educational contexts.

Preliminary Requirements

Participants are not required to have any prior knowledge or experience of e-learning, digital technologies, web 2.0, social media or web design.

Participants will require:

- ◆ hardware:

- ❖ access to a desktop or laptop computer with a good internet (ideally broadband) connection [note that you will be able to use the GSE computers during the workshop sessions and in your own time];

- ◆ software:

- ❖ a recent web browser (e.g., Firefox 3, Flock 2, Internet Explorer 8, Opera 10, or Safari 5 for Macs; please note that Netscape Navigator is no longer being developed or supported, but it can still be downloaded in Version 9) for viewing and editing web documents;

- ❖ Adobe Reader 9 for viewing pdf files.

- ◆ other:

- ❖ a current email address;

- ❖ a student/staff/visitor number and PHEME password to log into *UWA Course Materials Online*.

Depending on which technologies you choose to explore, further hardware (e.g., webcam, mobile phone, headset) and/or software (e.g., audio players, video players, RSS aggregators) may be required. As far as possible, hardware and software requirements will be met in the computer lab.

Delivery Mode

The course is offered in blended mode. It consists of five fortnightly face-to-face meetings (the first four incorporating a computer lab session) as well as ongoing reporting and interaction on the class wiki.

Online Resource 1: Class Wiki

<http://altc-emergent-technologies.wikispaces.com/>

During the course, the class will collaboratively construct a wiki where each participant will build a series of pages on which to record reflections on material covered, and to plan the development of the individual course project. You will also receive feedback from the lecturer and from each other via the discussion board mechanism on the wiki.

This wiki is a private area accessible only by invitation. You will receive an email giving you details of how to register.

Online Resource 2: E-language Resource Wiki

<http://e-language.wikispaces.com/>

Because of the impossibility of keeping printed documents completely up to date with the rapid changes in e-learning and digital technologies, and because of the ease of linking to useful websites and exemplars, this course is supported by the **E-language Resource Wiki**. You should familiarise yourself with this wiki as it will be the base for our practical explorations of web 2.0 and social media.

The **E-learning resources** section gives an overview of web 1.0, 2.0 and 3.0 in education. Here, you will find simple introductory explanations and illustrations of key technologies, links to good educational examples of their use, and links to sites where you can begin setting up your own digital resources. There is also a tag cloud – essentially, an index – of useful references on the web. The blog and Twitter pages contain the latest e-learning and digital technologies news taken from blogs and Twitter feeds belonging to many of the best-known commentators in the field.

The **E-learning training** section contains links to a description of this course as well as examples of projects completed by students on past courses; a Moodle VLE which you may choose to try out during the course; and the E-language blog, which contains a summary of key themes from recent e-learning conferences and workshops.

The final section, entitled **Mark Pegrum**, contains links to the lecturer's biodata, research, current projects and contact details.

Material on the **E-language Resource Wiki** is referred to throughout this document with pointers such as:

- ☐ See also [E-language Resource Wiki](#) ► [Web 2.0](#)
- ☐ See also [E-language TagCloud](#) ► Education/pedagogy

Each of the underlined terms is a hyperlink. In the case of the second entry above, the words “education” and “pedagogy” are items of relevance in the tag cloud.

Online Resource 3: Class Twitter Feed

<http://twitter.com/OzMark17>

You should visit the Twitter microblogging site and, if you haven't already done so, set up a profile. During the course, you should sign up to follow the lecturer, whose Twitter feed can be found at the url above, for daily updates on the latest developments relevant to e-learning and digital technologies. You should feel free to reply and to make your own postings about issues relevant to the course.

References

You are strongly encouraged to consult at least some of the **Key References** prescribed for each *Themes* session, while you may also wish to consult some of the **Optional References** for the *Themes* and *Tools* sessions, depending on your interests and chosen project.

References consist of a mixture of traditional written texts in digital form (such as book chapters, online journal articles, or publicly available pdf and html documents) along with online slideshows, interactive websites, blogs, wikis, audio files, podcasts, videos, vodcasts, and machinima movies. Note that in this course outline, the terms 'podcast' and 'vodcast' are used in the looser but increasingly common sense of 'audio file' or 'video', and are not necessarily syndicated in every case.

Many of the references are available online, at the urls given. Most of the remaining references are accessible through the UWA Course Materials Online system at <http://cmo.library.uwa.edu.au/rms/> under *Education > E-learning*. Items which can be accessed in this way are followed by the word "[Link]". Some book references, marked EDFAA, are or will shortly be available in hard copy in the EDFAA library, while a few others are in the HSS Library. Unlike digital materials, there is an unavoidable delay in obtaining traditional hard copy books. As soon as possible, excerpts from many of these texts will also be digitised by the Library and included in the CMO list.

Broken Links

The world wide web continues to evolve at an incredible speed, with sites appearing, moving location and disappearing on a minute-by-minute basis. It is almost inevitable that by the end of any given course, some web links – in both printed and online documents – will have become broken. If you spot links that don't work, please inform the lecturer, who may be able to supply an alternative link and who will repair or remove dead links.

Assessment

Students are expected to contribute to ongoing class discussions; contribute to the building of the class wiki; participate in workshop activities; and give a short presentation in the final session. These activities are indirectly assessed through the project.

The project requires you to create an e-learning/digital resource, normally at a url linked to your class wiki pages, accompanied by a statement of rationale explaining its design and describing how it could be integrated into an educational or professional context with which you are familiar.

Course Co-ordinator Contact Details

Name:	Dr Mark A. Pegrum
Address:	Room 2.15 Graduate School of Education University of Western Australia 35 Stirling Highway Crawley 6009 Western Australia
E-mail:	mark.pegrum@uwa.edu.au
Office telephone:	+61 (0)8 6488 3985
Other channels:	http://e-language.wikispaces.com/contact



Appendix C – Reference Group Membership 2011

MEMBERS OF THE REFERENCE GROUP

Project Sponsor and Pro Vice-Chancellor (Education) at UWA - W/Professor Jane Long

Director Library Services at Murdoch University – Liz Burke

Head, Centre for Learning and Development at ECU - Professor Susan Stoney

Project Leader - Dr Lisa Cluett (UWA) (Executive Officer)

Project Team Member - Dr Judy Skene (UWA) (Chair)

Project Team Member - Dr Mark Pegrum (UWA)

Expert Evaluator - Dr Meg Poore (University of Canberra)

Project Mentor (WA) - Sue Waters (Edublogger)

Project Mentor (International) - Dr Stephen Bax (Canterbury Christ Church University, UK)

Note – Professor Jan Thomas (Deputy Vice Chancellor – Academic and ALTC Viral Reference Group member) left Murdoch University in mid-2010 and therefore ended her formal involvement with this project. We thanked her for her support and in particular for her encouragement in preparing the grant proposal. Ms Liz Burke took over Professor Thomas's role as Murdoch University's representative on the Reference Group.

Infecting professional staff with the emerging technology ‘virus’: how the leadership game has changed

Lisa Cluett, Judy Skene and Mark Pegrum

ABSTRACT

The role of professional staff ‘outside the classroom’ is increasingly recognised by Australian universities as vital for student engagement, retention and satisfaction. Staff who deliver information, programs and services at all stages of the university calendar have a relationship with students very different from that of academic staff. This important connection between staff and students typically occurs face-to-face although there is a growing expectation that existing programs will be complemented by flexible online delivery and engagement, often involving emerging technologies that students feel comfortable and confident using. This paper introduces a new model of educational leadership that uses the ‘viral’ metaphor to explore how professional staff can acquire, apply and spread knowledge about emerging technologies. By departing from traditional leadership models which typically rely on a top-down, cascade style of knowledge transfer, the viral model enables leadership to develop within a network structure, where staff can lead change in ways that are not predetermined or even entirely predictable. The result is an organic, responsive, multidirectional leadership network. With funding from the Australian Learning & Teaching Council (ALTC), we are applying and testing this viral leadership model across three universities in Western Australia using a short structured course and ongoing scaffolded networking. Early findings suggest the emergence of a number of ‘infector’ types within the underlying network, to which we have assigned the following preliminary classifications: *super-infectors*, *regular infectors*, *niche infectors*, *edge infectors*, *surface infectors* and *formal infectors*. Our ongoing research focuses on describing and visualising the face-to-face and online connections between these types of infectors in order to better understand how universities can create a sustainable and flexible model of leadership in emerging technologies for professional staff.

INTRODUCTION

The use of technologies to enhance the student learning experience is in some ways neither new nor revolutionary. Students have long used email, mobile phones and online learning environments to communicate with staff and their peers, to administer various aspects of their university lives, and to manage their course content. However, the growing educational use of web 2.0 tools (which allow users to interact with each other as well as create and contribute content) has generated much discussion about how students learn and work together, the skills they need in order to engage with the tools effectively, and the extent to which this engagement contributes to student learning and the quality of the students’ experience (Krause, 2007; Tinto, 1993).

Our research asserts that the role of professional staff is as important as that of academic teaching staff in leading change in the area of student engagement at universities. Enhancing student engagement with their learning community outside the classroom has a positive impact on learning outcomes for students, and collaboration between academic and professional staff results in measurable improvement of the learning environment (Light, 2001, p.8). A challenge for professional staff exists in the lack of continuity between, on the one hand, developing knowledge and skills in a structured professional development course and, on the other hand, implementing these in the workplace as well as building on them and spreading their use among colleagues. Our project aims to overcome this challenge by implementing a viral model which can complement a more traditional cascade model of knowledge and skills dissemination. This viral model allows leadership to develop within a network structure, where professional staff can lead change in ways that are not predetermined or even entirely predictable. This can in turn lead to ongoing capacity building for professional staff.

the contribution made by libraries, student guilds and societies, transition programs and academic skills units is integral to the way students engage with and connect to their institutions. Staff members in these 'non-teaching' areas recognise the complex issue of leadership as they are located at the interface between student and institution. Marshall (2006) reminds us that 'efforts to develop leadership capacity within an organisation need to focus on all members of the organisation' (p.4). In this project we focus on the leadership role professional staff can take in applying emerging technologies, particularly web 2.0 tools, to engage students outside the classroom.

Our project, entitled Professional Staff as Leaders in Enhancing Student Engagement: Building Capacity in Emerging Technologies Through Cascade and Viral Leadership, has been funded by the ALTC from 2010-2012. It is referred to in this paper as the ALTC Viral Project. It is jointly run by Lisa Cluett and Judy Skene, professional staff from Student Services at the University of Western Australia (UWA), who bring extensive experience with staff development and training, and Mark Pegrum, an assistant professor in the Faculty of Education at UWA, who contributes expertise in emerging technologies. This paper outlines the background and justification for the project, explains the concept of viral leadership, describes how the project is being built, highlights our initial explorations and findings, and provides an indication of future research.

Background and justification

Many students are already reasonably comfortable using sophisticated web 2.0 tools in social settings and are developing advanced skills in interacting online (Cluett & Skene, 2007; Skene, Cluett & Hogan, 2007). The pervasiveness of students' online presence now raises expectations of what universities should provide to students in terms of online programs, advice, support and connections with peers. Students themselves may feel comfortable with technology for social and entertainment purposes, yet they often need guidance on how to apply these same tools in an educational setting (Cluett, 2010; Pegrum, 2009). Universities have a responsibility to enter the interactive online domain strategically by empowering professional staff to lead their organisations in the application of these tools and to develop what Anderson and Johnson (2006) call 'a culture of enthusiasm for change' around the use of technology. It is critical, therefore, that professional staff have the capacity to use new technologies in a way that reflects students' own use of these tools, as well as modelling innovative practice in an educational context (Cluett, 2009; Cluett & Skene, 2010). There is little doubt that in encouraging student engagement beyond the classroom through the use of students' preferred communication modes, professional staff can help enhance students' learning experiences.

The complexity of the issues around technology uptake and student engagement means that far more is required than professional development courses for staff. To create a culture that is receptive to change and open to exploration, we must certainly offer training in the use of web 2.0 and other emerging technologies, including a solid pedagogical framework and the capacity to adapt tools to local/institutional needs. However, in the interests of sustainability in a rapidly growing and changing technological environment, we must also enable staff to adopt leadership roles in implementing, building on and spreading the use of such tools. We believe that to do this successfully, a new model of leadership is required, one that is matched to the immediacy of emerging technologies and targeted to the needs of professional staff.

VIRAL LEADERSHIP

In universities, leadership is traditionally hierarchical, training generally follows a cascade model of knowledge and skills dissemination, and professional staff – especially at lower levels – are usually not viewed as leaders or as particularly influential. While acknowledged leaders in universities may not always be enthusiastic adopters of new technologies and may be unlikely to receive or disseminate knowledge through digital networks, our students increasingly are. This gap is the space in which we are working, as we promote an alternative model of leadership, focused on but also partly enabled by emerging technologies, to help professional staff gain greater influence within their institutions. On the one hand, this means they can engage more closely with students by hooking into but also shaping the latter's educational uses of new technologies. On the other

hand, this means their influence may spread more broadly, including filtering upwards through more traditional management structures, as they promote understanding of the potential of new technologies. We have termed this kind of leadership 'viral'.

Viral leadership is a relatively new concept, though relevant discussions are found in a number of areas. In business, Watkins (2007) has written about 'infectious leadership' and organisational change, and Herrero (2008) has discussed viral change based on 'networks of influence which are often below the radar of the organisational chart' (cf. Templeman, n.d.). There is emerging interest in such models in education, too. For example, Eveline's 2004 *Ivory Basement Leadership* examines 'urgent questions of power, leadership and change agency' (p.2) in Australia's universities, highlighting a model of 'companionate' leadership that is based on networking and collaboration (p.35). There have also been previous leadership projects funded by the ALTC (formerly the Carrick Institute) which have developed distributive leadership models.⁵ Relevant educational research is currently underway on personal learning networks, or PLNs, which are trusted networks of teachers and experts, colleagues and peers, tools and resources, through which ideas and information can flow and where collective intelligence can emerge (Pegrum, 2010). PLNs are generally viewed as an alternative or a complement to more formal learning structures.

More broadly, recent years have seen the development of 'network theory', or 'the science of networks', which focuses on the increasing salience of network structures in human interaction (Barabási, 2003; Buchanan, 2002; Watts, 2003; for an overview, see Pegrum, 2010). Informed by disciplines as diverse as physics, biology, mathematics and sociology, network theory models, amongst other things, the viral spread of ideas and information within networks, and highlights the role within those networks of key figures – notably referred to by Gladwell (2002) as 'connectors' and by Barabási (2003) as 'hubs' – who may have a particularly influential, or indeed leading, role. While there is some debate over the accuracy and viability of models of viral spread (Thompson, 2008), such models are currently attracting considerable interest.

Drawing on other recent studies and projects, then, we are attempting to further develop and consolidate a viral notion of leadership. We are not working with a biological model of viral spread, but rather with a social model. Our main aim is to describe an alternative leadership structure in terms that make sense to professional (and academic) staff, and ultimately help them conceptualise and shape this structure in such a way as to successfully build leadership capacity. Our current working definition, which is subject to ongoing review and remodelling as our project progresses, is as follows: *viral leadership involves the promotion of ideas, knowledge and skills on an ad hoc basis via informal personal connections based on mutual interest and enthusiasm, possibly though not exclusively in the context of a scaffolded network*. Unlike the kind of leadership associated with more formal training and a cascade model of knowledge and skills dissemination, it can be seen that the viral model builds on the interconnected links between participants, with ideas, knowledge and skills spreading 'like a virus' through the network.

In order to promote this alternative vision of viral leadership, and build a platform for its realisation, the ALTC Viral Project combines two key elements:

1. *A formal training course* in the applications of emerging technologies, delivered to two initial cohorts of professional staff. As in a more traditional cascade model, these staff can, as appropriate, conduct further large- or small-group training for colleagues in their own organisations and/or areas.
2. *A scaffolded network* in which course participants pass on ideas, knowledge and skills to colleagues on an ad hoc basis driven by needs, interests and connections. As they do so, they may recruit new members into the growing network consisting of past course members and

⁵ See, for example, University of Wollongong, University of Tasmania & Flinders University's *Distributive leadership for learning and teaching: Developing the faculty scholar model*, and the published work of Lefoe, Smigiel & Parrish (2007).

interested staff who, although they may not have attended a course, have some knowledge of or enthusiasm for learning about applications of emerging technologies.

The formal course, while quite a traditional training format, is being used in this case to seed the scaffolded network with potential leaders in emerging technologies. While these staff can then interact with each other within the network, online or offline, in practice it may not necessarily be effective to simply leave viral leadership to random connections and conscientious individuals. As Hayes (2008) suggests, 'viruses need help to spread'. Our project therefore scaffolds the viral model with a number of supporting elements including networking events, supporting resources and materials, and peer mentoring. In a sense, by making the networking process less random, we are attempting to strengthen the flow of ideas, knowledge and skills pertaining to new technologies.

While such an approach appears to be in line with emerging research, questions remain about its practicality. Are networks sufficiently robust to enable leadership to develop amongst individuals who might not normally see themselves as leaders, and to allow them to exert influence even on a small scale? Can individuals who establish a reputation within a network transfer their influence outside the network to the rest of their institution, or even beyond their institution? Are networks sustainable enough to influence change over time in institutions like universities? These are areas we will investigate as our project continues to unfold.

THE NATURE OF THE VIRUS

Our project spans three Western Australian universities – Edith Cowan University (ECU), Murdoch University, and UWA, the last of these being the lead institution. Each institution is notably different from the next in terms of student cohort, size, history, and staff structure. As noted above, our emphasis is on professional rather than academic staff. However, the structure of our project is flexible enough to 'cross-infect' academics also experimenting with web 2.0, which will have widespread benefits across partner institutions. An additional feature is the active involvement of students as leaders and teachers. Students are invited to present their perspectives on web 2.0 tools at group events and forums, and can even serve as mentors to staff learning about new technologies.

Incubating the virus – the project to date

There is a 3-tiered model of staff involvement in the ALTC Viral Project, as seen in Figure 1. At its core is a cohort of 20 professional staff who undertook a 5-session formal learning course entitled *ALTC Emergent Technologies in Education* (<http://e-language.wikispaces.com/emergent-technologies>) in July-October 2010. (This cohort will eventually be joined by the cohort from the second course, to be staged in 2011). Entry to the course was via a competitive application process, although places were reserved for each institution (6 for ECU, 6 for Murdoch and 8 for UWA). Participants were chosen for their role and interest in student engagement, and their potential to 'infect' other staff with a curiosity and enthusiasm for emerging technologies. Course costs (AUD \$1,000 per participant) were met with ALTC project funds and every effort was made to create a sense of community, sharing and support amongst peers who might not have met prior to the course.

The rationale for beginning our project with the *Emergent Technologies in Education* course was to provide a formal learning component – specifically to 'broaden and deepen understanding of digital technologies and their applications in the context of higher education' – and to create a core of enthused, informed and receptive members for the growing network. Based on a program originally designed for the UWA Library (Pegrum & Kiel, 2011 forthcoming), the course is built around a number of thematic sessions entitled 'From Novelty to Normalisation', 'Online Learning', 'Digital Literacies' and 'Sociopolitical Issues', with accompanying tools sessions focusing on technologies ranging from discussion boards and blogs through social networking, folksonomies and RSS to podcasting, vodcasting and virtual worlds. Participants engage in class discussions about the practical applications of digital technologies; attend computer lab sessions to experiment with the digital tools in a hands-on way; collaboratively build an online class wiki with dedicated pages for

reflection, discussion and project development; and build online resources for an assessed project. Participants who wish to do so may treat the course as a basis for a cascade model of leadership, using the materials to formally present elements of the course to groups of their colleagues. This option has been little used to date.

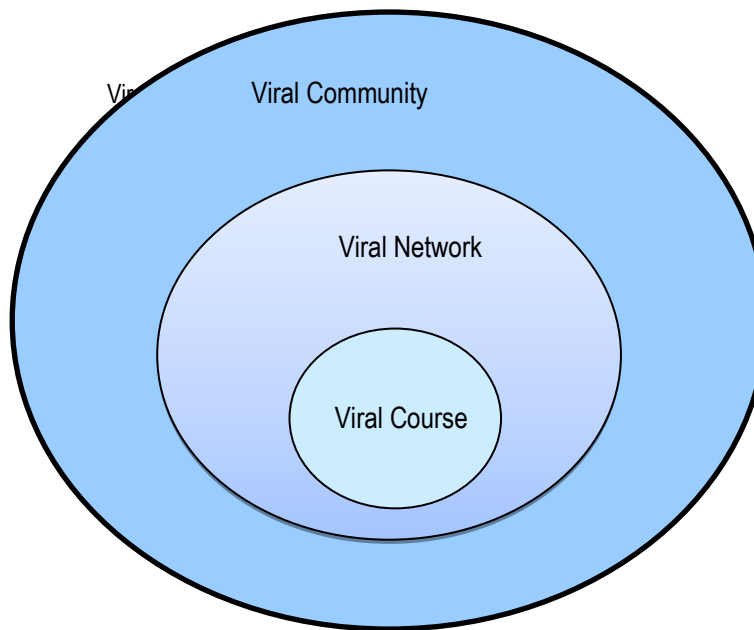


Figure 1: The **ALTC Viral Project** is made up of three overlapping forms of staff involvement: the annual *Emergent Technologies in Education* course for 20 participants; the *Viral Network*, open to all professional staff in partner institutions; and the broader *Viral Community*, open to anyone who wishes to follow and discuss the project online.

The *Viral Network* (<http://www.altc-viral.groupsie.com>) is a broader tier which, in addition to course participants, welcomes any professional staff from partner institutions who are interested in online student engagement and networking with other staff. The interactions within this tier are scaffolded through face-to-face events involving guest speakers and discussion panels (such as a student panel on new technologies, and a social media policy debate in 2010); an annual mini-conference; targeted training sessions; peer mentoring; special interest groups; project brainstorming; and resource development. All of these are also supported online. To date, staff who have joined this network without taking the course were generally already keen on emerging technologies, and some were already working to engage students online. They preferred to hone and develop their skills through networking rather than a course.

The rationale for setting up this network was a belief that formal learning in emerging technologies is rarely sufficient to initiate long-term organisational change. Rather, the combination of some formal learning with the parallel development of a network (in effect, a PLN or, more exactly, a web of interwoven PLNs) can result in increased awareness, collaboration and normalisation of technologies (Bax, 2003) across all levels of an organisation. Most importantly, it was in the scaffolded *Viral Network* that we hoped to see the development of viral leadership capacity. Having effectively seeded the network with professional staff whose capacity in emerging technologies was largely developed through the first formal course, we have indeed witnessed the beginnings of such leadership in this network, with a number of members – including but not limited to past course participants – enthusiastically spreading ideas, knowledge and skills as they teach and learn from each other. New leaders are emerging through, or entering into, the network, resulting in a shift towards what we hope will be a critical mass of leaders in emerging technologies. It is hoped that the three ALTC Project leaders may be required to provide less scaffolding as the network becomes self-sustaining: that is, with more of its members contributing to shaping their own

interactive environment as they individually and collectively apply their expertise to maintaining knowledge and skills, developing and spreading ideas, and building new competencies according to their needs and wishes.

The *Viral Community* (like the *Viral Network*, accessible at <http://www.altc-viral.groupsie.com>) is an even broader tier which, in addition to course participants and network members, encompasses any university staff with an interest in the project or the events organised within it, including academic staff and staff outside the partner institutions. These staff can join the online community and create a profile, connect with others, and share goals around emerging technologies. A monthly electronic newsletter is sent to all community members, who are then able to participate in a related online discussion.

The rationale for establishing a wider group of this nature was to open up further networking possibilities, creating the opportunity for ideas, knowledge and skills to spread virally in multiple directions – and, eventually, perhaps even beyond the three tiers which constitute our project. By December 2010, the ALTC Viral Project (encompassing all three tiers) had a total of 114 members.

Monitoring the virus – how does a network grow?

A viral leadership model implicitly recognises the organic and multidirectional spread of ideas, knowledge and skills through a network. Our research is currently focused on how such a network grows through both online and face-to-face ‘infection’. It appears that members may demonstrate viral leadership in two distinct, if frequently complementary, ways. Firstly, they may spread new ideas, generally to existing members, in what is often an iterative process of idea development across the network; this is important in an area of rapid change – and, more broadly, an *era* of rapid change, where success is dependent on ‘continually refresh[ing] our stocks of knowledge by participating in relevant “flows” of knowledge – interactions that create knowledge or transfer it across individuals’ (Hagel, Seely Brown & Davison, 2010, p.11). Secondly, members may spread the ‘bug’ of enthusiasm for new technologies in general, which is important to sustaining flows among existing network members but is equally important in attracting new staff to the network.

Early observations of network development, conducted during the first year of the project, have allowed us to create a tentative set of categories to describe the characteristic interactions of network members around new technologies. These categories will be tested and mapped in the second year of the project. For the time being, they are proposed as descriptive rather than analytical constructs.

- *Super-infectors*, much like Gladwell’s ‘connectors’ or Barabási’s ‘hubs’, are key points of contact for other network members, and easily see connections between work areas, ideas and projects. They typically have established relationships with other staff in the network, frequently spread ideas virally through the network, often infect new staff (thus recruiting them to the network), and are vocal in their support of the network. They attend and assist with networking events and are regular contributors to the online community.
- *Regular infectors* make up the bulk of members and are primarily seeking to build their own knowledge and skills, but also help spread ideas virally within the network, and infect a moderate number of new staff. They attend networking events and participate in the online community.
- *Niche infectors* participate in the network for particular professional reasons. They seek specific types of connections and gather or spread specific types of ideas. They infect and/or may be infected by staff they see as relevant to their niche and typically make such links quickly, but they are less likely to make connections with network members outside their niche area of interest. They attend face-to-face events directly relevant to their area of interest, and participate in the online community with the same focus.

- *Edge infectors* have a peripheral relationship with the network in that they are infected by other staff and take on board ideas from the network, but are unlikely to spread ideas further or to infect new staff. They may have a casual interest in network activities and willingly participate for their own development. They may attend some events if infected by another member and may join the online community, but tend to have little ongoing involvement.
- *Surface infectors* have a twofold relationship with the network by being strong advocates and infecting new staff, whilst only having minimal participation themselves. They rarely attend networking activities and are unlikely to join the online community.
- *Formal infectors* participate in the network as a result of their official role or job title. They may be senior members of staff with direct control or responsibility for staff development, professional training or emerging technologies, and are often active in promoting the network. They are fairly likely to attend face-to-face networking events and participate in the online community.

These are broad categories, describing tendencies rather than fixed characteristics, and are not mutually exclusive. Nevertheless, to the extent it is possible to identify these infector groups (which will be tested in our second year) it might be useful to consider how each contributes to the overall health of the network. Characteristics of the *super-infector* category may be especially worthy of further investigation because it is difficult to predict who these staff members might be, yet they appear to be pivotal to network growth and success. Our research to date suggests there is no clear link between a staff member's job title and the likelihood he or she will be a *super-infector*, thus implying that viral leaders do not necessarily hold traditional leadership roles in their organisations.

Our initial observations highlight that infection (and re-infection) occurs initially and easily along established paths (through existing staff relationships, within the same work areas and the same institutions, etc) but it is also possible and relatively straightforward to encourage contamination through scaffolded networking activities (for example, by connecting two staff members in a mentoring partnership built on one element of common interest). Network growth occurs in bursts, with an initial peak and then 'mini-epidemics' when the virus reaches a previously untapped existing network and infection increases at a higher than normal rate. A similar phenomenon can occur when a new *super-infector* joins the network.

Social network analysis (Wasserman & Faust, 1994; Krebs, 2000) planned for the second year of the project will test the descriptive categories proposed above by mapping data gathered from participants about their connections with other network members. Data is currently being gathered about existing and newly formed connections: for example, network members are surveyed at face-to-face events and are asked how many people they know, how many people they think know them, who they invited to the event, who told them about it, and who they expected to see but did not attend. The connections made through the online community, such as visits to the site, discussion board posts and comments, are also included. In time, this will allow us to draw more definitive conclusions and create a richer map of the budding viral leadership network.

CONCLUSION

Professional staff play a key role in encouraging student engagement, which nowadays also involves engaging students through emerging technologies. Such staff work in the gap between the hierarchical management structure of universities, where emerging technologies may not be widely adopted, and the technology-rich interactions which are increasingly typical of student life. To some extent, this gap may be bridged with a viral leadership model for spreading the application of new technologies. Unlike a top-down leadership model which involves disseminating knowledge and skills through formal learning, the viral model combines organic, multidirectional leadership with ongoing informal networking. This may allow professional staff to engage more closely with and guide the technology use of students, while also spreading their influence more broadly across their institutions and beyond.

By exploring this leadership model in the context of professional staff learning about emerging technologies, we have begun to develop a picture of the key characteristics of this type of networking, including an indication of the important role of *super-infectors*. The project is now gathering data about face-to-face and online connections between network members in order to perform ongoing social network analysis and visualisation. It is hoped that in time our developing understanding of viral leadership may enable universities to complement traditional leadership models based on formal learning with potentially more sustainable models of multidirectional leadership and scaffolded networking – first and foremost, though not exclusively, in building the capacity of professional staff in the area of emerging technologies.

REFERENCES

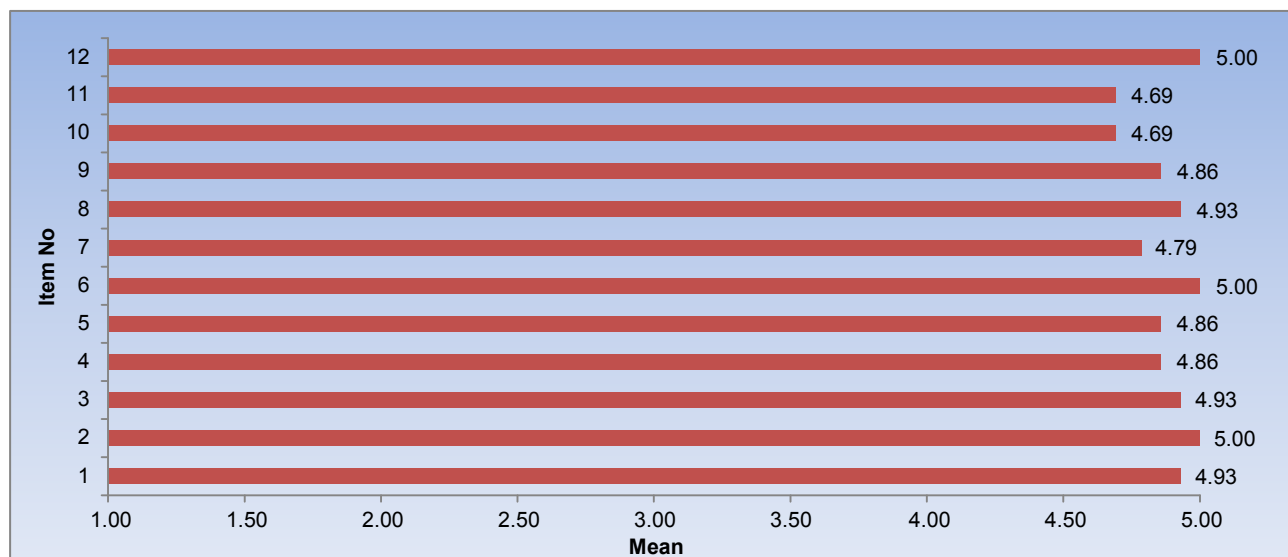
- Anderson, D., & Johnson, R. (2006). *Ideas of leadership underpinning proposals to the Carrick Institute: A review of proposals from the 'Leadership for Excellence in Teaching and Learning Program'*. ALTC Occasional Paper. Retrieved 23 December, 2010, from <http://www.altc.edu.au/resource-ideas-of-leadership-underpinning-proposals-altc-2006>
- Barabási, A.-L. (2003). *Linked: How everything is connected to everything else and what it means for business, science, and everyday life*. New York: Plume.
- Bax, S. (2003). CALL: Past, present and future. *System*, 31(1), 13-28.
- Buchanan, M. (2002). *Nexus: Small worlds and the groundbreaking science of networks*. New York: W.W. Norton.
- Cluett, L. (2009). *Training professional staff in web 2.0: A program developed by UWA Student Services via the 'Online Student Journey' project*. Paper presented at the Australian Tertiary Education Management - Student Services Centre Conference, Fremantle, 23-24 April.
- Cluett, L. (2010). *Online social networking for outreach, engagement and community: The UWA students' Facebook page*. Paper presented at the Teaching & Learning Forum, Edith Cowan University, Perth, 28-29 January.
- Cluett, L., & Skene, J. (2007). *A new(er) dimension to online learning communities: Using web tools to engage students*. Paper presented at the Teaching & Learning Forum, University of Western Australia, Perth, 30-31 January.
- Cluett, L., & Skene, J. (2010). The student-learning student-engagement nexus: How can non-teaching areas of the university use web 2.0 tools to enhance the student experience? In M.J.W. Lee & C. McLoughlin (Eds.), *Web 2.0 is here: Applying social informatics for tertiary teaching* (pp.247-267). Hershey, PA: Information Science Reference.
- Eveline, J. (2004). *Ivory basement leadership: Power and invisibility in the changing university*. Perth, WA: The University of Western Australia Press.
- Gladwell, M. (2002). *The tipping point: How little things can make a big difference*. New York: Back Bay Books.
- Hagel III, J., Seely Brown, J., & Davison, L. (2010). *The power of pull: How small moves, smartly made, can set big things in motion*. New York: Basic Books.
- Hayes, T. (2008). *Jump point: How network culture is revolutionizing business*. North Ryde: McGraw Hill.
- Herrero, L. (2008). *Viral change: The alternative to slow, painful and unsuccessful management of change in organizations* (2nd ed.). Beaconsfield, Bucks: Meetingminds Publishing.
- Krause, K.-L. (2007). Beyond classroom walls: Students' out-of-class activities and implications for teaching and learning. *Nagoya Journal of Higher Education*, 7, 301-318. Retrieved 23 December, 2010, from http://www.griffith.edu.au/data/assets/pdf_file/0015/211146/NagoyaArticle.pdf
- Krebs, V. (2000). The social life of routers. *Internet Protocol Journal*, 3(4), 14-25.
- Lefoe, G., Smigiel, H., & Parrish, D. (2007). Enhancing higher education through leadership capacity development: Progressing the faculty scholars model. In *Enhancing higher education, theory and scholarship: Proceedings of the 30th HERDSA Annual Conference [CD-Rom]*, Adelaide, 8-11 July, 2007.
- Light, R. (2001). *Making the most of college: Students speak their mind*. Cambridge, MA: Harvard University Press.

- Marshall, S.J. (2006). *Issues in the development of leadership for learning and teaching in higher education*. ALTC Occasional Paper. Retrieved 23 December, 2010, from http://www.altc.edu.au/system/files/documents/grants_leadership_occasionalpaper_stephenmarshall_nov06.pdf
- Pegrum, M. (2009). *From blogs to bombs: The future of digital technologies in education*. Perth, WA: The University of Western Australia Press.
- Pegrum, M. (2010). 'I link, therefore I am': Network literacy as a core digital literacy. *E-learning and Digital Media*, 7(4).
- Pegrum, M., & Kiel, R. (2011, forthcoming). 'Changing the way we talk': Developing librarians' competence in emerging technologies through a structured program. *College & Research Libraries*.
- Skene, J., Cluett, L., & Hogan, J. (2007). *Engaging Gen Y students at university: What web tools do they have, how do they use them and what do they want?* Paper presented at the First Year in Higher Education Conference, Brisbane, 3-6 July.
- Templeman, B. (n.d.). Viral leadership. *The Edgework Leadership Group: Engaging people and organizations at their growing edge*. Retrieved 23 December, 2010, from http://www.edgeworkonline.com/?q=viral_leadership
- Thompson, C. (2008, Feb. 1). Is the Tipping Point toast? *Fast Company*. Retrieved 23 December, 2010, from <http://www.fastcompany.com/magazine/122/is-the-tipping-point-toast.html>
- Tinto, V. (1993). *Leaving college: Rethinking causes and cures of student attrition* (2nd ed.). Chicago: University of Chicago Press.
- Wasserman, S., & Faust, K. (1994). *Social network analysis: Methods and applications*. Cambridge: Cambridge University Press.
- Watkins, M. (2007, Oct. 3). Infectious leadership. *Harvard Business Review* [blog]. Retrieved 23 December, 2010, from http://blogs.harvardbusiness.org/watkins/2007/10/infectious_leadership.html.
- Watts, D.J. (2003). *Six degrees: The science of a connected age*. New York: W.W. Norton.

Student Perception of Teaching (SPOT)

SUMMARY Semester 2, 2011

Staff: Assoc Prof Mark Pegrum
Unit name: ALTC Emergent Technologies in Education

Questionnaire Type: Teaching**Unit Code:** PD

Number of Students Enrolled: 0		Number of questionnaires completed: 14			
No	Item	YOUR FEEDBACK			
		Mean	Std Dev	% Agreement (SA + A)	% Disagreement (SD+D)
1	The teacher explains important concepts/ideas in ways that I can understand.	4.93	0.27	100%	0%
2	The teacher stimulates my interest in the subject.	5.00	0.00	100%	0%
3	I am encouraged to participate in classroom and/or online activities.	4.93	0.27	100%	0%
4	The teacher demonstrates enthusiasm in teaching the unit.	4.86	0.36	100%	0%
5	Appropriate teaching techniques are used by the teacher to enhance my learning.	4.86	0.36	100%	0%
6	The teacher is well prepared.	5.00	0.00	100%	0%
7	The teacher is helpful if I encounter difficulties with the lecture/unit.	4.79	0.43	100%	0%
8	The teacher treats me with respect.	4.93	0.27	100%	0%
9	The teacher is available for consultation (eg email, online, face-to-face, telephone).	4.86	0.36	100%	0%
10	I received constructive feedback that assists my learning.	4.69	0.63	92%	0%
11	I receive feedback in time to help me improve.	4.69	0.63	92%	0%
12	Overall, the teacher effectively supports my learning.	5.00	0.00	100%	0%

Staff: Assoc Prof Mark Pegrum
Unit name: ALTC Emergent Technologies
Number of students enrolled: 0
in Education

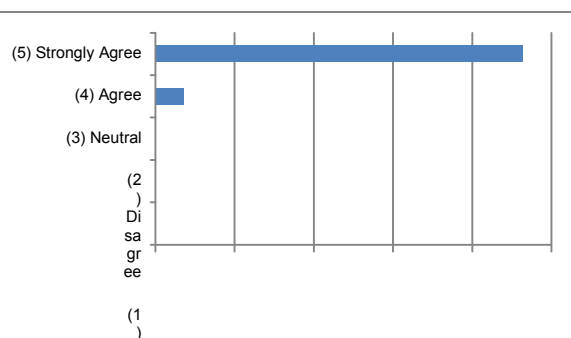
Questionnaire Type: Teaching

Unit Code: PD
Number of responses: 14

Overall response: Not Available

1. The teacher explains important concepts/ideas in ways that I can understand.

Response Scale	Response	
	No	Percent (%)
(5) Strongly Agree	13	93
(4) Agree	1	7
(3) Neutral	0	0
(2) Disagree	0	0
(1) Strongly Disagree	0	0
(0) Unable to Comment	0	0
Total (N)	14	100

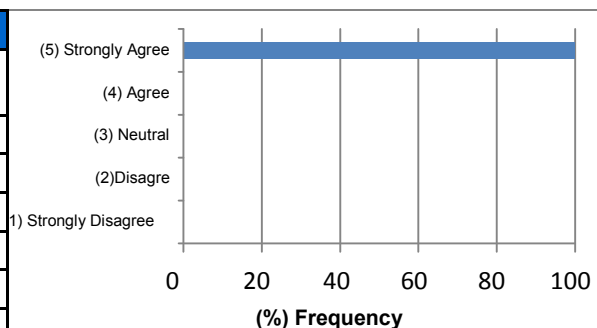


Mean: 4.93

Std dev: 0.27

2. The teacher stimulates my interest in the subject.

Response Scale	Response	
	No	Percent (%)
(5) Strongly Agree	14	100
(4) Agree	0	0
(3) Neutral	0	0
(2) Disagree	0	0
(1) Strongly Disagree	0	0
(0) Unable to Comment	0	0
Total (N)	14	100

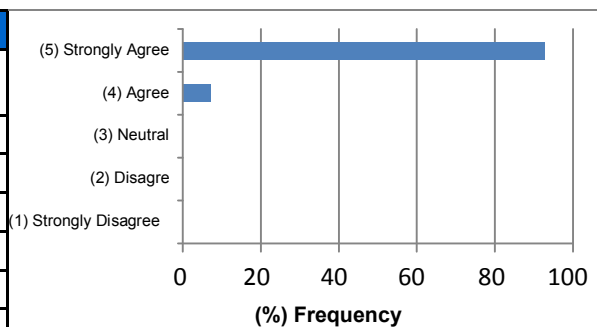


Mean: 5.00

Std dev: 0.00

3. I am encouraged to participate in classroom and/or online activities.

Response Scale	Response	
	No	Percent (%)
(5) Strongly Agree	13	93
(4) Agree	1	7
(3) Neutral	0	0
(2) Disagree	0	0
(1) Strongly Disagree	0	0
(0) Unable to Comment	0	0
Total (N)	14	100

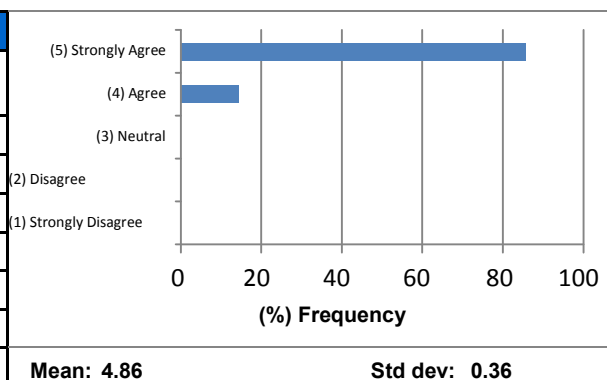


Mean: 4.93

Std dev: 0.27

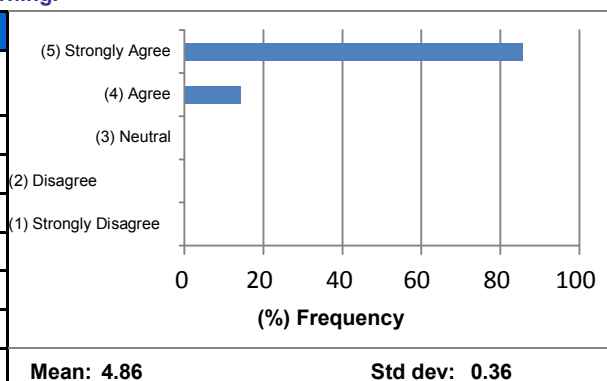
4. The teacher demonstrates enthusiasm in teaching the unit.

Response Scale	Response	
	No	Percent (%)
(5) Strongly Agree	12	86
(4) Agree	2	14
(3) Neutral	0	0
(2) Disagree	0	0
(1) Strongly Disagree	0	0
(0) Unable to Comment	0	0
Total (N)	14	100



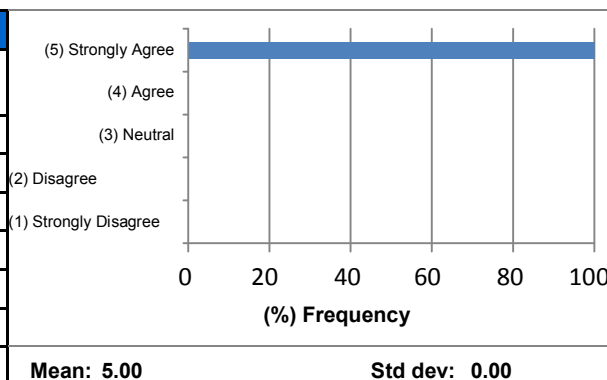
5. Appropriate teaching techniques are used by the teacher to enhance my learning.

Response Scale	Response	
	No	Percent (%)
(5) Strongly Agree	12	86
(4) Agree	2	14
(3) Neutral	0	0
(2) Disagree	0	0
(1) Strongly Disagree	0	0
(0) Unable to Comment	0	0
Total (N)	14	100



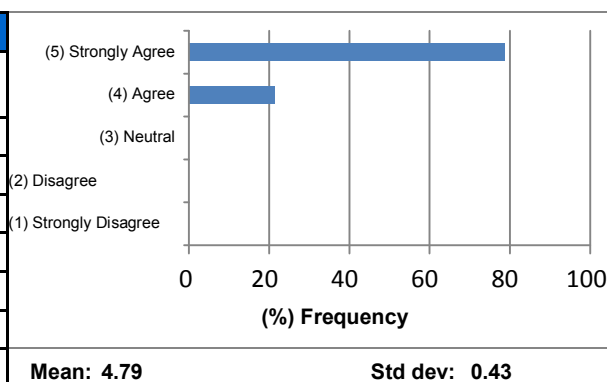
6. The teacher is well prepared.

Response Scale	Response	
	No	Percent (%)
(5) Strongly Agree	14	100
(4) Agree	0	0
(3) Neutral	0	0
(2) Disagree	0	0
(1) Strongly Disagree	0	0
(0) Unable to Comment	0	0
Total (N)	14	100



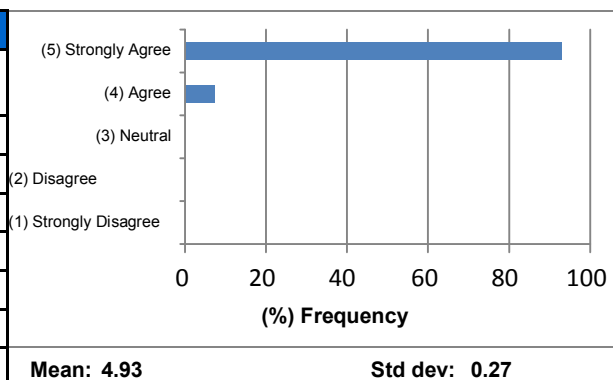
7. The teacher is helpful if I encounter difficulties with the lecture/unit.

Response Scale	Response	
	No	Percent (%)
(5) Strongly Agree	11	79
(4) Agree	3	21
(3) Neutral	0	0
(2) Disagree	0	0
(1) Strongly Disagree	0	0
(0) Unable to Comment	0	0
Total (N)	14	100



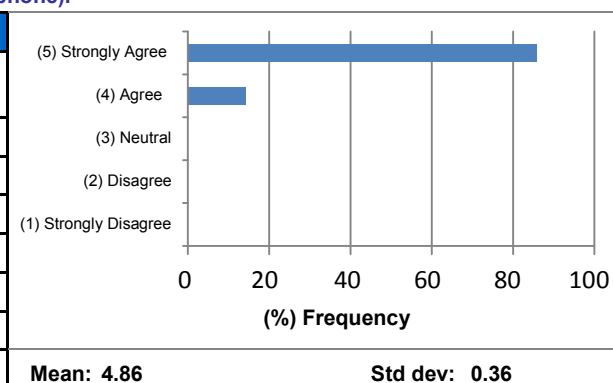
8. The teacher treats me with respect

Response Scale	Response	
	No	Percent (%)
(5) Strongly Agree	13	93
(4) Agree	1	7
(3) Neutral	0	0
(2) Disagree	0	0
(1) Strongly Disagree	0	0
(0) Unable to Comment	0	0
Total (N)	14	100



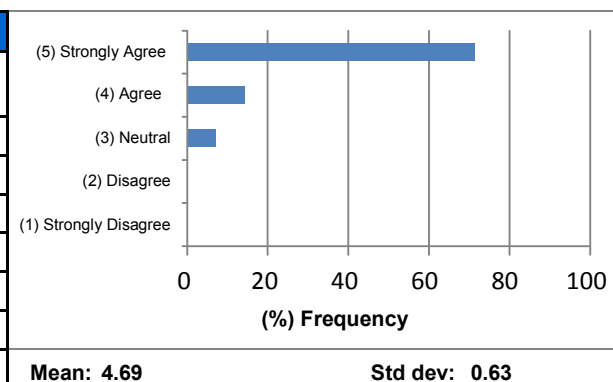
9. The teacher is available for consultation (eg email, online, face-to-face, telephone).

Response Scale	Response	
	No	Percent (%)
(5) Strongly Agree	12	86
(4) Agree	2	14
(3) Neutral	0	0
(2) Disagree	0	0
(1) Strongly Disagree	0	0
(0) Unable to Comment	0	0
Total (N)	14	100



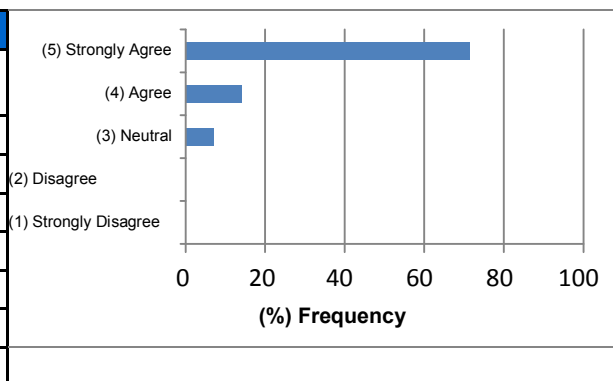
10. I received constructive feedback that assists my learning.

Response Scale	Response	
	No	Percent (%)
(5) Strongly Agree	10	71
(4) Agree	2	14
(3) Neutral	1	7
(2) Disagree	0	0
(1) Strongly Disagree	0	0
(0) Unable to Comment	1	7
Total (N)	14	100



11. I received feedback in time to help me improve.

Response Scale	Response	
	No	Percent (%)
(5) Strongly Agree	10	71
(4) Agree	2	14
(3) Neutral	1	7
(2) Disagree	0	0
(1) Strongly Disagree	0	0
(0) Unable to Comment	1	7
Total (N)	14	100



MeganPoore.com
connecting the tech with the teach

Dr Megan Poore
18 Strong Place
BELCONNEN ACT 2617

Dr Lisa Cluett
Project Leader - ALTC Viral Leadership Project
Student Services
The University of Western Australia
NEDLANDS WA 6009

18 November 2011

Dear Lisa,

RE: FINAL EVALUATION REPORT, ALTC VIRAL PROJECT, NOVEMBER 2011

Thank you for the opportunity to provide the final evaluation of the ALTC Viral project. Again, it was a pleasure to talk to some of the participants and to confirm the many excellent outcomes you have achieved as part of this important venture.

I hope the attached final evaluation report is helpful and contributes in some small way to the continuing success of the project, even after the end of the project's funding lifecycle.

All the best,



Megan Poore

**professional staff as leaders in enhancing
student engagement**

building capacity in emerging technologies
through cascade and viral leadership

final evaluation report
november 2011

dr megan poore
expert evaluator

Contents

Executive summary	3
1. Introduction	4
2. Project profile	4
3. Evaluation profile	5
4. Findings	5
4.1 Strengths	
4.2 Obstacles now and into the future	
4.3 Endurance of the network	
5. Conclusion	8
6. Recommendations	8

Executive summary

Overview

The ALTC Viral project sought to develop a 'viral' or 'cascade' model of leadership amongst professional staff, particularly in the use of emerging technologies, to foster student engagement. It achieved this through the development of communities of practice, dedicated skills development workshops and training, networking events, and cross-institutional collaboration. The project underwent a mid-term evaluation in November 2010 and a final evaluation in November, 2011, the primary evaluation methodologies being qualitative in nature and involving a series of interviews, meetings, and small focus group conversations with various stakeholders.

Success of the project

In all, the project has been a success. In particular, strengths included

- The ALTC Emergent Technologies in Education Professional Development Course
- The forum and networking events
- Cross-institutional collaboration
- Student engagement
- Key personnel

There were, however, some obstacles that participants met along the way, and that could continue to effect them into the future in their everyday duties:

- Time
- Leadership and management barriers
- Marketing and communications divisions
- Policy impediments
- Articulation with regular duties

4.3 Endurance of the network

The very essence of the current project has been to build and develop a network that can endure into the future. To solidify this outcome, it could to attend to a number of things.

- Emphasis on virality
- Forum and networking events
- 'Backgrounding' of key personnel

Recommendations

1. **Continuation of forum and networking events.** There is no reason that these events cannot continue in some form or another. Funding need not be sought if local presenters are prepared to give up their time for free, and speakers from interstate might also be enticed if they can claim their transport and accommodation either on tax or as part of their conference budget. The responsibility for organising these events should not fall to a single person or institution. Instead, the Viral community should be mature enough to either form a cross-institutional organising committee, or to develop a rotating roster for the hosting of these events at different universities. Events must be planned and strategic, however, and not just left to chance either in scheduling or in topic focus.
2. **Inclusion of social media skills in job description documentation.** If possible, supervisors and area managers should be 'virally' encouraged to include the ability to communicate effectively using social media under the 'communication skills' criterion on job description documents. Admittedly, this could be difficult, especially if institutions have firm parameters for their selection criteria documentation. But the whole idea of the Viral project is to influence those around you, and this could be just one more front on which to start an incursion.
3. **Reinforcement of viral responsibilities.** Some project participants need a gentle reminder about their viral responsibilities. If the forum and networking events continue, then such reminders could be given at those gatherings. If not, then, because the project has already developed what should be a self-sustaining network, it would take little for project leaders and 'ambassadors' to lightly prod network members in the right viral direction.
4. **Publications.** One of the intended outcomes for the project was to publish a series of papers, etc., about the project. It is heartening to see that one or two publications are in the pipeline already, and I encourage project members to share their experiences with the academic community.

1. Introduction

In 2009, the Australian Learning and Teaching Council (ALTC) funded a project that sought to develop and maintain a community of leaders of professional staff across three universities in Western Australia. The 'ALTC Viral' project (as it was most known amongst project stakeholders) recognised the important role that professional staff play at the 'coalface' of student engagement and emphasised a 'viral' or 'cascade' approach to developing leadership in emerging technologies that have the potential to enhance the student experience.

A mid-term evaluation of the ALTC Viral project was conducted in November, 2010. The final evaluation has just been completed and is reported on, here.

As previously, a qualitative approach to the evaluation's methodology was adopted and involved a series of interviews, meetings, and small focus group conversations with various project stakeholders.

Reassuringly, little had changed since the mid-term evaluation, indicating that the project continued to build on the solid ground it had already laid. I am pleased to report that the ALTC Viral project has succeeded overall in achieving its aim to develop a new model of leadership, and it has been an exemplar of sound project management.

2. Project profile

The ALTC Viral project sought to develop a 'viral' or 'cascade' model of leadership amongst professional staff, particularly in the use of emerging technologies to foster student engagement. It achieved this through the development of communities of practice, dedicated skills development workshops and training, networking events, and cross-institutional collaboration. The project adopted an interactive approach to its implementation, similar to the model characterised by action research. This allowed project staff to respond swiftly and flexibly to developments in the fast-moving area of new technologies.

The project was co-ordinated by staff from the University of Western Australia (UWA). The two other participating universities were Edith Cowan University (ECU) and Murdoch University.

The project's intended outcomes were to create

1. A critical mass of ICT leaders across partner institutions initiated by structured learning but maintained and expanded through cascade and viral leadership, community building and peer-mentoring
2. An on-going, WA-based network of leaders comprised of professional staff trained in Web 2.0 that is centred around a dynamic website and endures past the end of the funded project
3. A new model of leadership for application in the tertiary sector based on applying the cascade/viral model to building leadership capacity
4. Web-based resources such as a wiki, community network, workbooks and

examples of applied technologies

5. A series of conference papers, journal articles and an edited book (stemming from A WA-based ICT leadership symposium in January 2012)
6. A clear articulation of the human, financial and infrastructure resources needed to apply a suite of Web 2.0 tools within a University using the cascade/viral leadership model

Despite having just presented a listing of the project's intended outcomes, this report eschews a simple 'successful/unsuccessful' calculation of whether or not the project has met those outcomes. Instead, the evaluation focuses on a more in-depth apprehension of the qualitative, and, indeed, conceptual conclusions that can be made as regards this project. On this understanding, the project can be said to have been a success all-round.

3. Evaluation profile

The evaluation was conducted in Perth on 15 and 16 November, 2011. A series of meetings, interviews, and mini focus groups was held during this period to establish whether or not the project succeeded. This approach mirrored the approach taken during the mid-term evaluation conducted the previous year. During these face-to-face sessions, the main focus was on the following:

1. What have been the strengths of the project?
2. What obstacles presented themselves to participants during the project, and how will they persist into the future? and,
3. What is necessary for the network to endure?

Stakeholders who participated in these sessions primarily included project participants from all three participating universities. As previously, conversations were free-flowing and relaxed and participants willingly shared their experiences and made suggestions for the future.

It is not within the parameters of this report to audit the project budget.

4. Findings

4.1 Strengths

Project participants invariably commented on the overarching success of the project. Particular mention was made of

- **The ALTC Emergent Technologies in Education Professional Development Course.** This course was once again singled out for special praise. Participants especially appreciated the theoretical and conceptual nature of the coverage, stating that it had influenced the way they 'listened' and the way they thought about the role of social media in universities and in society more generally. Dr Mark Pegrum was universally commended for his approach to teaching, and this is reflected in the exceptional student evaluations he received at the end of each iteration of the course.

- **The forum and networking events.** Participants found these events highly valuable, and invariably commented on their desire to see them continue. The quality of the speakers and presenters was commented on, as was the merit of networking with colleagues from different universities. If there was one thing that participants hoped would continue into the future, then it was these events.
- **Cross-institutional collaboration.** Project participants unfailingly noted that this approach was unique in Western Australia – unique in that it actually happened, and unique in that it actually worked. Participants found it hugely constructive to be able to network with colleagues from other institutions, to compare situations, difficulties, challenges, solutions, and triumphs.
- **Student engagement.** ‘Going to the spaces that students inhabit’ was a common theme encountered in the evaluation sessions. Participants felt buoyed by the amount and quality of communication that was being achieved through the simple virtue of sharing essential student information via Facebook or Twitter. Levels of student contact and engagement were high in this area.
- **Key personnel.** Dr Lisa Cluett was applauded across the board as the main driver of the project. Her knowledge, enthusiasm, and approachability were all remarked upon: “Lisa brings it all together and makes it seem normal and doable” was indicative of the general feeling amongst participants.

4.2 Obstacles now and into the future

At the end of the project these remain much as they were for its duration, although now, perhaps, in a less oppressive or acute form.

- **Time.** Participants again noted the lack of time provided for ‘viral’ activities, with many (but not all) again commenting that supervisors often do not see this kind of work as core to their regular duties. Of those who felt this way, there was an attitude of ‘Well, if it’s not recognised, I’ll do it anyway, even though I’ve got other work to do’. Whilst this is commendable, it is not sustainable. Supervisors will at some stage have to recognise that social media is key to student engagement at all levels, and, as such, activities that involve social media need to be incorporated into everyday work practices.
- **Leadership and management barriers.** Although this appeared to cause less angst than it did during the mid-term evaluation period, participants did however note the lack of supervisor interest in supporting viral activities past the provision of release time to undertake the Emerging Technologies course. There was a sense that supervisors happily send people on courses because it is part of their responsibility to provide professional development activities for staff, but that there is no follow-up to see whether or not the PD activities have actually been successful! Whereas previously supervisors had been criticised for ‘not getting it’ or ‘ignoring reality’ there appears now to have been a shift to a lack of more general support or interest, in contrast to outright opposition or ignorance.
- **Marketing and communications divisions.** Again a major frustration for many (but not all) participants, although not surprising, given the natural tension between the need to control a university’s external brand for potential students and the need to respond to on-the-ground affairs and concerns of current students. As per the previous report, I mention this issue only because it was remarked upon by

- participants as a barrier to their effective use of social media in the professional context, and not because the project could be expected to address the problem.
- **Policy impediments.** Although clearly still a concern for many participants, there appears to have been more of a shift towards a sense of trying to work within policy as best as possible, but at the same time as getting around its limitations through more careful risk management of social media activities.
 - **Articulation with regular duties.** Related to the time factor, above, participants were beginning to ask, 'How does this fit in with my regular brief?' They can see that viral activities are core to their daily work and essential to their effective engagement with students but this is not articulated in their duty statements.

4.3 Endurance of the network

The very essence of the current project has been to build and develop a network of professional staff who can model and lead the use of Web 2.0 tools and services to further student engagement. The project has undoubtedly succeeded in this outcome, but some points must be attended to if the network is to endure into the future, that is, if it is to succeed according to its own parameters, especially now that the project has reached the end of its funding.

- **Emphasis on viralness.** The mid-term report suggested that some participants were having trouble "engaging with the 'modelling' aspects of the viral approach". This continued to be an issue to the end of the project and will have implications past the end of the funding lifecycle. If the project is to truly succeed according to its own measures, then participants must become more active 'infectors'. The 'less viral' of the participants were those who seemed unclear about their responsibilities to spread the word and to share what they'd learnt with colleagues in their work areas. I stress here that in such instances the matter did not seem to be related to a lack of time (mentioned above in 4.2, and which was seen as an issue more for basic skilling-up, experimentation, and 'play'). Gently reminding participants of their viral responsibilities will surely go a long way to underwriting the success of the project.
- **Forum and networking events.** Every group of participants interviewed mentioned the value of these events and expressed the considered desire that they continue into the future. Similarly, every group explicitly stated that there didn't need to be a whole lot of money spent on such events, but, rather, that budgeting for a cup of tea and some biscuits should be all that was required. Some participants questioned whether or not the quality of speakers could be maintained if no formal budget was attached to such events, but most agreed that the value of face-to-face networking was enough in itself to get people together to share ideas and discoveries and to work through challenges. There is, however, a danger that any continuation of networking events will see participants simply 'preaching to the converted'. The real significance of the viral model is that it can be used to bring in the uncertain and the hesitant: any future networking events should be used to remind people of the value of being an 'infector' and to have them introduce new people to the clan.
- **'Backgrounding' of key personnel.** Although any network will have more- and less-vocal and energetic contributors, the success of the ALTC Viral network has, until now, largely hinged upon the tireless work and enthusiasm of Dr Lisa Cluett. The test

will now be to have the network 'graduate' so that it can become self-sustaining and not quite so reliant upon traditional leadership and co-ordination. Hopefully, participants will recognise their duty to 'step up' and to take their place in a more distributed leadership model.

5. Conclusion

The ALTC Viral project has successfully met its intended outcomes. It has 'kick-started' a network of leaders and developed a community of practice that, with some small care and attention, should continue to grow into the future. The project was carefully implemented and attentively supported by the Project Leader. Participants report that the project has contributed considerably to their professional development, and that they have the skills to sustain them in the use of social media for student engagement.

6. Recommendations

Although it might be unusual to have recommendations appear at the end of a final evaluation report, I nonetheless offer some suggestions for future directions, given that a key aim of the enterprise was to have the project endure past the end of the formal funding arrangements.

1. **Continuation of forum and networking events.** There is no reason that these events cannot continue in some form or another. Funding need not be sought if local presenters are prepared to give up their time for free, and speakers from interstate might also be enticed if they can claim their transport and accommodation either on tax or as part of their conference budget. The responsibility for organising these events should not fall to a single person or institution. Instead, the Viral community should be mature enough to either form a cross-institutional organising committee, or to develop a rotating roster for the hosting of these events at different universities. Events must be planned and strategic, however, and not just left to chance either in scheduling or in topic focus.
2. **Inclusion of social media skills in job description documentation.** If possible, supervisors and area managers should be 'virally' encouraged to include the ability to communicate effectively using social media under the 'communication skills' criterion on job description documents. Admittedly, this could be difficult, especially if institutions have firm parameters for their selection criteria documentation. But the whole idea of the Viral project is to influence those around you, and this could be just one more front on which to start an incursion.
3. **Reinforcement of viral responsibilities.** Some project participants need a gentle reminder about their viral responsibilities. If the forum and networking events continue, then such reminders could be given at those gatherings. If not, then, because the project has already developed what should be a self-sustaining network, it would take little for project leaders and 'ambassadors' to lightly prod network members in the right viral direction.
4. **Publications.** One of the intended outcomes for the project was to publish a series of papers, etc., about the project. It is heartening to see that one or two publications are in the pipeline already, and I encourage project members to share their experiences with the academic community.

