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Abstract: The purpose of this paper is to explore future consciousness, in particular the desire for adventure and change, in light of the literature and ideas around academic development in higher education teaching and learning, and with a particular focus on supporting staff in their engagement with technologies in new ways. The article builds on and extends recent work by the authors Barnes and Tynan; and Tynan, Lee and Barnes, as well as that of other researchers and theorists. A case study approach is adopted, in which the narratives or "stories" of academics at an Australian university relating to issues surrounding learning technologies are analysed. The themes that emerge from the preliminary analysis are synthesised to draw out barriers and potential solutions from the participants' perspectives, especially with regard to their self-identified future professional development needs, and particularly in relation to their adoption and sustainable use of educational technologies. The authors believe that successfully engaging with the goals of innovation and sustainable futures in the age of Web 2.0, the networked society and the millennial learner depends on a concerted effort at all levels of the tertiary/higher education sector. Research implications/implications -€“ While the preliminary findings of the study may have limitations in terms of their generalisability to institutions and countries beyond the context of the case study, they will no doubt provide a starting point for further research. It is hoped that the study will serve as a think piece for educational leaders interested in facilitating long-term initiatives and strategies aimed at cultivating a desire for change and adventure among academic staff, to "reinforce proactive behaviour, self-efficacy, and internal locus of control" in encouraging them to engage with their own futures.

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Tales of adventure and change: Academic staff members' future visions of higher education and their professional development needs

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Structured abstract

Purpose
The main purpose of the article is to explore future consciousness, in particular the desire for adventure and change (Lombardo, 2007), in light of the literature and ideas around academic development in higher education teaching and learning, and with a particular focus on supporting staff in their engagement with technologies in new ways.

Methodology
The article builds on and extends recent work by the authors (Barnes and Tynan, 2007; Tynan, Lee and Barnes, 2008), as well as that of other researchers and theorists. A case study approach is adopted, in which the narratives or "stories" of academics at an Australian university relating to issues surrounding learning technologies are analysed. The themes that emerge from the preliminary analysis are synthesised to draw out barriers and potential solutions from the participants' perspectives, especially with regard to their self-identified future professional development needs, and particularly in relation to their adoption and sustainable use of educational technologies.

Findings, research implications and practical implications
The authors believe that successfully engaging with the goals of innovation and sustainable futures in the age of Web 2.0, the networked society and the millennial learner depends on a concerted effort at all levels of the tertiary/higher education sector. While the preliminary findings of the study may have limitations in terms of their generalisability to institutions and countries beyond the context of the case study, they will no doubt provide a starting point for further research.

Originality/value
It is hoped that the study will serve as a think piece for educational leaders interested in facilitating long-term initiatives and strategies aimed at cultivating a desire for change and adventure among academic staff, to "reinforce proactive behavior, self-efficacy, and internal locus of control" (Lombardo, 2007, para. 8) in encouraging them to engage with their own futures.

Keywords: Academic staff development, sustainability, innovation, learning technologies, higher education, future consciousness.

Paper category: Research paper

Introduction: New learners, new needs, new expectations

The latest generation of university students lives in a networked society (New Media Consortium, 2007), one in which individuals employ new ways to create information and to connect with others, and in which the boundaries between learning, work and play are rapidly blurring. There are major social trends at work, such as the diversification of life trajectories, multiple career paths, re-skilling and flexible working hours (Punie and Cabrera, 2006). Society at large is re-evaluating the types of skills and competencies that graduates need to possess in order to be adequately prepared for work and life in the knowledge age (Leitch, 2006). For instance, in addition to social skills and creativity, students must develop sound information literacy skills that enable them to effectively find, evaluate and create information (Katz and Macklin, 2007; Lorenzo and Dziuban, 2006; Jenkins, 2007; New Media Consortium, 2005). Institutions of higher learning must respond promptly and appropriately to these changes (Tynan, Lee and Barnes, 2008).

It is also increasingly apparent that academic staff and their students, especially the latest generation of undergraduates, hail from different technological worlds (Barnes and Tynan, 2007; Prensky, 2001). Keeping up is a constant concern, but is it possible when students move so quickly? Teghe and Knight (2004) contend that "…the uptake of the Internet-based technology is not a matter of choice – rather, it is more of a necessity if they are to remain competitive" (p. 152). Tynan, Lee and Barnes (2008) go further in stating that "the challenge for instructors is not about keeping up, but rather how to be "on top of " or "on the new wave". The rise of the millennial learner (Windham, 2006; Oblinger and Oblinger, 2005) calls for new approaches towards teaching. Universities that fail to meet these demands are likely to find themselves at a disadvantage in the marketplace. The new demands call for fresh approaches towards university teaching. But, how is such a demand to be met in a manner that does not undermine traditional academic approaches towards authority, or threaten to increase the teaching burden on already overworked academic staff? The concept of future consciousness provides a promising framework with which to explore some of the possible ways forward.

In the keystone paper that serves as a provocateur for contributors to this special issue, Lombardo (2007) observes:

> People need to cultivate the desire for *adventure and change*; without these qualities, tomorrow will be the same as today – there will, in essence, be no future – no real concept of one … if we accept the dictum "Grow or die," then stability and security leads to decay and death. (Teaching future consciousness, para. 8, emphasis added)

In Australia, there is imperative for universities to "reach their full potential and improve their individual and collective standings as internationally-recognised public institutions for contemporary times" (Gillard, 2008). If our readers can accept the dramatic "grow or die" dictum, and the corresponding view that "stability and security leads to decay and death", then professional development for academic staff is one critical aspect that universities must address in order to rise to the challenge of meeting the need for knowledge, skills and innovation in the global economy. The authors contend that moving towards reaching one's full potential requires deliberate, careful and creative dialogue and discussion – discussion that can be enhanced and driven through engagement in future-oriented thinking.

This article examines a number of ideas surrounding the creation of sustainable futures for higher education teaching and learning, with a particular focus on the role of academic development and support in encouraging innovative pedagogy and the use of information and communications technologies (ICT's). It attempts to explore the issues through the lens of future consciousness, in a manner consistent with the view that improvement and change for the better begins with a careful examination of current practices. It presents a "snapshot" case study of what academics at a major Australian university perceive to be the key issues at hand at a particular point in time. The article concludes with a number of propositions relating to academic development and the use of ICT's in higher education, for consideration by academics, university leaders and policymakers.

Sustainability and change in higher education

The 1990 Talloires Declaration (University Leaders for a Sustainable Future, 2001), which pledges commitment for environmental sustainability in higher education, has received support from 350 university presidents and chancellors in over 40 countries. Tynan, Lee and Barnes (2008) advocate the application of the sustainability discourse to the use of information and communication technologies (ICT) in tertiary education, since it is arguable that sustainability is critical to long-term success in any field or area. Today, universities and colleges face the challenge of ensuring sustainability in terms of their teaching, learning and curriculum design practices, in ways that parallel the ongoing international debate about environmental sustainability.

One of the original reasons behind the adoption of ICT's in the tertiary education sector was the promise of increased efficiencies. This factor was at least as significant as the prospect of enhanced learning outcomes in securing the support of institutional decision makers for new modes of university teaching. In practice, however, many of the promised efficiencies have proven elusive, as it appears that we "continue to do what always has been done, only now, use a computer [or ICT's] to do it" (Green and Bigum, 1993, p. 135). While economies from new administrative systems are perhaps real enough, it is now clear that the instructional or pedagogical uses of ICT's in universities is inherently labour-intensive (at least if done properly). Web-based course management systems (LMS's), for example, require significant preparation time, both in terms of the hours spent mastering new technologies and the time spent creating and refining the learning design.

In terms of the financial bottom line, the use of ICT's has had a positive impact through savings on print-based materials and economies of scale. However, institutions often fail to recognise that there is a hidden cost in terms of additional, often unpaid, teaching hours and in the development and maintenance of online materials. As Thompson (2000, ICT and "academic productivity", para. 5) observes: "Whatever subjective notion of [academic] productivity has been constructed over time now appears quaint in light of ICT changes within the last five years".

The potential of new technologies to enhance student learning, reduce attrition rates and improve outcomes has been adequately demonstrated. What remains to be seen is whether the momentum of initiatives and innovations can be sustained once project funding has been depleted, or the initial enthusiasm of early adopters has subsided. The training and support of a wider community of academic staff members needs to be carefully re-thought and re-considered, since enthusiasm for new technologies largely emanates from a small number of innovators. It is these innovators who have the potential to inculcate in their colleagues and peers a spirit of adventure, and to promote a desire to improve, to change for the better. Such champions for innovation and change are a scare resource, and if universities do not manage them well, their energy and drive is likely to become depleted.

Developing staff capacity is "multifaceted and multiplayer, and all aspects need to be integrated, at the institutional level, the instructor level, the student level, the supporting-staff level, the technology-infrastructure level, the curriculum level, the user-interface level, the procedural level via which the managed change is to occur" (Collis, 1998, p. 3). Staff development in the higher education sector needs to move from the backburner and promote opportunities as *not to be missed,* carefully addressing under-resourcing, uninterested and disinterested stakeholders. The work of Collis (ibid.) offers suggestions on how change can be more effectively managed through specific and clear obtainable goals that are less about motherhood statements. She asserts that

> There needs to be a mixture of both top-down (leadership, policy, vision, incentives, pressure, coordination, funding, infrastructure provision) and bottom-up (acceptance of the value of the innovation by the individual involved, willingness to move through initial difficulties as well as the unavoidable "implementation dip" that accompanies having to deal on a personal basis with the small and large problems of change and technology, adequate personal skill, access and insight to continue productively). (p. 3)

Case study: Academic development and learning technologies at an Australian University

Institutional context and background

The University that this case study is centred around is located in a rural setting in New South Wales, Australia. It has a history dating back to the late 1950's, over which time the University has grown to become one of the country's leading distance education providers. Currently, in addition to around 2,000 students attending classes at the University's main campus, there are approximately 15,000 students who study off campus in a range of disciplinary areas, including social work, nursing, business, education, sciences, humanities, social sciences, law, medicine and agriculture. In the 1990's, the University began to employ a range of new ICT technologies alongside its print-based materials, and to complement or replace other traditional distance learning media such as audiocassette tapes. The University introduced the production and distribution of interactive CD-ROMs, as well as Web-based video conferencing facilities, and like many other institutions, implemented an online LMS. More recently, social software technologies of the "Web 2.0" (O'Reilly, 2005) movement, including but not limited to blogs, wikis and podcasting, have made their entrance.

A centralised directorate at UNE is responsible for overseeing academic development, defined here as the facilitation of opportunities for the professional development of academic staff. To this end, the Directorate organises numerous events and initiatives including but not limited to workshops, seminars, one-on-one training, support for learning and teaching development grants and mentoring schemes. Through a "hub-and-spoke" model, the Directorate coordinates and supports educational developers based within the various faculties, who assist and work directly with the academics within the faculties to support academic renewal. The challenge for such centralised directorates is to engage academics in professional development activities that are relevant, timely, and that will have a profound and lasting impact on enhancing student learning outcomes. This is especially complex given the need to respond to institutional imperatives and the sector more widely, together with the presence of competing demands in the lives of academic staff. Today, academics are generally busier, and have compounding pressures to increase research outputs and cope with larger class sizes, both face-to-face and online; at the same time, students are demanding better interaction and a connectivity that for many academics is beyond their current thinking and abilities (see for example, Collis, 1998). The Directorate has recognised that there is a need to address the current and ongoing professional development needs of academics in a sustainable fashion.

This snapshot case study is intended to highlight the potential, possibilities, problems and pitfalls that one university faces in attempting, vis-à-vis new/emerging technologies, learning innovations and best practice in teaching and learning.

Methodology

Data was collected through in-depth interviews with a pre-identified purposeful set of key stakeholders across the University. The participants were selected on the basis of their interest in how the use of learning technologies at the University could be supported more effectively. Their insights represent only one instance although the authors feel the ideas presented here will ring true for others (Burns, 1994). The main purpose was to explore staff narratives in the light of the literature and ideas around academic development and sustainability in higher education teaching and learning, with a particular focus on innovative pedagogy and the integration of ICT in teaching and learning.

The authors chose not to conduct the interviews themselves in the interest of objectivity. Instead, they provided the research assistant conducting the interviews with an *aide memoir* based loosely around tools developed as part of the Embedded Learning Technologies (ELT) initiative, which falls under the umbrella of the EFFECTS (Effective Framework for Embedding C&IT using Targeted Support) project in the United Kingdom (Beetham and EFFECTS team, 2003). The interview recordings were transcribed and participants' names were replaced with aliases to ensure anonymity.

The transcripts were then subjected to inductive content analysis, which is ongoing at the time of writing of this manuscript. The process consists of the following: The responses are first read at face value to produce

a preliminary (candidate) list of themes. This list is gradually refined as subsequent passes are made through the data, with the content being reviewed in greater detail and common strands factored out. As part of this iterative process, categories are added, deleted, renamed, combined and divided as necessary. Eventually, all relevant sentences or phrases within the transcripts are coded according to the themes identified. The data presented as part of the snapshot case study represents the results of the early stages of the analysis process.

Both of the authors independently undertook the initial coding process, and compared their results to establish inter-rater reliability. The themes that emerged from the preliminary analysis were synthesised to draw out the major barriers and potential solutions from the participants' perspectives, especially with regard to their self-identified future professional development needs, and particularly in relation to their adoption and use of learning technologies.

Emergent themes from the preliminary analysis

A number of preliminary themes have emerged from the analysis of the data, and these are discussed in the sub-sections below. Given the quantity of data whose analysis is ongoing, what is presented here is a "snapshot" of the key issues that have emerged thus far.

Institutional imperatives

The competing demands on staff create an interesting dilemma for central directorates, which on the one hand promotes and supports institutional directions and work within those limitations, and on the other hand are champions for change and innovation. For many staff,

> Learning technologies are a key driver of the current institutional agenda. Learning and teaching strategy includes clear aims, targets and resource plans. Service teams develop their own local plans to make strategic learning technology aims. Yes… Yes… and that's a bad thing. Because… We all go in different directions and use different standards and students get confused because, if they're doing modules in different departments and faculties, they have to do things one way and another way. It's very bad. It needs to be – the departments and service teams can still develop their own local plans, in my opinion, but they need to be following a university wide set of standards in some areas. Even as detailed as the types of file formats being used.

As at other institutions, sustainability and scalability are key issues at the University, and the dilemma for centralised directorates is in part that they need to focus on what is available and what is supported. However, this can lead to stagnation, as adventure and change are tempered by institutional politics and the inability to respond to technological and societal change in a timely fashion. The presence of policies and systems that dictate what staff can and cannot do – For example, quality assurance processes, which, while necessary on the one hand, introduce considerable bureaucracy that slows and stifles innovation on the other. In the interest of flexibility, efforts have been made to decentralise resources and supply "soft" funding to individuals and departments to undertake special projects; however, this has given rise to the dilemma of

> People tend[ing] to think of themselves or their department […] rather than the University. […] What's best for [the University] as opposed to what's best for a specific department at a cost to another department. It's very difficult to list. This in itself is probably not sustainable.

Staff awareness

Some staff lack awareness of the resources and support that are available to them. They tend to want to use those tools that their colleagues or friends are using, regardless whether they have been evaluated or are supported at an institutional level. This poses difficulties for the Directorate as it is not able to adequately defend why a particular tool or technology can or cannot be used. Quite often, they are forced into a position of being caught in the middle – While they are keen to support innovation and engagement, there may not be sufficient institutional flexibility or resources to provide to required level of investigation and support for the technology. Furthermore, the Directorate is required to enforce institutional policy and conform to directives from senior management that may sometimes be at odds with what the academic staff wish to pursue. This can be frustrating for both the Directorate and its internal clients, namely the academic staff:

> … people have access but they don't know they have got access. So we might – we've supported video conferencing for a long time now and we have certain standards. As I was saying before, if we concentrate on common standards, we can support them very well. But what happens is, people read about some piece of software in a magazine or their friends tell them about it and they want to use it too. Even though it's not one of the three pieces of software that we support. They've never asked which software they should use or could use and they dream up something else that they want to use and they insist that they use it because their friend uses it. We try and push people back to using one of the standardised conferencing protocols.

It is not uncommon for some innovative staff to approach the centralised directorate to obtain assistance in their use of one or more technologies. Quite often, these staff at their disposal additional, "soft" funds that allow them more time to focus on enhancing their own use of the technology, and in enhancing the student experience in the process. Too often, however, these efforts are not aligned with an overall University plan. Upon conclusion of the project, it is discovered that little thought has been given to scalability (i.e. extending the tools and techniques developed and/or piloted to other units/courses or departments), or to the need for sustainability from the point of view of continuity or succession planning. For example, if an academic overseeing the project leaves the University, so too does the expertise:

> So if somebody is experimenting and they want to move it forward, they'll come and tell us about it and then we might join with them to investigate the technology and experience it, promote it, whatever. So you're spending a lot of time there sharing sort of ideas, expertise and disseminating knowledge or whatever. I think it's very individualistic. Like it's who I've got as my network of people in the technology I'm interested in that determines whether I do or do not share. So there's nothing strategic about that. So it's not really – it's not an established part of practice. It happens sort of serendipitously.

There are a range of technologies available to support teaching and learning innovation at the University, but whether academics actually know of them is a different matter. One of the participants articulated this point quite clearly:

> So, yes, I think they [academics] do have access to it [learning technologies]. But do they know about it is my question to you… Technology changes very rapidly obviously, so it's still the case that many academics, bless their cotton socks, are not very quick to update their teaching material. So the same material might be used from year to year. So, in the sense of learning technologies, blogs and wikis are new enough that people wouldn't be aware of them enough to covert their material or want to convert their material. It takes effort and energy to do that and somebody might ask themselves, "Why should I do this?", because it's easier to do nothing. So what we older people sometimes fail to recognise is that the students are eager to use the newer technologies and we should be focusing our efforts on what is easy for them, not what's easy for us.

Technical support

Whether the University has the capacity to support different tools and technologies, and who should bear the responsibility for maintaining and troubleshooting these technologies, is another issue that spoke loudly in the interview discourse. As the sector becomes more focused on efficiency and economies of scale, both academic and general staff are finding that the introduction of new technology actually creates different kinds of work that are yet to be truly and fully understood. In the words of a first-level service / help desk staff member:

> … people do phone [in] … with very detailed questions. They phone us even though they know the problem isn't anything to do with us. They seem to think that we'll fix any problem. We really aren't resourced to that but the service desk still helps. Still tries to help them. Because who likes to say 'no' to one of our external students?

Self-awareness

A further common issue that has emerged is that of keeping up-to-date. Academics are busier and they are finding it difficult to keep abreast with each and every new development and trend. In some ways this reflects the requirement to maintain awareness in general, but also to develop an appreciation of how the technology might be used in practice. In the words of one academic:

> I need to keep up dated. I'm not keeping well enough updated about some of the e-learning technology itself and the pedagogy around it. I mean I have a working knowledge of lots of things. Wikis and blogs and online and all of those things. But it's very hard to keep up with all of them all of the time. So I've tended to

> concentrate on keeping up to date and developing expertise in one particular area and that's video conferencing and just keeping a working knowledge in the other areas.

Institutional guidance
Further, that it appears for some staff that guidance is needed on what the University might do in the future:

> I think we need a policy framework about – that encourages people to look into new learning technologies. Gives them some information about 'well you know how far do I play with this by myself until I have to take it somewhere? Who else should I involve in this? What are the implications of it? Who do I tell about it when I think it's good? How do I find others to collaborate?' So there's no policy framework about implementation of learning technologies and I would find a framework with some guidelines, very useful.

Discussion: propositions relating to academic development and to the use of learning technologies

Based on their analysis of the preliminary themes in the case study, the authors would like to put forward three propositions relating specifically to academic staff use of ICT's in their teaching.

Proposition 1: Staff need to be afforded better access to information and strategies to raise their own desire and awareness of how to use ICT's to enhance student learning.
It appears from the initial analysis that some of the main issues facing academics have much to do with communication and awareness raising, and how this impacts upon the ways in which they go about selecting, using and supporting student use of the technology. The shift in conceptions of learning, as well as the changing roles and identities of teachers and learners, are at the heart of the current debate on Web 2.0 technologies, for example. As one academic aptly put it, "The use of technology is leading to changes in teaching styles and culture". In regards to embracing change and cultivating a desire for adventure, another staff member remarked, "It's more [about] who I am rather than skills that [I] learn".

According to Beetham (2005), there is no shortage of literature documenting the results of evaluations and investigations of the use of learning technologies. Goodyear, de Laat and Lally (2006) similarly point out that there are plenty of stories, vignettes and case studies with which to engage to this end. As Kirkup and Kirkwood (2005) have shown, however, the problem is that most instructors use Web-based technologies and other ICT's only in ways to which they are accustomed. That is, as a result of the implicit and explicit self-theories that they have built and developed over their lifetime, they have a tendency to simply re-create and replicate what they already do, as opposed to using the technology and tools to teach radically new ways. This is reminiscent of what Lankshear and Bigum (1999) called the "'old wine in new bottles' syndrome" (p. 455). Traditional teaching practices and beliefs may well be continuing to stifle and have a deleterious effect on how academic staff perceive of and approach the educational uses of technologies, and future consciousness many hold an important key to extending and opening up possibilities for the enhancement of learning outcomes with these technologies. Indeed, if underpinned by future-oriented thinking, open-mindedness and a desire for adventure and change, new media forms and digital technologies may be viewed as tools for transforming pedagogy in response to new demands of the knowledge era and networked society (McLoughlin and Lee, 2008).

Our tendency to replicate traditional pedagogical models in online environments may at least be partially attributed to the lack of interdisciplinary discourse between educational designers/developers and systems technologists. Time must be made for discussion and awareness-raising of what pedagogic approaches and tools best achieve the desired learning outcomes. It is also crucial that any inhibitions and fear of change, the unknown and of the future faced by academics be appropriately addressed and alleviated. Academic staff need to have somewhere to turn to seek guidance and assistance in imagining a future, not only with the technical aspects of learning technologies, but also in the way of pedagogical and instructional design strategies and techniques to use in conjunction with the technologies to support and enhance various facets of the teaching and learning process. Too often, academic development efforts in the area of learning technologies focus merely on providing orientation, instruction and/or support on how to operate the various functions of the LMS and its constituent tools. They fail to demonstrate how to integrate this technology use within a broader framework to facilitate active, engaging, student-centred learning. This

concern is reinforced by an alarming statistic revealed by a recent market research study undertaken by education.au in Australia: while most educators now use technology in their work, only one quarter use it in a way that enhances learning outcomes (Black, 2008).

Proposition 2: Academics must be encouraged and empowered to approach the use of ICT's to enhance student learning with creativity and innovation.
Many academics experience enormous pressure from the need to undertake mandatory professional development amid their regular teaching, research and administrative duties, especially when it is stipulated as part of their probationary requirements, or as a pre-requisite for securing tenure. For example, the pressure for new academic staff of Australian universities to undertake credit-based, graduate-level programs such as Graduate Certificates or Diplomas in Tertiary/University Teaching or Higher Education is increasing, and this is often perceived as an additional burden. Such demands leave little time and scope for individuals or groups of academics to advocate for new directions, be proactive, or even be excited by what is being imposed on them. The ability of academics to serve as agents for change and innovation is highly dependent on them having both the access to the necessary time, funding and resources, as well as the flexibility to exercise initiative in responding to social, technological and other environmental changes in a timely fashion.

The tension appears to be an obvious one, but is fraught with contextual issues and warrants attention to and consideration of what is feasible and practical given the constraints that are present. How can academic staff engage in innovation and transformational change when they do not have access to adequate time and resources? The prevailing approaches to professional development must be carefully re-thought. As is apparent in this article and in the case study presented, there are no simple answers. The tension between individual responsibility and ownership needs to be contrasted against a range of stakeholders' needs, demands and perceptions, and it is likely that conflicts will be present. External demands and pressures can be trying and personal responsibility is often pushed aside as it is easier to "pass the buck" or look to others for excuses.

Proposition 3: Notwithstanding Proposition 2, institutional frameworks are still needed to provide academics with sufficient guidance and direction in the use of ICT's to enhance student learning.
The prevalence of such limited and limiting approaches to the use of ICT's to enhance teaching, learning and pedagogy may also be due to the lack of institutional frameworks for change. The professional development of academic staff in the use of ICT's is typically in response to short-term and *ad hoc* needs of institutions, and appears to be consistently driven by the implementation of systems-oriented technology. For example, if a new LMS or virtual learning environment (VLE) is implemented, professional development in the way of training in the newly implemented system is required and becomes an immediate priority. Collom, Dallas and Obexer (2002) define the breadth and depth of knowledge and skills needed to teach well online. They found in their analysis of existing practice in flexible learning that professional development programs in this field tend to be highly reactive, non-flexible, piecemeal, poorly targeted, and heavily constrained by the client base with competing interests.

Black (2008) observes that most schools, colleges and universities can point to one or more educators or sections/departments where innovative and effective use of ICT in teaching and learning occurs. This "hub" approach to innovation is problematic as it critically dependent on particular individuals, and there is no effective method to generalise the learning from the innovations to other parts of the organisation. In fact, few models exist that can be drawn upon when scaling learning technologies within and across higher education institutions (see for example, Segrave, Holt and Farmer, 2005). This is perhaps not surprising given the individual complexity and uniqueness of higher education institutions, their institutional cultures and goals, and the students they serve. In the absence of explicit policy direction and adequate resources, it is difficult for academics to make a break from the outmoded, didactic and transmission-oriented approaches to teaching that they and their colleagues have always been accustomed to. What is generally lacking is a holistic approach based on institutional or sector-level transformation. Individual initiative, although necessary and valuable, is not enough, especially when it is constrained by systems-oriented, top-down approaches towards the delivery of academic development. Academic staff are required to engage with a constantly changing technological environment. Their excitement and sense of adventure might, understandably, be waning under the pressure to keep up. In a world where what is new today might well

be old or outdated tomorrow, it is unreasonable to expect academics to find their bearings and work towards a common goal if their home institutions also lack direction. There is a fine line between the desire to give staff the freedom and autonomy to innovate, and running the risk of placing them in a "sink or swim" situation. This line must be thoughtfully and carefully negotiated.

Conclusion

Although the preliminary propositions and themes of this snapshot case study have limitations in terms of their generalisability to institutions and countries beyond the local scenario, they will no doubt provide a starting point for further research and inquiry about the role of future consciousness in academic development and support in the use of learning technologies. It is also hoped that the findings will serve as a starting point for educational leaders interested in facilitating sustainable, long-term initiatives and strategies aimed at cultivating a desire for change and adventure among academic staff, to "reinforce proactive behavior, self-efficacy, and internal locus of control" (Lombardo, 2007, para. 8) in encouraging them to engage with their own futures. Interestingly, these are the same types of qualities and attributes that academics aim to foster in their students.

The authors believe that successfully engaging with the goals of innovation and sustainable futures in the age of Web 2.0, the networked society and the millennial learner depends on a concerted effort at all levels of the tertiary/higher education sector. For example, at an individual level, staff must be adequately prepared and empowered to perform with the level of flexibility and responsiveness now demanded of them. It must also be noted that new technologies present both new opportunities and new challenges for teaching and learning, which in turn may result in shifts in the ways in which academic staff view and approach their own roles and the roles of students. Creative thinking and innovation, underpinned and enabled by future consciousness models, provide promising ways in which to address the challenges and capitalise on the opportunities at this level. Lombardo (2007) emphasises this need for adventure and change that emanates at a personal level, and stresses the importance of encouraging and supporting individuals to do their part, working surely but steadily towards a better future:

> … a key character trait necessary for heightened future consciousness is self-responsibility; hence it is critical in the education of future consciousness to reinforce proactive behavior, self-efficacy, and internal locus of control. Given the natural human tendency to waiver or give up when things get difficult, people need to acquire and use anchors, supports, and positive buffers to push through difficult times. Goals need to be regularly re-visualized, felt, and fed. The future is created today – in working toward a goal, the technique of doing something everyday to realize the goal is important. (Teaching future consciousness, para. 8)

At the same time, however, there must also be a re-examination and re-conceptualisation of the ways in which academic development and support is approached at a systemic and institutional level. The need for a coherent, strategic approach to implementing and supporting the effective use of learning technologies is more pressing than ever before. In the absence of explicit policy direction and adequate resources, it is difficult for academics to make a break from past pedagogies and the tendency to recreate what they already know, irrespective of the presence or availability of new technologies. All in all, the future of higher education depends on a holistic, research-informed, forward-looking response to academic staff development, in a manner driven fundamentally by personal awareness, responsibility, ownership and agency.

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