World Journal on Educational Technology

Vol:2, issue 1 (2010) 16-26

www.world-education-center.org/index.php/wjet

The Tin-Man and the TAM – A Journey Into M-Learning in the Land of Aus

Blake Peck[a] *, Cecil Deans[a], Lynette Stockhausen[a]

[a] University of Ballarat, School of Nursing, Australia

Received June 03, 2009; revised August 24, 2009; accepted September 22, 2009

Abstract

Within the past few years the virtues and pitfalls of Podcasting specifically within the higher education environment have been extolled. However, there is little, if any, discussion of how academic staff have undergone this period of transformation in an era of technological adoption and sweeping pedagogic change. Using the Technology Adoption Model (Davis 1989) as a theoretical platform and the characters from the classic film the Wizard of Oz as signposts, this paper explores and describes a staff development journey that introduced M-Learning pedagogies. More specifically the way in which Podcast technology was introduced in an undergraduate Bachelor of Nursing program conducted in a regional University in Victoria, Australia. The journey's resultant destination reveals that courage; passion and an openness to try something new are essential for the successful introduction of new electronic pedagogies by academics.

Keywords: E-Learning; M-Learning Mobile Technologies; Podcast; Podcasting.

1. INTRODUCTION

From a staff perspective the contemporary evolution of a curriculum from the traditional face-to-face approach to an online or blended approach is a journey akin to the journey along the Yellow Brick Road – portrayed in the movie classic The Wizard of Oz (Baum & Denslow, 1900; Fleming,

* Blake Peck. Tel.: +61 3 5327 9097; fax: +61 3 53279719
E-mail address: b.peck@ballarat.edu.au

1939). This paper proposes that staff within an academic environment, moving to adopting m-learning modalities, may find themselves caught in a whirl-wind of emotion, traversing a great many experiences both developmental and destructive, only to find themselves again comfortable in a new place. Using the characters of The Wizard of Oz, this discussion highlights the foray of staff into M-learning within a School of Nursing. The Technology Adoption Model (TAM) proposed by Davis (1989) is used to further critique an understanding of the transition for academic staff into the use of the ever-popular technology of the Podcast. This paper culminates in a discussion concerning the way in which the undertaking of this journey provides a means by which the TAM may be further elaborated. This paper also offers practical recommendations for staff at all levels embarking upon a technological transition as well as an opportunity to reflect upon the degree to which their team, organisation or institution is genuinely prepared for the excitingly unknown journey of M-learning.

This paper is ultimately a qualitative or descriptive representation of the journey undertaken by a school within a higher education institution, into the realm of M-learning, most specifically the introduction of the two (2) hour Podcast. Following a brief exploration of the background of this journey, a sketch of the TAM as well as the links between this journey and the Wizard of Oz will be made providing a foundation upon which to begin an elaboration of the journey. In turn, each character of the Wizard of Oz and their inherent personality or character flaw will be explored and the appropriate links to the TAM amplified as a means of unpacking the journey into M-learning itself. The Scarecrow 'If I only had a brain' explores the barrier for staff embarking imposed by knowledge of the technology itself. The cowardly lion and his lack of courage highlights the 'let go of what you know' attitude required of staff along this journey, while the Tin-Man and his lack of a heart highlights the way that one's passion for teaching and learning will inevitably overcome one's hesitation towards the technology. The paper concludes with a provocative propositions concerning the way in which the TAM may be elaborated in light of having undertaken the journey explored here, as well as the provision of support for those undertaking such a transition in the here and now and into the future.

1.1. Background

The journey retold throughout this paper is that of a specific discipline within a multiple-campus University situated in regional Victoria, Australia. A distance of approximately 200km separates the two campuses, through which the specific discipline is provided. In order to meet the strategic learning styles and needs of contemporary students, a decision was made to integrate a flexible, mobile pedagogy throughout the curriculum. This shift in pedagogy initially involved the production and delivery of two-hour lectures via Podcast for two core-nursing units that were made available for students attending both campuses. Limited Information Technology resources and skills within the school as well as the wider university proved challenging. As academics with a penchant for research-based evidence the literature was investigated to locate a semblance of support, published, anecdotally or otherwise for our endeavour. Despite authors extolling the virtues of Podcasting no published material could offer the specific evidence based support for the provision and/or efficacy of two hour podcasts of live lecture based material. With this bold decision to shift

pedagogically to Podcast technology, the journey for the staff within the School of Nursing into the world of M-learning began.

1.1.1. Technology Adoption Model (TAM)

First introduced by Davis (1986) the Technology Adoption Model is an adaptation of the established social psychological theory used to theoretically underpin consciously intended behaviours commonly known as the Theory of Reasoned Action (TRA). Davis (1986) adapted the TRA to provide a theoretical model specific for understanding a users intention to adopt the use of technology. The TAM is primarily premised on the perception that one's 'perceived usefulness' and one's 'perceived ease of use' of technology correlates positively with the adoption of that technology. Perceived usefulness is defined as the degree with which a person believes that using a particular system would enhance his or her job performance. Perceived ease of use refers to the degree a person believes using a particular technology will be free of effort (Davis, 1989, p.320).

Mediating between these two perceptions is the notion of the user's attitude, which according to Davis (1989) is capable of influencing one's perceived ease of use and perceived usefulness. Although several more recent studies have sought to revise the TAM without the attitude construct (Venkatesh, 1999, 2000; Venkatesh & Davis, 2000), the inclusion of attitude as a mediating factor in the adoption of technology is considered pivotal to providing a theoretical underpinning for this paper. Thus, the fundamental premise inferred by the TAM for the present application, is that academic staff who perceive Podcast technology as straightforward to use and useful for the purpose of teaching and learning, and have a positive attitude towards the technology will in a majority of instances adopt the technology in their teaching practices. Although cognisant that the elements of the TAM operate synergistically, a consideration of these elements in isolation offers a more straightforward approach for conceptualising the TAM itself and the journey of academic staff into the a strange new world of Podcasting, a world akin to that represented by the classic film the Wizard of Oz.

1.1.2. Strange New Land

Recall from the classic film The Wizard of Oz, that Dorothy was picked up in a whirlwind tornado and transported to the Land of Oz. This foreign land, devoid of the familiarity of Dorothy's hometown Kansas, with limitless possibilities for adventure and the inevitable chance meeting with appealing characters, provides a setting surprisingly reflective of the academic journey into Podcasting discussed here. Dorothy's intriguing travel companions – the Scarecrow, Tin-Man, and the Cowardly lion – all of whom whimsically declared that if they only had a brain, heart and courage respectively could overcome the challenges of their environment. Each of these characters had to contend with not only with their own personal limitations but also the ever-present possibility of being confronted by the Wicked Witch of the West. Embodied by the witch were all things negative, whilst the Good Witch encompassed all things positive and offered support for the ongoing journey. The self-confessed personal plights of these characters and the ability of the Wicked Witch's negativity, to seemingly manifest from no-where, can be considered to parallel the journey of academic staff within the School under focus. Thus, the characters of the Wizard of Oz, more

specifically their respective personality plights, provide a surprising synergy with staff within the School moving towards the adoption of Podcast technology. The unique personality flaws of the characters within the Wizard of Oz, offer a means of strategically unpacking the challenges experienced along the journey and a means of linking with the theoretical aspects of the TAM.

1.1.3. The Scarecrow – 'If I Only Had a Brain'

Opening a door into the world of M-learning, replete with foreign language, technology and the 'can do attitude' of those familiar with the e-learning environment, staff within the school were confronted with their own perceptions of inadequacy. Much like Dorothy's first companion on her journey – the Scarecrow – staff wished that they 'only had a brain' for this type of technology.

It was evident from staff discussions and education sessions that several staff were fearful of the technology, inundated by a consistent lack of tacit technical knowledge, perhaps compounded by an abundance of older generation learners. Significant research abounds espousing the belief that the younger population are more savvy with technology than their older counterparts (Waterhouse, 2005). Zajicek (2007) believes the older population are less interested in engaging in the process of learning new technologies with a majority of them having lived their lives in a world free of the World Wide Web. Despite these widespread beliefs, Kallick and Wilson (2001, p.75) suggest staff, independent of age, need to get over their "techno-anxiety" and involve themselves in the exercise of becoming familiar with it.

In the academic environment Waterhouse (2005) identifies that a significant disincentive to the adoption of e-learning modalities and skills, is the time investment required of staff with many academics' perceptions of being unrecognised by their peers and management (Wilson, 2001). In an environment routinely overwhelmed with deadlines, time constraints and constant workload, the necessity to learn the skills required to produce Podcast ready content was seen as an insurmountable task and appeared to create a barrier to the forward momentum of the process. In addition, the need for the development of new teaching strategies, and resources makes the time commitment required significant.

The TAM although valuable does not adequately capture the idea that time has a bearing on the level of adoption and the perceived ease of use. Most certainly the initial 'start-up' period of this technological shift can be captured using the TAM, however the longitudinal nature of the adoption and changing perceptions of staff cannot be effectively captured by the present static nature of the model. Although support is well founded within the literature, the pressure of being time poor and the requirement to learn a series of new skills is consistent with what Moser (2007) describes as the most fundamental aspect of her 'Faculty Education Technology Adoption Cycle'. Recognising that support is a critical factor in technology adoption, Moser considers the scarce resource of time as the key element in the successful adoption of technology. With a direct correlation between time and importance and/or value assigned to a task, Moser believes management need to develop an incentive structure for staff engaging in the exercise of introducing and becoming familiar with technology in educational application and reports "a positive causal relationship between time commitment and competence development. Time commitment is the prerequisite for an

involvement in competence development and an engagement in course (re) design activities." (p.67)

Through the lens of the TAM, staff feelings of technological inadequacy, has a natural concordance with the notion of perceived ease of use proposed by Davis (1989). In the initial phase, staff were less prepared to invest time and effort in the gaining of the technological skills required of the shift towards Podcast technology. Consistent with the TAM several staff within the school believed the appointment of specialised technologically savvy support staff would make the transition towards the technology an easier one (Davis, Bagozzi & Warshaw, 1989). The literature supports the need for technical support in the form of specialist expertise in making such a transition (Covington, Petherbridge & Warren, 2005; Miller, Martineau & Clark, 2000; Rogers, 2000). Although staff within the school believed support staff should be appointed to facilitate this pedagogical shift, the fact that this development evolved 'from within the school' rather than being 'imposed on the school,' staff developed a sense of membership in a developmental experience. As a result staff developed a sense of control over the transition process and team reliance and were able to limit the input of 'expert' staff to an as needed basis in achieving the outcomes expected. Although several studies posit a link between effort and adoption (Davis, 1989, Gefen & Straub, 2000; Gribbins, 2007; Lee, Kozar & Larsen, 2003), limited literature is available that links the degree of support provision and its subsequent effect on perceived ease of use.

In light of the time investment required by all staff and the visibly lacking sense of technological support, the adoption of Podcast technology seemed destined to fail. However, the Good Witch emerged, representing all things positive about the seemingly overwhelming journey. As the technology was new to each staff member, the team began to recognise that the best avenue for support was his or her fellow journey-person. Out of this belief bloomed a level of camaraderie untypical of the pre-Podcasting team-dynamics. Through engagement in the endeavour of introducing Podcast technology the academic and administrative team were unified in the pursuit of technological and Podcast 'know-how'. Seemingly each member was buoyed by his or her peers and each sought to become a productive contributor for the greater good of the team.

1.1.4. The Cowardly Lion –'Courage'

Lacking courage the 'Cowardly Lion' was the next to present Dorothy with a series of unique challenges; namely shying away from threatening or challenging events, once more this character is reflective of the journey taken by academic staff. The cowardly lion represents personal and/or attitudinal preparedness of academic staff to embrace the technology rather than their technological know-how as represented by the scarecrow. Academic staff were confronted with their own fears of what in hindsight can comfortably be described as a lack of courage, to embrace something different, in a world of familiarity.

Podcasting provided an attitudinal challenge to many academic staff within the school. Moving to a curriculum that embraces Podcast technology as an everyday pedagogy, staff needed to be prepared to take risks and more significantly adopt something foreign to that traditionally utilised.

That is, staff and management needed to be prepared to simply have a go with the technology, and try it on for size and be prepared to recognise that it may not fit and let go of the traditional tools.

Staff developed a sense of fear or apprehension of moving away from the familiar face-to-face lecture towards the need to abandon that, which is near and comfortable in the presence of the Wicked Witch. Staff believed that face to face teaching approaches had been successful for a considerable amount of time and technological development, such as Podcasting, was a threat to what they considered to be good teaching practices. The change in role and responsibility of academic staff and the ways in which they can adapt to this change, while shifting towards the introduction of new technologies, has been recognised as a considerable barrier for academic staff (Murihead, 2000, Zheng & Smaldino, 2002). In addition, most academic staff are accustomed to being in control of their subject matter and the ways in which it is presented. Those who believe they produce good lectures may question the ability of the new technology to produce such positive outcomes (Waterhouse, 2005). The need to develop a positive approach toward the technology, and to embrace the possibilities of the technology as a reliable and effective means of teaching and learning, is for some a dramatic attitude change (Deubel, 2003; Volery, 2000; Yang & Cornelious, 2005)

The TAM, proposes a linear relationship exists between both perceived usefulness and perceived ease of use upon one's attitude. This paper however, contends that a degree of bi-polar reciprocity exists within this relationship not indicated by diagrammatic representations of the TAM models reviewed. The current paper considers one's attitude as tantamount to the way in which one perceives the usefulness and ease of use of any technology. Academics have different core priorities that determine or have an impact upon one's attitude and subsequent intention to use the technology. Some staff did not consider the technology as being straightforward to use – as indicated by the example of the scarecrow. This established an attitude that was fearful of change. Alternatively, however, staff attitudes may have impacted upon the degree with which one perceived the effort required of the technology. It could be argued that for many staff, an attitude of 'how will this benefit me' indicative of the 'perceived usefulness' construct of the TAM. Furthermore, it could be considered responsible for the widespread opinion of staff that students would reflect their dissatisfaction of the technology in academic evaluations of learning and teaching. Regardless of attitude, or the degree of significant value to academic staff seeking promotion or continuing contracts, one can see a direct synergy between perceived usefulness and the reality of the journey described within this paper.

Once more, the Good Witch arrived. She was able to help staff re-construe the situation and recognise the simplicity of the Podcast technology, and its accessibility, made the technical issues redundant and all that was needed of staff was a state of personal courage to "have a go!" The efforts of the Good Witch made staff realise the life long learning possibilities provided by courage and endeavour to see the development of a project such as this through to completion. Similarly, Liu and McCombs (2007) in their study concerning a Best Practice approach to Podcasting found that the shift of their department to adopting Podcasts established an exemplary model for teamwork between colleagues and other departments.

1.1.5. The Tin-Man – 'If I Only Had A Heart'

Dorothy's next journey companion 'The Tin-Man' anticipated life 'if he only had a heart'. The common link between the symbolism of the heart and the notion of passion is discussed. In order to be comfortably situated to embrace the Podcast technology, staff needed to be able to identify within themselves their passion for teaching and their desire to further the learning outcomes of students. Once the phobia of the technology has been addressed, ones ability to embark upon using the technology pedagogically is a function ultimately of their 'passion' for teaching. Although literature exists that is cognisant of the notion of one's passion for teaching in an online learning program, the material focuses exclusively on the teaching itself, rather than on one's passion for change. Conrad (2004) and Palmer (1998) describe the way in which one's passion for teaching is evident in the way in which they deliver an online program, with no consideration of the way in which one's passion lends itself to the adoption of online approaches in the first place. Despite the dearth of material available, the writing team considers one's 'passion', for teaching and learning, is a significant contributor to the extent with which one is prepared to embrace, utilise and engage in the adoption of new technologies.

Passion, like all forms of enthusiasm, can suffer episodes of troughs, especially when the influence of the Wicked Witch is present. Staff moved from being positive about the benefits Podcast technology provided, to feelings of eminent doom particularly given the level of expedience required. Like every action however, there is an equal reaction, and this was in the form of the actions of the Good Witch reorientating the team towards the goal. Although Covington, Petherbridge and Warren (2005) described peer support as a prerequisite for successful adoption of technology, very little published material is available that discusses the cohesive nature of a team set on a common journey in the area of technology adoption. In addition, Calder (2006) describing the move of staff involved in a first year experience initiative Podcast technology generated a sense of engagement and enthusiasm. From the experience of the group described in this paper, the cohesion of the group was central to the overall success of the implementation and is perhaps an area for consideration in any future models concerning technological adoption. When perceived enthusiasm or passion for the technology seemingly waned, the team organised a planning opportunity to feedback the present state of the team's efforts and the future directions anticipated. The ways in which team members could help each other through the various hurdles unique to each subject area was also instigated.

Similar to the way in which one's attitude was described as being able to have an impact upon the way in which individuals perceive the usefulness and ease of use of technology according to the TAM, the authors of this study believe one's passion has a similar function. Passion however is considered to be somewhat more determinate of one's attitude. That is, if one is passionate about their role as an educator and for student learning outcomes, the technology simply provides another avenue through which to facilitate their activities, and as such individuals will have a positive attitude towards the technology and inturn be perceived as useful for their purpose. The inclusion of personal traits such as one's passion for teaching, could be considered developmental of any framework for e-learning technology adoption.

2. RECOMMENDATIONS

Maintaining the themes outlined above, a series of recommendations are provided for guiding and encouraging others through the journey of introducing Podcast technology as a pedagogical approach into any curriculum. On the theme of If I Only Had a Brain perhaps the most noteworthy recommendation is that 'less is more'. The simpler one can make the use of the technology, the more likely it is that staff will be more willing to adopt a proposal and perceive the effort required as minimal and invest their time and energy in implementing and embracing the technology. In the School of Nursing it was paramount that the technology developed was simple and user friendly. The use of simple 'drag and drop' technology maintained simplicity while not loosing any functionality. Perhaps the need for the technology to be simple and user friendly is best highlighted by the contentions of the TAM that specifically highlights that the adoption of any form of technology is contingent on the degree with which staff perceive the use of the technology as bereft of effort (Davis, 1989; Gefen & Straub, 2000; Valentine, 2002).

With regard to the specific needs of the school, it was quickly realised, that both within the University and globally, staff were genuine 'trail-blazers'. No other institution had, to the best of our knowledge, utilised Podcast technologies in quite the same way proposed here. That is, generating one and a half to two hour lectures accessible for students via Really Simple Syndication (RSS) (Lee, Miller & Newnham, 2008) as a replacement source of face-to-face lectures for remote campus students. The upside of what would seem an insurmountable hurdle was staff attitude change with the realization that there is no 'one expert' in this area that can magically make this happen, and that the team really were the only resource available to each other. Stemming from this is the recommendation that giving the team members a degree of ownership over the process, the team became cohesive and collegial relationships and discourse flowed freely during this phase of the process. Despite the significance and strength of collegiality resulting from the team's movement towards adopting this technology, no studies specific to this phenomenon were located. Realising that once the technology was in place, the use of the technology was open to individual preference, staff were somewhat buoyed by the possibilities. A recommendation from this journey is the need to provide both educational and discussion forums regularly for staff. Educational approaches need to move slowly and be focused only on what is absolutely necessary to the technology's specific application in a hands-on manner. Given the time poor nature of many staff, the provision of repeated sessions enabled staff to feel up-to-date with their peers and the technology.

In terms of the lessons learnt by being Courageous throughout the journey, the recommendations must include a need for both staff and management to be prepared to take a risk. When staff were instilled with confidence in both the technology and the preparedness of management to accept that mistakes will be made along the journey, staff were prepared to 'have a go'. Several opportunities were provided for many staff to both see, and practice with the technology prior to the official launch. During this time, staff became more secure in the robust nature of the technology and its safe use for the future. A need to be comfortable with the technology has been identified by Moser (2007) as tantamount in adopting the technology. If early adopters experience recurrent setbacks a seam of scepticism can emerge within the team leading to many abandoning

the technology and many not even prepared to try. However, a significant contributor to the development of courage in the staff was a planning session where the Head of School made clear that mistake and hiccups were to be expected and that this was a major pedagogical and technological shift for the school, and indeed the university. It is recommended that providing opportunities for senior staff to communicate with their team about the introduction of change – in this case technology – works to improve the degree of staff preparedness to accept and implement that change. Management, able to establish a transparent incentive scheme for staff willing to work towards technology adoption, while working with established boundaries of expectations is essential for technology adoption (Moser, 2007; Waterhouse, 2005).

The final recommendation – albeit perhaps the most fundamental – is the provision of opportunities to highlight the possibilities of the technology for teaching. In doing so reigniting the passion of staff for teaching. Although passion is not a concept well represented within the literature, the authors of the present paper believe it provides the very catalyst for exponential growth of e-learning utilisation within a School. Significant in overcoming the technical phobias, and threat to one's identity, as an academic, is captured superbly by Palloff and Pratt (2000, p.4) that "technology does not teach students; effective teachers do".

3. CONCLUSION

Despite being courageous and having the mental capacities to learn the requirements of the technology, without a core passion for both teaching and learning, the introduction of a change to the traditional approach to face-to-face teaching will be a complex proposition. The journey described here has shown that staff are able to build their capacity to complete the technical requirements to ensure Podcast technology is accessible to students.

For many staff, the introduction of the technology seemed to reignite their passion for teaching and opportunities for creative uses of the technology, while for others the technology is just another 'thing' that needs to be done. As a School, staffs have been able to achieve the goals of delivering material to students attending a distant campus, and have found that students receiving a majority of their material via Podcast for specific units of study are able to achieve academic success. The environment in which academics operate is constantly changing, in this instance through the adoption of Podcast technology. The only way in which academics can continue to survive in the environment is to learn, in order to incorporate such changes. Garratt's, (1990, p.54) It is a fundamental law of ecology that for any organism to survive, its rate of learning must be equal to, or greater than, the rate of change of its environment, gains traction once again, in relation to the journey outlined above. However, what has been seen is that people are able to survive by simply learning the technology, but are not able to thrive unless they have a personal passion for the implementation of the changes adapted to.

Approximately one semester after the implementation of the Podcast technology into the curriculum, the team members were independently using the technology in a manner that was

satisfactory. The journey itself created a sense of cohesion and camaraderie that had not been present before the implementation period. The team is presently conducting research regarding the utilisation and attitudes towards Podcast technology of undergraduate students with preliminary research results indicating that despite, mixed attitudinal responses to Podcast technology, students are enthusiastic about the use of full length lecture Podcasts particularly for the purposes of examination revision.

Unlike Dorothy who could have at any stage of her journey tapped her Ruby slippers together and returned home, the authors of this paper are steadfast in their belief that Podcasting has provided a new and flexible perspective to the curriculum. Academics are now able to provide a flexible approach to learning and move closer to achieving the utopia of student engagement. As a result, staff cognisance of the many rewarding pedagogical and collegial experiences had and the possibilities of the new milieu staff find themselves in, many would choose to 'throw their ruby slippers away' seeking to never return to the place from which they have come, looking rather for another adventure.

REFERENCES

Baum, L.F. & Denslow, W.W. (1900). The wonderful wizard of oz. George M.Hill Company, Chicago.

Calder, A. (2006). If you cant beat 'em, podcast' em! Paper presented at 9th Pacific Rim First Year in Higher Education (FYHE) Conference, Engaging Students, Griffith University, Gold Coast, Queensland, Australia.

Conrad, D. (2004). University instructors' reflections on their first online teaching experiences. Journal of Asynchronous Learning Networks, 8(2), 31-44.

Covington, D., Petherbridge, D., & Warren, S.E. (2005). Best practice: A triangulated support approach in transitioning faculty to online teaching. Online Journal of Distance Learning Administration, 8(1), Retrieved September 16th from http://www.westga.edu/~distance/ojdla/spring81/covington81.htm

Davis, F.D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. MIS Quarterly, September, 319-340.

Davis, F.D., Bagozzi, R.P. & Warshaw, P.R. (1989). User acceptance of computer technology: a comparison of two theoretical models. Management Science, 35(8), 982-1003.

Deubel, P. (2003). An investigation of behaviourist and cognitive approaches to instructional multimedia design. Journal of Educational Multimedia and Hypermedia, 12(1). 63-90.

Fleming, V. (Producer) (1939). The wizard of oz [Film-Media]. Chicago, Metro-Goldwyn-Mayer.

Garratt, B. (1990) Creating Learning Organisations. Cambridge, Director Books.

Gefen, D. & Straub, D. (2000). The relative importance of perceived ease of use in IS adoption: a study of e-commerce adoption. Journal of the Association for Information Systems, 1(8) 1-21.

Gribbins, M. (2007). The perceived usefulness of Podcasting in Higher Education: a survey of students' attitudes towards and intention to use. Paper presented at the Second Midwest United States Association for Information Systems, Springfield, IL, May 18-19.

Kallick, B. & Wilson, J.M. (2001). Information technology for schools. Jossey Bass, San-Francisco.

Liu, Y. & McCombs, S. (2007). Podcasting best practice based on research data. Paper presented at Society for Information Technology and Teacher Education International (SITE) p.1604-

Lee, M., Miller, C., & Newnhma, L. (2008). RSS and content syndication in higher education: subscribing to a new model of teaching and learning. Educational Media International, 45(4), 311-322.

Lee, Y., Kozar, K. & Larsen K.R.T. (2003). The technology acceptance model: past, present and future. Communications of AIS, 2(50) 750-780.

Miller, J.W., Martineau, L.P., & Clark, R.C. (2000). Technology infusion and higher education: Changing teaching and learning. Innovative Higher Education, 4(3), 227-241.

Moser, F.Z. (2007) Faculty adoption of educational technology: educational technology support plays a critical role in helping faculty add technology to their teaching. Educause Quarterly, 1, 66-69.

Murihead, W.D. (2000). Online education in school. The International Journal of Educational Management, 14(7), 315-324.

Palloff, R.M., & Pratt, K. (1999) Building Learning Communities in Cyberspace: Effective Strategies for the Online Classroom. San Francisco, Jossey-Bass.

Palmer, P.J. (1998). The Courage to Teach: Exploring the Inner Landscape of a Teacher's Life. Jossey-Bass, San Francisco.

Rogers, P.L. (2000). Barriers to adopting emerging technologies in education. Journal of Educational Computing Research, 22(4), 455-472.

Valentine, D. (2002). Distance learning: Promises, problems, and possibilities. Online Journal of Distance Learning Administration, 5(3). Retrieved September 15, 2008 from http://www.westga.edu/~distance/ojdla/fall53/valentine53.html

Venkatesh, V. (1999). Creation of favourable user perception: exploring the role of intrinsic motivation. MIS Quarterly. 23, 239-260.

Venkatesh, V. (2000). Determinants of perceived ease of use: integrating control, intrinsic motivation, & emotion into the technology acceptance model. Information Systems Research, 11(4), 342-365.

Venkatesh, V., & Davis, F.D. (2000). A theoretical extension of the technology acceptance model: Four longitudinal field studies. Management Science, 46(2), 186-204.

Volery, T (2000). Critical success factors in online education. The International Journal of Education Management, 14(5), 216-223.

Waterhouse, S. (2005). The power of e-learning: the essential guide for teaching in the digital age. Sage Publications. London.

Wilson, C. (2001). Faculty attitudes about distance learning. Educause Quarterly, 24(2), 70-71.

Yang, Y, & Corneluis, L.F. (2005). Students' perceptions towards the quality of online education: a qualitative approach. Paper presented at Association for Educational Communications and Technology Conference, Chicago, IL.

Zajicek, M. (2007). Web 2.0: Hype or Happiness? Paper presented at the 16th International World Wide Web Conference (Keynote Address), Banff Canada. 35-39.

Zheng, L. & Smaldino, S. (2003). Key instructional design elements for distance education. The Quarterly Review of Distance Education, 4(2), 153-166.