

# **Blended Learning Lead Institute**

Gerard Corcoran

Brisbane North Institute of TAFE

## **Abstract**

Blended Learning and hence Blended Delivery and Distribution have been identified as the way of the future. This paper will provide comments on my exploration of research underpinning the decision taken by the Queensland Government in the 2006 Queensland Skills Plan to recommend blended learning as a key plank in the revolution of VET training in Queensland. It will argue however that the decision to proceed on this journey must firstly answer a series of questions regarding research, implementation, model selection and experience of others in meeting this challenge. The application of a carefully planned change management model is essential and needs to be one which includes all the staff involved in the implementation of the policy. The real test of the successful implementation of Blended Delivery and the leadership of it by the Brisbane North Institute of TAFE will significantly depend on how the staff at the Institute is convinced that the future of education and training will be enhanced by embracing the principles and challenge of the Blended Delivery ethos.

## **1. Introduction**

A major outcome of the Queensland Skills Plan (QSP) was the allocation of responsibility for leadership in **blended learning and delivery** models to Brisbane North Institute of TAFE (amalgamated with Open Learning Institute of TAFE) and Barrier Reef Institute of TAFE.

Queensland Government will reform TAFE by establishing designated 'lead institutes' with a clear mandate for leading product development and coordination across the state in designated fields. Institutes assigned a 'lead institute' status will have a

responsibility for the curriculum management, development and distribution of training support materials. They will also be responsible for coordinating product quality and consistency. These institutes will become the primary point of contact for industry to engage in TAFE training and qualifications, and they will work with private training providers to achieve best practice across the Queensland training system.

Brisbane North Institute of TAFE (is the nominated Lead Institute for Business, Finance and Information Technology (IT) (including Property Services, Government (excluding Local Government) Horticulture, Open learning and Blended learning models (with Barrier Reef)

Blended learning is but one component of an overall strategy of investment decisions being made by the Queensland Government to bring TAFE training into the twenty first century. If TAFE Queensland is to survive it needs to follow through on the rhetoric and invest the millions of dollars needed to develop learning management content and learning management systems, single subscriber portals, authentication systems, laptops computers for each teacher, professional development for all of its teaching staff so that they can deliver on the blended learning promises that have been made to the taxpayers and students of Queensland.

The Queensland Government will provide additional funding to upgrade TAFE's ICT environment. A major component of the ICT investment will be directed towards the Learning Management System will have enormous benefits for TAFE Queensland by enabling a wider range of higher quality programs to be delivered to more learners across the state. Students will have access to more up-to-date technology and more flexibility in the way their training.

This paper has been developed to assist readers to understand the topic of blended delivery to ensure that when discussions on the topic are undertaken that there is a common understanding of the many and various definitions, models, systems, issues and challenges that are associated with the term. Blended Delivery is a multi faceted concept and not a one size fits all generic solution. Any organisation undertaking a blended learning solution definitely needs to spend and invest time and resources into understanding which of the plethora of blended learning choices would work best for their organisation and at a micro level for various sub parts of the organisation where choices of blended learning solutions may differ.

The paper has raised four questions that will be explored to provide an understanding of some of the debate surrounding Blended Learning.

- ✚ What research has been identified to supports it as a viable pedagogical model for the future VET delivery?
- ✚ What are the major issues or trends in Blended Learning implementation that may impact on the TAFE decision to implement it?
- ✚ What are the major issues and challenges that would be expected prior to the ant implementation efforts?
- ✚ Which systemic models are considered to be most appropriate for the TAFE Lead Institute model?

### **3. Findings and discussion**

#### **What research has been identified to supports it as a viable pedagogical model for the future VET delivery?**

The term blended learning to describe forms of ICT support for learning has recently come into vogue ( Bonk & Graham, 2005). Blended learning describes technology facilitated learning that retains a strong and deliberate role for the teacher in the

learning process. Blended learning appears to provide strong support for instructors looking to create learning settings based on strong learner-centred modes of delivery (Oliver, Herrington & Reeves, 2005). Such approaches provide instructors with a raft of opportunities for creating engaging and supportive settings. It is within the capability of blended learning to draw the maximum benefit from the technology while retaining the best features of face-to-face teaching which makes it so ideal for supporting engaging learning activities.

While these stories proliferate the literature there are equally many counter arguments warning about previous negative experiences particularly in the e learning or on line learning sphere. Many projects like the UK eUniversity, NYU Online, Scottish Knowledge, Universitas 21 and Global University Alliance, all developed around e-earning applications, failed to realise their aims and goals leading many to question the quality and capabilities of this form of educational delivery (Garrett, 2004). Like all forms of education, there are both good examples and bad examples in practical settings. The questions many people are looking to answer is, what are the necessary and optimal conditions for successful blended learning in higher education and can these conditions guarantee that blended learning will be successful? Many of these questions have become more important in the current era where accountability is a key concern in the higher education sector.

McArthur (2001) argues that in any blended learning setting should take into account not only of the technology used but also the blended learning strategy. The forms of strategies guiding the use of blended learning have potentially large impacts on the learning achieved. Franks (2002) describes a four-stage model for instructors implementing a blended learning approach that moves from (1) an initial mode that simply provides administrative information on a course, (2) through a communications element, (3) leading to materials delivery, and, finally, (4) a more engineered and deliberate use of technology for particular learning needs. Any attempt to use blended learning to support engaged learning would represent an activity at this extended stage of this implementation cycle.

One clear advantage of blended learning in education is its connection with differentiated instruction. de Guia (2004) discussed differentiated instruction

involving “custom-designing instruction based on student needs.” In differentiated instruction, educators look at students’ learning styles, interests, and abilities. Once these factors have been determined, educators decide which curriculum content, learning activities, products, and learning environments will best serve those individual students’ needs. Blended learning can fit into a number of these areas. By using blended learning, educators are definitely altering the learning environment when students work collaboratively in learning communities online. For example, teachers could also add relevant curriculum content that would be unavailable or difficult to comprehend outside of the internet. Learning activities and products can also be changed to use technologies in a classroom that uses blended learning.

So what does the research say? In a study by Dean et al (2004) and associates research provides several online options in addition to traditional classroom training actually increased what students learnt. Another study conducted by Delacey and Leonard (2002) showed that student interaction and satisfaction improved, along with students learning more in courses that incorporated blended learning. Another advantage of blended learning is pacing and attendance. In most blended learning classrooms, there is the ability to study whenever the student chose to do so. If a student is absent, she/he may view some of the missed materials at the same time that the rest of the class does, even though the student cannot be physically in the classroom. This helps students stay on track and not fall behind, which is especially helpful for students with prolonged sicknesses or injuries that prevent them from attending school. Alvarez (2005) defines these “self-study modules” as allowing learners to review certain content at any time for help in understanding a concept or to work ahead for those students who learn at a faster pace. Because of the ability of students to self-pace, there is a higher completion rate for students in blended learning classrooms than to those in strictly e-learning situations (Flavin, 2001). This self-pacing allows for the engagement of every learner in the classroom at any given time. Students also see that the learning involved becomes a process, not individual learning events. This revelation allows for an increased application of the learning done in the classroom.

A comprehensive review of North American research in the area of Blended Learning and Delivery was conducted in the ALN Conference Workshop on Blended Learning

& Higher Education by Vigare, Dziuban, Moskal, Luby, Serra-Roldan and Wood at University of Central Florida November 17, 2005.

In the interest of sharing this excellent resource in Blended Learning Research a full bibliographical reproduction is included as an Appendix to this paper (Appendix A).

**What are the major issues or trends in Blended Learning implementation that may impact on the TAFE decision to implement it?**

With the given research, it is clear that using blended learning in education improves the teaching and learning in a given course. Educators want to teach in a way that best reaches all of their students. If blended learning accomplishes this more teachers will begin to use these methods. When teachers begin to explore blended learning and the resources that can be found through the internet and other technologies, they can structure their classroom in a way that best suits their teaching style and their students' learning styles. Blended learning allows "[teachers] and [their] students to have the best of both worlds." (Alvarez, 2005) The traditional classroom and e-learning both have advantages and disadvantages. As Alvarez states, "the online environment is not the ideal setting for all types of learning. Classrooms are not perfect either. That's why so many teachers and corporate trainers are concentrating their efforts on integrating internet-based technologies and classrooms to create blended solutions".

VET teachers increasingly have to develop ways of achieving effective learning outcomes for their students whilst also offering learning environments that make efficient student learning possible. In addition to ensuring that students' contemporary learning needs are met, teaching staff must also ensure that their teaching practices are reconciled with their own professional needs and interests.

The question is therefore often asked - Does the future of education, learning, and training belong to a new machine-based digital environment, or will the best learning remain a deeply human endeavour conducted person-to-person in a traditional classroom setting? I believe the answer is "yes" - to both. We will continue to be influenced greatly by the use of digital media, the Internet, the World Wide Web, and

devices and systems yet to be developed. Learning communities through amazing new electronic technologies will help us learn. But great teachers in face-to-face classrooms will remain an essential element.

So what does all this mean? Learning Management Systems, the on-line learning community, on-line training initiatives, and blended learning are all tools we can make use of to meet the unique challenges of the Information Age. Job success in the information age will present unique challenges for us. We cannot stop change! So what do we need to do to be successful in today's and tomorrow's environment?

This paper argues that we need to focus on using blending the best of online and the classroom experiences. Blended learning has an integral relationship with E-learning and neither is about using the latest technology to replace the classroom. Nor is it about posting content on the Web. E-learning provides a new set of tools that can add value to all of the traditional learning modes. As learning moves closer to the job, blended instruction provides the critical piece of just-in-time/as needed learning. We know that face-to-face training plays an important role for certain types of high level learning – and it is the way most people prefer to learn and how many trainers teach. Internet training is clearly on the move from \$500m US in 1999 and as at in 2005 had climbed to \$8 b US.

These are the challenges for progressing the Blended Learning Lead Institute Model. It is not to be seen as a token part of an overarching Skills Shortage model in Queensland. It needs to take a primary role and be funded appropriately if the education and training sector is to be prevented from being overrun by multi national corporations who will be impossible to compete with in providing cost effective training solutions that Queenslanders will be seeking in the coming years.

The Lead Institute would need to invest in staff and resources that were able to provide the service levels to just keep up to date with current research as Blended Learning has moved to the forefront of educational jargon in the past few years.

**What are the major issues and challenges that would be expected prior to the any implementation efforts?**

A number of research activities have supported the view that any Blended learning exercise needs careful planning if it is to succeed. Christensen, (2003). shares the process she chose to design a blended learning course in introductory instructional design. The process included evaluating purposes of course, audiences and learning objectives. Two different pilots of the course were undertaken and statistics regarding the outcomes and comparison to the same face-to-face course are included. Personal reflection, faculty choices and recommendations for future research are included.

The integration of blended learning into traditional class room delivery has been researched by Garrison& Kanuta, (2004) . Blended learning represents an opportunity to support deep learning. The authors build on earlier work using community of inquiry model to support why institutions should invest in transforming learning. The paper outlines what colleges and universities need to do to move forward blended learning. The issue of differences in cognitive styles has been researched by Graff, (2003) who found that intuitive cognitive styles report a lower sense of community than students with an intermediate or analytic style. Few differences were found with respect to gender and sense of community in a blended learning environment.

Experience from lecturers involved in teaching large enrolment course using a hybrid models had been researched by Johnson (2002) who indicated concerns with his traditional large-enrolment lectures, including limited accessibility to course content, limited effectiveness of instruction, and low levels of connectivity between instructor and students. Given these concerns, Johnson decided to experiment with holding the course in a hybrid format. He found that planning and developing a large-enrolment hybrid course takes two to three times the amount of time a traditional large-enrolment class would take, with many activities being completed before the beginning of the semester. He also found that implementing and maintaining a hybrid course takes more time than a traditional course and concluded that accessibility to course content and connectivity with students increased in the hybrid format, while no differences were found in terms of effectiveness of instruction.



Appropriate didactical models for blended delivery has been researched by De Witt et al. (2003) who explore a didactical framework which includes three components: content, communication and constructivism. The 3C model can be applied to any learning environment but in blended learning it is critical to design how much time should be spent on each component. The role of various learning theories and media theories and uses are explored as background for approaching didactical design. The blend should consider the learning goals, the situational issues, target group and institutional issues to create an optimal blended learning environment.

### **Which systemic models are considered to be most appropriate for the TAFE lead Institute model?**

Khan (2003) outlines an excellent summary of a model which involves a systemic understanding of the factors which can enable designers to create meaningful blended learning environments. These factors comprise Khan's Octagonal Framework. The framework has eight dimensions. Each dimension in the framework represents a category of issues that need to be addressed. This model could be used to facilitate and organise thinking, and ensure that the resulting vision statement that reflects the wide variety of inputs that needed to be considered for such an important aspect of BNIT's identification as a Lead Institute. .

-  institutional
-  pedagogical
-  technological
-  interface design
-  evaluation,
-  management
-  resource support
-  ethical

## **Institutional**

The Institutional dimension addresses issues concerning organizational, administrative, academic affairs, and student services. Personnel involved in the planning of a learning program could ask questions related to the preparedness of the organization, availability of content and infrastructure, and learners' needs. Can the organization manage offering each trainee the learning delivery mode independently as well as in a blended program? Has the needs analysis been performed in order to understand all learners' needs?

## **Pedagogical**

The Pedagogical dimension is concerned with the combination of content that has to be delivered (content analysis), the learner needs (audience analysis), and learning objectives (goal analysis). The pedagogical dimension also encompasses the design and strategy aspect of e-learning.

Traditionally, the classroom has provided the organizational framework and motivation, to enable people to learn through their peers' experiences. However in a blended learning environment a plethora of other choices are opened up to educational staff in developing a solution to a need for training including:

- ✚ Interactive Web-based Training
- ✚ Self-paced content
- ✚ Email based communication
- ✚ On-line references
- ✚ On-line testing
- ✚ Print-based workbooks
- ✚ On-line pre-course work
- ✚ On-line job aids
- ✚ Virtual classroom
- ✚ Threaded discussion
- ✚ Collaboration software (i.e. NetMeeting - Centra - etc.)
- ✚ Video presentations

- ✚ Interactive Computer-based Training (CD-ROM)
- ✚ Print-based job aids
- ✚ Distance Learning
- ✚ On-line mentoring
- ✚ On-the-job-training
- ✚ Chat-room
- ✚ In-person mentoring
- ✚ Web-based peer community
- ✚ Knowledge Management System
- ✚ Audio (cassettes & CDs)
- ✚ Instant messaging
- ✚ Peer review
- ✚ Video recording of learners for feedback
- ✚ Closed Circuit TV courses or course modules
- ✚ Special programs at trade schools - community colleges - or universities
- ✚ Internships that guarantee employment with your organization upon completion
- ✚ Teleconference
- ✚ Blogging
- ✚ Mobile learning
- ✚ Podcasting
- ✚ Blue Tooth
- ✚ QR codes

Driscoll, (2002) and Osguthorpe and Charles (2003) on the other hand, stress factors such as pedagogical models and the personal needs of learners. A compilation of factors to consider when defining blended learning include:

- ✚ blends of online and offline (or f2f) activities (Singh, 2001)
- ✚ self-paced and live, collaborative learning (Singh, 2001)
- ✚ structured and unstructured learning (Singh, 2001)
- ✚ custom content with off the shelf content (Singh, 2001)
- ✚ blending work and learning (Singh, 2001)

- ✚ pedagogical models - blending constructivism, behaviourism and cognitive (Driscoll, 2002)
- ✚ synchronous and asynchronous communication methods (Selix, December, 2001)
- ✚ blending online and f2f instructors and learners (Osguthorpe, 2003)

## **Technological**

Once we have identified the delivery methods that are going to be a part of the blend, the technology issues need to be addressed. Issues include creating a learning environment and the tools to deliver the learning program.

This dimension addresses the need for the most suitable learning management system (LMS) that would manage multiple delivery types and a learning content management system (LCMS) that catalogues the actual content (online content modules) for the learning program.

BNIT currently uses **Learning Edge (uella)** as its Learning Content Management system and **WEB CT CE6** as the Learning Management platform. TAFE Queensland has procured Janison as the LMS Platform.

## **Interface Design**

The Interface Design dimension addresses factors related to the user interface of each element in the blended learning program. One needs to ensure that the user interface supports all the elements of the blend. The interface has to be sophisticated enough to integrate the different elements of the blend. This will enable the learner to use each delivery type and switch between the different types. The usability of the user interface will need to be analysed. Issues like content structure, navigation, graphics, and help also can be addressed in this dimension. For example, in a higher education course, students may study online and then attend a lecture with the professor. The blended learning course will allow students to assimilate both the online learning and the lecture equally well.

In a large study of technology-based learning examples undertaken in Australia in 2003, a number of different learning designs supporting quality learning experiences were identified and described and exemplars included into an online database (AUTC, 2003). The database was designed with supporting information and resources to facilitate the implementation of the learning designs by teachers in areas beyond their immediate contexts. Within this database, quality learning designs are all characterised as being forms of problem types derived from the work of Jonassen (2000). The learning designs are based on problem solutions of either a rule-based, an incident-based, a strategy-based or a role-based form (Oliver, Harper, Hedberg, Wills & Agostinho, 2002).

### **Evaluation**

The Evaluation dimension is concerned with the usability of a blended learning program. The program should have the capability to evaluate how effective a learning program has been as well as evaluating the performance of each learner. In a blended learning program, the appropriate evaluation method should be used for each delivery type.

### **Management**

The Management dimension deals with issues related to the management of a blended learning program, such as infrastructure and logistics to manage multiple delivery types. Delivering a blended learning program is more work than delivering the entire course in one delivery type. The management dimension also addresses issues like registration and notification, and scheduling of the different elements of the blend.

### **Resource Support**

A work based learning approach would underpin the PD for on line developers. Teams would identify what they need to learn, how they plan to learn it and what resources they would need through a PD program or learning plan.

A skills development facilitator would support each team to ask critical questions about pedagogy and teamwork. A web coaching program could also be considered to provide teams with access to expertise in specific online design technologies. As expertise within the Institute grew team members would be encouraged to take on roles as mentors in successive roll out exercises.

The development of on line programs for Project Managers, Instructional Designers and getting started with Toolboxes would provide developers the opportunity to learn on line i.e. to experience the environment. It is an essential component of the PD that developers understand what it is like to be actual on line learner.

### **Implementation**

A key implementation initiative would be to encourage networking and sharing of learning and information between individuals and teams involved or interested in on line learning. An on line site could be developed to provide staff with a focal point for community building and learning to provide quick and targeted access by those seeking further opportunities to develop their skills.

### **Ethical**

The ethical considerations of e-learning relate to *social and political influence, cultural diversity, bias, geographical diversity, learner diversity, information accessibility, etiquette, and the legal issues.*

### **4. Conclusion**

The paper has therefore addressed the four questions to provide an understanding of some of the debate surrounding Blended Learning before outline the proposed lead Institute model resulting from the Reframing the Future project.

- ✚ What research has been identified to supports it as a viable pedagogical model for the future VET delivery?

- ✚ What are the major issues or trends in Blended Learning implementation that may impact on the TAFE decision to implement it?
  
- ✚ What are the major issues and challenges that would be expected prior to the ant implementation efforts?
  
- ✚ Which systemic models are considered to be most appropriate for the TAFE Lead Institute model?

The reader should be assured that the decision to proceed with a blended learning strategy is undoubtedly the right decision based on research evidence. The development of responses to the questions will not stop. New research findings and new technological solutions are continually being developed.

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## **Appendix A**

### **Blended Learning Review of Research: An Annotative Bibliography**

**Karen Vignare, Michigan State University, Dr. Charles Dziuban, Dr. Patsy Moskal, Rosalie Luby, Ruth Serra-Roldan, Sara Wood, University of Central Florida**

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