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Blended Learning
Research Report

This paper draws on a range of experiences to provide some insight into blended learning; our own personal experiences, experiences reported in the literature and experiences gathered from our colleagues. We present a brief review of the current thinking around the characteristics and effectiveness of a blended approach to learning and then go on to describe our own research and a model for the development of blended learning that evolved from it.

Acknowledgements

Thanks to the people who have been involved in various stages of this action research project – Elizabeth Childs, Nancy Greer, Doug Hamilton, and Anne Schultz. Their practical insights and thoughtful involvement have contributed to a meaningful project.

Thanks also go to Mary Bernard of the Royal Roads University Research Office for providing us with seed money to carry out the initial steps of this research.

Introduction

We have both been involved in various aspects of distance and e-learning for over 15 years in a variety of corporate and academic settings. Since 1997, our work at Royal Roads University in Victoria, Canada, has facilitated a true action research laboratory for delivering e-learning and traditional classroom based coursework (blended learning) in effective and meaningful ways to mid career professionals.

Royal Roads University (RRU) adopted a blended approach from its outset. In 1996, when RRU enrolled its first learners in the Master of Arts of Leadership and Training (MALT) program, they arrived on campus for a five-week residence. This was followed by nine months of online courses followed by another five-week residence and an eight-month Major Research Project completed off campus. This program was one of many that the Organizational Leadership and Learning Division (OLL) have designed and delivered since then and, in fact, all of RRU’s programs are delivered in a blended format.

Over the years, the OLL Division created and designed additional degree programs (the Master of Arts in Distributed Learning (MADL), and the executive master’s program (E-MALT)) and significantly altered its residence and online components. We were interested in gathering together the key decision makers and implementers of the blends to find out what they had learned. Ultimately, we were interested in capturing the best practices and developing a model that others might find useful in other contexts.
Blended Learning - A Short Review

Definitions and Characteristics

It is clear from looking at some basic definitions of blended learning that it has been going on ever since mankind started thinking and learning, a point that at least one writer (Williams, June 2003) who is critical of the recent faddishness of the term has pointed out. Consider Kolb’s (1984) experiential learning model. It recognizes the need to learn from a blend of approaches including reflection and experimentation.

We think it’s the introduction of new technologies to the teaching and learning process that has brought blended learning into the limelight, and generated a recent, and growing, literature base. Blended learning is also a term that has been used to differentiate some programs from the backlash against the sometimes-inappropriate use of too much technology. (Cross, 2003; Driscoll, 2002)

Most blended learning definitions (Clark, unknown; Driscoll, 2002; Osguthorpe, 2003; Singh, 2001) mention the obvious inclusion of technology with face-to-face (f2f) learning experiences, but blended learning usually incorporates much more than technology. A number of the corporate writers (Clark, unknown; Singh, 2001; Sparrow, November, 2003), for example, mention the importance of aligning learning experiences with business objectives:

Blended learning focuses on optimizing achievement of learning objectives by applying the “right” learning technologies to match the “right” personal learning style to transfer the “right” skills to the “right” person at the “right” time. (Singh, 2001, p. 2)

The academics (Driscoll, 2002; Osguthorpe, 2003), on the other hand, stress factors such as pedagogical models and the personal agency 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, behaviorism and cognitivism (Driscoll, 2002)
- synchronous and asynchronous communication methods (Selix, December, 2001)
- blending online and f2f instructors and learners (Osguthorpe, 2003)

Defining blended learning, then, depends upon the context and purposes of the developers. While we’re excited by this recent interest in blended learning because it encourages a more comprehensive and holistic approach to designing learning experiences, others are more sceptical:

… at the recent e-learning conference in Lisbon, Claudio Dondo, president of Italian research organisation Scienter, said that blended learning was an excuse behind which the traditional forces in learning could hide. He also admitted that blended learning was a safe harbour for e-learning vendors. (Williams, June 2003, p. 1.)
Why the Interest in Blended Learning?

The initial cost-savings argument that was utilized in the early days of e-learning (Gayeski, 1998; Wilson, 1999) has been replaced with a more sophisticated and practical understanding of how to integrate technology into an overall learning strategy. The reasons that learning professionals are interested in blended learning raise interesting differences between the corporate and academic sectors. Sparrow (November, 2003) reports on an online survey conducted by Training magazine in June, 2003 which highlights the following reasons for developing blended learning solutions:

- ability to match learning styles (80%)
- individually tailored solutions (70%)
- improve the learning rate (62%)
- exploit the investments they've already made in re-usable training resources (59%)
- shortage of time to use purely classroom events (57%)

Osguthorpe (2003), writing about case studies from the academic world, suggests that the reasons for blended learning include

- pedagogical richness
- access to knowledge
- social interaction
- personal agency
- cost effectiveness
- ease of revision

Unlike some of the reasons given above for becoming interested in blended learning, RRU’s original mandate in 1996 was to use a blended model (even though it was not called that then.) The majority of RRU’s effort went into making sure the blended model worked.

Is it Effective?

While there is a great deal of literature defining blended learning and making suggestions for how to implement it, there’s less dealing with the actual effectiveness of blended learning. There is some anecdotal evidence about how well participants liked blended learning (Irons, 2002; Waddoups, 2003) and many articles outlining the costs savings associated with integrating technology. ("And the Cost-Savings Winner Is ... E-learning," 2003; Gale, 2002) There is also a growing literature base about the learning outcomes achieved through using various types of technology. The biggest challenge is finding studies that specifically address blended learning, as opposed to the use of technology alone.

There are some notable exceptions in both the corporate and academic settings. The Thomson Job Impact Study, from NETg, a global organization in corporate education and training and part of the Thomson Corporation, measured the effectiveness of blended learning against single training options, and was developed in collaboration with leading corporations and academic institutions. (Job, 2003) The study showed that a structured curriculum of blended learning generated a 30% increase in accuracy of performance and a 41% increase in speed of performance over single-delivery options.

Singh (2001) notes that Stanford University increased retention rates to 94% by including a live e-learning event, instead of just using self-paced materials. Research by the University of Tennessee’s Physician’s Executive MBA (PEMBA) program for mid-career doctors has demonstrated that blended learning programs can be completed in approximately one half of
the time and at less than half of the cost using a rich mix of live e-learning, self-paced and physical classroom delivery. (Dean, 2001)

NETg designed an experiment that included three groups receiving software training – a control group who received no training, an e-learning group who received training entirely online and a blended learning group. The results of their research revealed a 150% increase in on the job accuracy for the blended learning group. (Job, 2003)

RRU measures the effectiveness of its blended learning model by looking at factors such as learner satisfaction and graduation rates. In 2002, RRU conducted a survey of its grads, which revealed:

![Bar Chart](image)

This impressive graduate rating of the learning experience at RRU led us to believe that what we had learned about blended learning since 1996 was worth capturing and sharing with others.

**Methodology**

We identified a list of the decision makers and implementers of the various blends that the OLL division has utilized since its inception in 1996. An email went out to eight individuals to participate in a focus group in April, 2002. (We should note that we both had been involved with making decisions and/or implementing various blends at RRU, and thus we include ourselves in the eight.) We had five people attend the focus group (including ourselves) and we interviewed a sixth.

We utilized a highly participatory focus group technique, the workshop method developed by the Institute of Cultural Affairs.
The focus question (the context in the diagram above from the ICA literature) we utilized was – “What are the blended learning best practices of RRU in their leadership and learning programs?” Participants then worked individually to write down ideas on separate pieces of paper. These were then posted on wall for all to see. This brainstorming surfaces many different ideas quickly. We all then worked to group the ideas around emergent themes (see examples photographs in the Results section below). These themes were then named.

We should note that even though our focus was on RRU programs, all of the participants in the focus group had experience designing blended learning in other contexts. All of our experiences, whether specific to RRU or not, were brought to bear on our focus question.

**Results**

The workshop method we utilized allowed for an easy and mutually agreed upon interpretation of the observations focus group participants had made. The interview we carried out with the participant unable to attend the focus group provided some independent validation of the focus group results. The ideas generated fell into seven themes, each of which was clearly connected with one or more of the others. Clearly we were looking at a deeply interconnected system. The rest of this section outlines the ideas that were in each of the seven themes.

**Communication** - which included all sorts of details around transition. We were all extremely aware that a good blended learning experience needs to be based on all the parts of the system working together.
Here, we've begun to identify the pieces of the system and the free flow of information that needs to take place.

- Manage expectations of the organization, the program, faculty and learners
- Explain decisions about design to learners and faculty
- Pay attention to transitions between program components
- Ensure faculty and learners understand how a specific component fits into the blended model
- Plan orientation and transition time when moving back and forth between f2f and online
- Implement continuous improvement model based on faculty and learner feedback
- Provide sustainable communication among all stakeholders

**Design Team** We'd all had different experiences working on different teams to develop different blending learning programs; one thing we did all agree on though, was the importance of working in a team. The best teams, in our experience, were multidisciplinary and represented different parts of the system.

- Have experienced learners (past) and faculty in planning session
- Create a multidisciplinary team to design blended programs
- Support and encourage team-based planning in an integrated fashion
- Good idea to have individuals experienced in both f2f and DL designing program
- It's easier when it's fun

**Creativity/Flexibility** We all felt strongly that creativity and flexibility were important attributes of a good design team. Out the box thinking was positively encouraged.

- Just start - just do it
- Willingness to take educated, controlled risks - stretch the definition of norm and existing structure
- Openness and support for creative approaches for program and course design by org and program support groups (IT, registrar)
- Designers need to be open to new ideas
Supports We all recognized the importance of having all the players in the system on board. This includes the various support services, not just the technical help desk.

- Ensure institutional support services understand uniqueness of your program's blended model
- Don't design for today's learners - Focus on where going 'Mid-career target audience' dynamic

Strong Vision The need for a commonly held vision for the blended program came through as one of the most important themes. We could all recall anecdotal stories where key stakeholders were not on board and this had led to problems.

- Have a clear vision for each program component that can be communicated to faculty, staff and learners
- Formalized checks and balances during design, development and delivery to ensure match with overall vision
- All faculty, whether DL or f2f, understand value of blended model (ensure program view) not DL versus f2f
- Clear and common understanding of vision and purpose for blended model by all stakeholders
- Treat constraints as opportunities
- Orient and train all instructors in both online and f2f

Learning Model Another strong theme was the need to be centred around learning, and what the learners need in order to become good self-directed learners.

- Learning community model is strength that keeps blended model effective
- Faculty must have understanding of how people learn
- Encourage and facilitate self-directed learning so people can do their own blends
- Keep quality of learning experience central in planning
- Mix online and f2f (which is different from chunking)
- Recruit faculty to learning model and competencies
- Commitment to making the model a success by all stakeholders
- It's a complete system and all the components need to work together

Design Finally, and most obviously, we talked about the design of blended learning programs. From our discussions it was clear that very often there are externally imposed constraints that need to be understood before a program can be designed. It is then important to make the most of whatever is given and build programs that are flexible. The only thing we know for sure is that the programs we design will have to change over time to meet new demands and new constraints.

- The structure is often non-negotiable
- Treat constraints as opportunities
- Set priorities for limited f2f time
- Don't rule out 'older' forms of DL (e.g. pseudo-correspondence)
- More and faster is not necessarily better
- Pay attention to transition between program components
- Avoid rigid and intractable Blended Models - All models are subject to change but be mindful of implications
- Learn from the experiences of other programs
- Design content in chunks - easier knowledge mgmt
- Don't be attached to certain f2f models - what took 5 weeks can be done in less time
- Decide on what is BEST conveyed through f2f and online
- Competency frameworks provide the glue and community building provides the spirit which holds a cohort together in a blended model

Developing A Blended Learning Development Model

We reviewed a few blended learning models during our initial literature review (Barnum, 2002; Troha, 2002; Valiathan, 2002), but found Hocutt’s (2001) ideas on blended learning of most relevance because he challenged the “mix and match” type of approach advocated by many. According to Hocutt, a strategic blend has the following four components:

- blended learning components have a mutual awareness of each other
- components are consistent in language, style and technique
- components need to be appropriately redundant
- components have to seamlessly transition from one component to the other

We found that this type of smaller and focused “model” was much more usable than some of the other extremely detailed and prescriptive approaches and models. We wanted to develop this same sort of model for capturing the best practices from our focus group. We also found that the focus group participants echoed his four components.

Following our initial focus group in April, 2002, we had an opportunity to develop and present a half day blended learning workshop at the annual E-Learn conference being held in Montreal in October, 2002. We decided that further analyzing the data that had been generated during our focus group could help us develop a model that people could more easily use when designing their own blended learning programs. Doug Hamilton and Elizabeth Childs joined us in our development of this model and in delivering the workshop.

Following a review of the themes that had been generated at our initial focus group, we further refined and grouped our themes. The following model emerged:
## The VASE Model for the Development of Blended Learning

<table>
<thead>
<tr>
<th>V</th>
<th>Build a Vision</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>- How does the project link to our organization’s strategic business goals?</td>
</tr>
<tr>
<td></td>
<td>- What are our learning and performance objectives?</td>
</tr>
<tr>
<td></td>
<td>- What is our shared philosophy of learning that supports the design process?</td>
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<td></td>
<td>- What benefits of the blended learning model do key decision makers agree upon?</td>
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<table>
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<tr>
<th>A</th>
<th>Check Assumptions</th>
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<tbody>
<tr>
<td></td>
<td>- What do we know about our participants?</td>
</tr>
<tr>
<td></td>
<td>- What assumptions are we making about them? How do we check and challenge these assumptions?</td>
</tr>
<tr>
<td></td>
<td>- Are there different ways to meet the same learning and performance objectives?</td>
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<tr>
<td></td>
<td>- What learning and delivery strategies fit best with our organizational culture?</td>
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<tr>
<td></td>
<td>- Where is f-2-f delivery critical? What components should be the priority for f-2-f delivery?</td>
</tr>
<tr>
<td></td>
<td>- What can we learn from blended learning projects in other contexts and sectors?</td>
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<table>
<thead>
<tr>
<th>S</th>
<th>Take a Systems View</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>- What combination of learning components will best meet the project goals? How do these elements fit together?</td>
</tr>
<tr>
<td></td>
<td>- How do we ensure successful transitions between these components?</td>
</tr>
<tr>
<td></td>
<td>- What organizational supports exist that will help the project?</td>
</tr>
<tr>
<td></td>
<td>- What support services will help to ensure learner success?</td>
</tr>
<tr>
<td></td>
<td>- What are the organizational and design constraints? Can they be overcome? If not, how do we work with these constraints in mind?</td>
</tr>
<tr>
<td></td>
<td>- How do we build upon existing elements and components?</td>
</tr>
<tr>
<td></td>
<td>- Who needs to be part of an inclusive design team?</td>
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<tr>
<td></td>
<td>- How can we maximize our effective use of technology to support the blended learning model?</td>
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<th>E</th>
<th>Expect Change</th>
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<tbody>
<tr>
<td></td>
<td>- What kind of change management strategies do we need to ensure ongoing success?</td>
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<tr>
<td></td>
<td>- How do we test out the implementation of our project?</td>
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<tr>
<td></td>
<td>- What kinds of evaluation processes will ensure ongoing modifications can be made? How can these be integrated into the design and delivery process?</td>
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<tr>
<td></td>
<td>- How do we ensure that our model is flexible and malleable enough to respond to changes?</td>
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</table>
Conclusion

Clearly blended learning has been around for a long time. What is new is the application of technology as one of the components of the blended model. This has created a new enthusiasm for looking at blended approaches to learning. A literature base is developing and while perspectives are mixed, especially between the corporate and academic worlds, there is some common ground. We have suggested that a strategic planning approach be adopted in order to have the greatest chance of success in the development of blended learning.

References

Dean, P., Stahl, M., Sylwester, J., Peat, J. (2001). Effectiveness of Combined Delivery Modalities for Distance Learning and Resident Learning. Quarterly Review of Distance Education.