Training for Extension Professionals Using Blended e-Learning Tools: A Case Study

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Abstract  
In this paper, we share our experiences in planning, teaching, and evaluating a program for Extension professionals that was taught using blended e-learning methods of teaching. The authors were involved in a training program for Extension professionals called Blended E-Learning that taught a combination of knowledge economy-related subject matter content and technology content to 40 participants in 2007 and 2008. Immediate post-program and follow-up evaluations were conducted using fixed response and open-ended questions about subject matter content and technology tools. Participants reported significant gains in knowledge, awareness, and ability to share subject matter concepts with others. Furthermore, follow-up evaluations showed that over one half of had adopted use of technology content in their extension teaching or to aid in program and/or curriculum development. Based on our experience and evaluation results, we share recommendations including a need to focus the scope of subject matter content, hold an initial face-to-face orientation, use project work to engage participants, and invest ample planning time as one would with traditional face-to-face instruction. Overall, the program shared in this article serves as a case study for teaching using e-blended learning in a way that has documented impact with learners.

Keywords: distance education, e-learning tools, program evaluation
Introduction

Like many Extension systems, ours has relatively recently begun to feel the effects of reductions in budget, personnel, and other resources. At the same time, we are also seeing large increases in online and e-learning in organizations with shifting demographics contributing as a more tech-savvy generation enters the workforce (Kranz, 2008). Extension organizations in the U.S. and other countries have begun to develop e-learning tools and are using the Internet for teaching and learning with numerous barriers and advantages reported (Williamson & Smoak, 2005). In addition to organizational pressures to do more with less and general increases in online and e-learning (Weatherly, 2005), anecdotal evidence suggests that our organization’s employees and clientele have begun to express interest in receiving more information at their convenience in synchronous and asynchronous electronic formats. According to Jackson, Hopper, and Clatterbuck (2004) Extension systems have struggled in adapting to these changes and in determining how to use and develop distance learning tools and information technologies to meet the evolving needs of our organization and the clientele we serve.

Blended learning and blended e-learning are terms used to describe teaching using a variety of delivery methods that might include traditional face-to-face teaching and/or various e-learning approaches. In making the case for combining a variety of delivery methodologies, Weatherly (2005) said that blended learning “combines the power and effectiveness of the classroom with the efficacy and versatility of e-learning” (p. 1). The use of blended learning accommodates different learning styles, can save time and reduce costs, and offers convenience and flexibility to provide learning opportunities to meet the needs of 21st century learners.

In the past five years interest in distance learning has increased and use of e-learning tools has become more widely accepted by academics (Lee, Cho, Gay, Davidson, & Ingraffea, 2003). While there may be increasing interest, using such teaching approaches to engage the learner still remains the primary concern (Brown, 2001). With such a wide variety of e-learning tools and e-learning approaches to choose from, what really works? How might we augment our traditional teaching methods with a blend of the new e-learning tools and approaches to better reach and engage audiences?

Purpose & Objectives

The goal of this paper is to share our experiences in planning, teaching, and evaluating a program for Extension professionals. Specifically, we will: (1) describe a professional development program taught using blended methods as a case study; (2) share how e-learning tools were used; (3) summarize evaluation results showing the effectiveness of the program and areas of concern; and (4) provide lessons learned and recommendations for application to professional development and Extension programming.

Methods and/or Data Sources

Blended e-Learning Program and e-Learning Tools

In 2007 and 2008, we planned, taught, and evaluated a distance learning program for Extension professionals that focused on the knowledge economy and issues surrounding this topic that impact their work. The program had two objectives: (1) to teach knowledge economy subject matter content to Extension professionals for use with their programs and clientele; and (2) to increase familiarity and encourage the adoption of various information technology tools and e-learning approaches. We selected the program’s information technology tools based on their ability to deliver information as well as to engage the users and instructors in a
‘community’ of learning. We called the program *Blended E-Learning* since it was designed to employ and evaluate a blended format of instructional and content delivery methods.

We delivered the program to three separate cohorts. A total of 40 Extension professionals completed the program. Each of the three sessions was delivered using blended methods and a variety of e-learning tools over a seven to twelve week time period. An initial ‘boot camp’ (a face-to-face instructional event) followed by a combination of instructional modules taught using a variety of e-learning tools was the format for each of the sessions. Each of the instructional modules focused on specific knowledge economy-related subject matter content such as: entrepreneurship, regionalism, workforce skills and the skills gap, for example. To conclude each of the three sessions we employed the use of group project presentations and reflections on learning via web-based ‘virtual’ meetings or face-to-face events.

At the ‘boot camp’ event we issued program participants the various information technology tools and a complement of computer applications. Participants were also provided a modest amount of hands-on instruction in order to learn their basic use. The information technology tools included: a headset, mp3 player, and a computer camera. The computer applications shared which served as the communication platform included: Skype, a free online Voice over Internet Protocol messaging and video service; Wordpress, a blogging application; WebEx, a multi-point document collaboration software which provides for interactive video and screen sharing; Blogbridge, an internet news aggregator; Basecamp, collaborative project management software; Moodle, a free open-source e-learning course management system; and Camtasia, a screen recording and video capture application for podcast development. A short primer was provided at this initial event where participants could gain basic comfort level with each of the applications.

In addition to the distribution of technology tools and computer applications, another key component of this initial event was the development of project teams. Toward this end, we asked participants to form groups around specific areas of interest and we tasked them with the development and presentation of an educational output of their choosing (most created an enhanced podcast). This problem-solving/goal-centered orientation provided the underlying framework for the course, requiring participants to communicate and collaborate in the development of their educational output throughout the seven to twelve weeks. The development and final presentation of the output also required participants to apply the knowledge gained from the subject matter content shared and their experiences using the various technology tools. In addition to the group projects, weekly assigned learning activities and virtual classroom sessions enabled participants to apply their knowledge and build on their experiences with the various technology tools issued from week to week.

A variety of information technology and communication tools were used in planning, teaching, and evaluating the program. For example, as course instructors we used WebEx and Basecamp to conduct synchronous and asynchronous meetings to design and discuss curriculum and as well as better manage the program from distributed locations. To enable participants in distributed locations to collaborate in ‘real time’ in completing course assignments, WebEx and Skype were used. Basecamp and Moodle were also used for such tasks; however, these tools were able to facilitate such activities in an asynchronous manner only.

Participants used Skype instant text, audio and video messaging for convenient real-time communication and file sharing. This application also enabled us to easily maintain contact with participants as well as serving as a platform for “virtual classroom sessions” with participants.
We used Blogbridge to monitor and receive blog postings in the topical areas that we had identified and selected. Audacity and Camtasia were used to create audio and enhanced podcasts focused on topics chosen by the groups formed around specific areas of interest.

Evaluation
In evaluating the program, we relied on Zoomerang, an online survey tool that allows users to create questionnaires and analyze survey data on demand. Evaluation results collected on paper were also entered and tabulated using MS Excel.

Evaluation questionnaires included 5-point Likert scale-type items and open-ended items. To identify gains in knowledge, awareness, and aspirations resulting from participants’ involvement in the Blended E-Learning program, we used a retrospective pre-post format (Rockwell & Kohn, 1989). In addition, the questionnaire contained fixed-choice items designed to describe the participants’ perceptions with respect to usefulness, frequency of use, planned future use, and satisfaction related to both subject matter content and technology tools. Finally, the open-ended items gathered information related to participants’ use of content knowledge and tool usage in existing and future programming activities.

To learn about how they have used the content knowledge to augment existing programming as well as create new curriculum and materials, we also surveyed participants six to eight months after their involvement in the session. This follow-up survey also asked participants how they had used the various information technology tools and applications in their teaching, continued learning, and in communicating with others in professional and personal settings.

Results, Products, and/or Conclusions
The evaluation results collected to date reveal statistically significant gains in the program participants’ knowledge, awareness, and ability to share concepts learned with others. For example, our retrospective pretest/post-test findings indicated that 36 percent of participants had a basic understanding of the concept of the knowledge economy prior to the program. After the program, every one of the program participants indicated they possessed a basic understanding of the concept.

When asked about subject matter content and technology tools, participants reported they found the program material, technology tools, and computer applications to be useful. They also indicated that the material, tools and applications were being used often, and that they planned to continue using them in the future. This finding has also been confirmed in 6-8 month post-program follow-up evaluations.

We have also found from follow-up evaluations that since participating in the program, two-thirds of participants have used the tools in their teaching and roughly one-half have used the tools to aid in program and/or curriculum development. Furthermore, program participants have indicated they have involved between 145-240 of their Extension programming clientele in the use of one or more of the technology tools issued and used throughout the blended e-learning program.

Post-program evaluation efforts have also shown that participants were highly complementary of the program’s delivery and format, including one who said “This was a big step forward in Extension programming in my mind. There are some obstacles to overcome but overall this was a great pilot effort.” Another shared, “One of the best professional development
courses I have attended - well organized, logically structured, gave me useful, practical information and skills.”

The evaluation data collected was not entirely positive as areas for improvement were identified via the evaluation process as well. For example, the initial instructional event not only provided participants with an overview of the program and an overview of the knowledge economy concept, but also what was perceived by many as an overwhelming “downloading” of new technology tools and computer applications. Moreover, we realized from personal experience and found in the formal evaluation that some technologies work better for specific applications than others.

**Recommendations, Educational Importance, Implications, and Application**

While we believed that at the outset of this endeavor, our colleagues would think of this program as simply a novel idea; as it turns out, we now believe the program is one whose time has come. Initial interest was sufficient to conduct the first session. Evaluations were favorable, and subsequently two additional sessions obtained full enrollment within 12 months of the first session. Furthermore, there is currently interest sufficient to support a fourth cohort. This blended e-learning experience proved to be an effective method of building capacity of Extension colleagues to better understand the subject matter content (knowledge economy) taught and also encouraged the adoption of tools and approaches for educational programming with adult learners. Continued research on the use of such tools and e-learning approaches for Extension professionals and Extension clientele will help to inform Extension’s future strategies for distance learning.

In selecting the first cohort, we marketed the program to colleagues with a sense of curiosity, a desire to implement, and a high level of patience and cooperation. We wanted participants who were not hampered by ambiguity but rather able to envision and be excited about possibilities. We purposively selected the participants to provide us with a representative sampling of Extension colleagues considering program assignment, geographic location, familiarity with technology, and gender, for example. We also selected participants based on their willingness to incorporate the knowledge economy subject matter into their existing programming. Overall, the program has received positive reactions from participants. Because such tools and e-learning approaches are relatively easy to learn to use, and provide utility for teaching, learning, and communicating with others; systems that provide formal organizational support, training and guidance, and structures that provide access are needed to provide initial assistance and ongoing support throughout the adoption of these blended e-learning technologies and approaches.

While piloting new e-learning tools and approaches was a key objective of this program, we believed that the use of these tools and teaching techniques would be more meaningful if framed around subject matter relevant to the learners. The initial session focused on a range of topics within the broader knowledge economy topic. We found that honing in on specific topics was of particular interest to participants in the second and third sessions. We believe this teaching and learning format could be used successfully with Extension professionals and their clientele around such topics as: diversity, leadership, and Extension structure/funding streams, for example; and community planning, youth development, and volunteer development, for example (respectively).

In planning the program, we wanted to provide participants with a wide range of experiences and opportunities to use the e-learning tools and learning approaches.
Toward that end the range of such tools and applications was constrained only by our limited financial resources. We later realized that perhaps for some participants we simply had too much too fast. Most participants were able to manage when they began to feel overwhelmed by pulling back and focusing on the technologies with which they felt most comfortable. How many new tools are too many tools? How many new e-learning methods are too many methods? A key for programming efforts such as this is to have an understanding of participant characteristics such that they are challenged but not completely overwhelmed.

The overall concept of the blended learning program in addition to the issuance of such a variety of tools and applications created a significant degree of anxiety for many of the program participants. The ‘boot camp’ was designed to create a sense of community among participants and also work through the issues at the heart of this anxiety. While such a program may be successful without the event, depending on the experiences of the program participants the ‘boot camp’ event may be critical. Based on our experience and others (Miner & Hofmann, 2009), we recommend some type of face-to-face orientation to set the stage, outline expectations, resolve concerns about technology, and give participants a chance to acclimate themselves.

Being a new programming experience for us, we spent a bit more time up front in planning program delivery. We realized that at times we would struggle and things would inevitably go wrong and we communicated that up front to participants. We also believed that our desire to experiment with these tools and learning approaches would enable us to create things and gain new experiences that we had not yet imagined. As with any new experience, we think it is important to consider that what you think may go wrong might and that what you think should go well may very well go wrong too!

Overall, we found that planning and teaching this program was a positive learning experience for the instructor team and that participants learned from the subject matter content as well as technology content. Because of the success of this program, the e-learning format and tools of the curriculum can serve as a case study for implementation with other subject matter content.

References