Exploring LiveText as a Technological and Accountability Innovation in a College of Education

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Introduction

Recent initiatives in education focus on reforms and improvements in teacher preparation. National educational initiatives like Race to the Top (2012) place attention on teacher accountability. Race to the Top's fact sheet indicates an intention to support:

> Attracting and keeping great teachers and leaders in America's classrooms, by expanding effective support to teachers and principals; reforming and improving teacher preparation; revising teacher evaluation, compensation, and retention policies to encourage and reward effectiveness and increase the number of effective teachers in our schools; and ensuring that our most talented teachers are placed in the schools and subjects where they are needed the most. (White House Press, 2012)

An important element in accountability for reforming and improving teacher preparation is the accreditation of teacher education programs. An important component of teacher preparation is promoting appropriate methods to integrate classroom technology (Bai & Ertmer, 2008). NCATE determined in 1997 that the majority of teacher education programs were not effectively preparing teachers to use technology in the classroom (Shoffner, Dias, & Thomas, 2001). National Council for Accreditation of Teacher Education (NCATE) recommended that technology

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education be central to the teacher preparation process (Shoffner et al., 2001). In 2000, the International Society for Technology in Education published National Educational Technology Standards for Teachers. This increased call for technology integration in teacher preparation programs was eventually translated to the state and university level. Standards set by the National Council for Accreditation of Teacher Education (NCATE, 2012) stress the importance of technology integration for teachers.

The purpose of this study was to explore faculty members' experiences with the introduction of LiveText as a technological innovation in a college of education. LiveText (2009) is a web-based learning, assessment, and accreditation system. The terms content management system (CMS) and learning management system (LMS) are often used interchangeably. The term content management system is used to discuss these applications in this article. A CMS is designed to support academic courses. LiveText is one of a class of applications (i.e., Taskstream, Folio Live, and others) that links students' artifacts (e-portfolios, projects, and documents) to appropriate content and institutional standards. Simultaneously, these same artifacts allow faculty to access student work, provide online feedback, and allow a college of education to collect and aggregate data for program evaluation and improvement (Lombardi, 2008). LiveText is a CMS that allows faculty to configure a learning space for students. Within LiveText, faculty members create space for students to upload assignments, to add artifacts, and to provide opportunity for self-reflection. In attention, faculty can assess students' work using rubrics to evaluate students' work. Rubrics in LiveText also track students work based on standards for both content and NCATE standards. LiveText offered learning solutions for students, course management solutions for faculty, and a way for administrators to document compliance with accreditation standards. Therefore, faculty members learned from both administrative and educational tools in LiveText.

With the increased use of online accreditation and e-portfolio systems, Wilhelm et al. (2006) compared the implementation of e-portfolio systems at three universities. The e-portfolios systems were Taskstream (2011). LiveText (2011), and an "in-house" locally created system. Both Taskstream and LiveText were described as customized systems that used a web-based database for the storage and retrieval of student artifacts, faculty accreditation, and evaluation data (Wilhelm et al., 2006). The third university used a general tools system of word processing software, multimedia authoring tools, and portable document format, to create artifacts. Artifacts were stored on CDs, disk drives, or online space provided by the university. The researchers discovered that no one solution fit all the needs of departments across the universities studied. Taskstream and LiveText had an advantage over the general tools system because of their archival capacity.

The ability to integrate teaching and learning with applicable standards made LiveText an appropriate option for this case study. E-portfolios are congruent with standards-based reforms in teacher education (Wilhelm et al., 2006). Standards define what students should learn and therefore what teachers should teach. For instance, a math standard would specify a grade level and age to teach the multiplication tables.

Using LiveText as a CMS provides evidence that students' work meets educational standards as outlined by accreditation agencies. Colleges of education use the same materials to document institutional and program accreditation processes. Exploring how faculty members processed learning about and implementing a system that possesses dual functions of both student assessment and institutional assessment.

METHOD

Six participants were selected from one department of All Star Research University's (ASRU) College of Education using purposive sampling. The selected department prepares teachers for positions as middle and high school teachers. Participants possessed 1 to 5 years of experience using LiveText at the time of the study. Participants taught mathematics, science, literature, and language arts. Teacher educators are responsible for the training of future teachers as role models for both preservice and in-service teachers (Ertmer, 1999; Groves & Zemel, 2000). A case study, as "an intensive, holistic description and analysis of a single instance, phenomenon, or social unit" (Merriam, 1998, p. 21) was chosen for this study as the most appropriate means of exploring faculty members' perceptions, beliefs, and experiences of technological innovation adoption. Therefore, this study adds to the research on teacher educators and technology integration. The study addressed the following questions:

1. How do faculty members experience a technological innovation adoption process?
2. What are faculty experiences with LiveText as a technological innovation?

The primary method of data collection was individual in-depth interviews, which were used to explore faculty experiences with technology innovations. NVivo 8 (QSR International, 2008), a computer-based statistical analysis program, was used to assist in data analysis. These interviews uncovered individual faculty experiences, attitudes, and preferences with LiveText as a technological innovation.

The study used an inductive method to explore the data collected. As data were collected, the constant comparative method was used to analyze the data to discover how faculty understand and cope with the introduction of technology. In addition, Hurt, Joseph, and Cook's (1977) Individual Innovativeness Scale was administered to determine the faculty adopter categories.

In-depth interviews covered both aspects of LiveText's features. For example, standards developed by NCATE for institutions involved in professional teacher education are a part of the LiveText application, as well as the ability for students to upload artifacts and create e-portfolios.

NVivo 8 was used to perform initial data analyses of transcripts with the partial use of word processing (Microsoft Word) and concept mapping (Inspiration) applications. Three levels of coding were used as described by Miles and Huberman (1994): data reduction, data display, and drawing conclusions. These levels allowed for the sorting of raw data that eventually resulted in emergent categories and themes.

Data reduction includes the process of selecting, focusing, abstracting, and transforming data from field notes or transcripts. Data reduction strategies used open coding, axial coding, and selective coding from grounded theory (Glaser & Strauss, 1967). Open coding served to identify, define, and code words, phrases, incidents, and events found in the interview transcripts. Ideas, words, or phrases were provided with a code that represented an underlying concept. Axial coding provided a way to make connections between incidents, ideas, and events identified through open coding. Grouping coded data based on shared characteristics formed categories. Next, selective coding allowed for the integration of categories into themes that were then used to provide a picture of the meanings that participants used to construct their experiences. NVivo 8 facilitated open coding and axial coding using NVivo's node and set functions respectively. Microsoft Word's table function and Inspiration's concept mapping function provided the means for data display that facilitated the creation of themes.

Results

Six categories emerged from coding using inductive methods of pattern recognition and constant comparative method (Glaser, 1978; Glaser & Strauss, 1967) as detailed in the methodology section. These categories are (Lumpkin, 2012):

1. Triggers, crises, and challenges:
    (a) Provided context for the introduction of an innovation.
    (b) Described an incident or event that marks the beginning point at which people start to explain the beginning of a phenomenon. It can also be referred to as an initiating event.
2. Awareness-introduction to solution:
    (a) Awareness refers to the revelation of a weakness or gap in the way processes were managed either during the event or an evaluation after the event.
    (b) Solutions are explored to deal with the weakness or the gap.
3. Faculty development (formal and informal training):
    (a) Solutions are introduced and personnel are trained to use the application.
4. Institutional accreditation and assessment:
    (a) Some issues this product was implemented to solve were institutional concerns.
5. Facilitation of student learning:
    (a) Some issues this product was implemented to solve were programmatic concerns.
6. Emergence of a departmental expert/advocate:
    (a) Someone is appointed or emerges as an expert.

Category 1. Introduction, Triggers, and Challenges

The circumstances surrounding the events during the NCATE audit highlighted deficiencies with workload, workflow, and document management (Lumpkin, 2012). At this preintroduction stage, there was no solution in place to handle the challenges of participating in the trigger event. Dr. Cranston remembered challenges in reviewing student artifacts developed for both student and institutional assessment done manually with hard copies of student portfolios:

> It was a department decision because we were using—for student portfolios—three-ring binders. Our department decided we wanted to go to electronic portfolios. It sounded good at the time because we were all using portfolios. The department wanted to use it, to pull all the graduates in, and we decided to look at it. (p. 65)

Dr. Marlowe also provided a view of workload challenges:

> We were still, as faculty, evaluating each portfolio. It would take me between two to four hours to evaluate a portfolio. Then you send it back to the student, and then they make revisions and send it back to you and you review it again. It is a very long, tedious process, and if you have a large program, and at the same time our programs were growing, and instead of having 10 students, you had 60 students in the program. So evaluating the students' portfolios had become an impossibly large task. (p. 65)

The NCATE review marked a turning point and served to uncover the need for

changes in workload and document management.

Category 2: Awareness—Introduction to Solution

This stage is distinguished from stage one because there is an application from a vendor that promises to address the problems identified in stage one. Before LiveText, students collected paper-based artifacts illustrating their work in three-ring binders. After LiveText, students created electronic or e-portfolios. What follows are some representative memories from this transitional stage:

Dr. Marlowe recalled her introduction to LiveText:

> The first time I learned about LiveText, Dr. Wilson (pseudo.) introduced it to the department. She was doing some checking around. I am not sure where she went, but she compared several different programs and was very excited about LiveText. She brought some representatives from the company here. They introduced it to us, showed us a PowerPoint presentation, and talked about what it could do for us. (p. 66)

Another step in the awareness-introduction categories involved the actual decision to use LiveText. None of the participants considered themselves agents in the decision to approve the application:

> Dr. Cranston:
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> Our department decided we wanted to go to electronic portfolios. It sounded good at the time because we were all using portfolios. The department wanted to use it to pull all the graduates in, and now it is a mandate.

Faculty members demonstrated awareness about the importance of benchmarking standards and shared details about this function provided by LiveText.

> Dr. Marlowe:
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> That is the main thing we use it for here, for portfolios and for course management. So we used it for portfolios for a few years, then they introduced course management.
>
> Also, we found that students were just putting things in their portfolio that they had already done for their classes. So when LiveText came out with their course management system, it has a way to assess students' work and generating reports on their work as they go. So we try to streamline the portfolio process and make it a more meaningful process, so the students aren't just taking the things they've done before and regurgitating it into the portfolio. Because they have already done that, faculty members have already evaluated it. So it was an important and necessary step to cut down on the busywork for faculty.
>
> That's the most important thing from an administrative standpoint. That's what we use LiveText for, to generate reports for NCATE. (pp. 71-72)

Category 3. Faculty Development: Formal and Informal Training

Formal training refers to training that is organized and presented by the college or department. Often training involves vendor trainers. Dr. Andrews shared her experiences:

> When I first came to ASRU that September, we had our first training with LiveText in a face-to-face workshop. The second training was online. I think LiveText is user friendly enough once you get used to it and have basic training. (p. 68)

Informal training involves peer-to-peer training among faculty members. At other times, students in the program may show faculty members how to use an application. Dr. Andrews relates, "He was a PhD student who graduated last year. I watched him in a one-to-one session, and once I got the hang of it, I was set" (p. 68).

Category 4. Institutional Accreditation and Assessment

An NCATE accreditation and assessment audit facilitated LiveText's introduction. Faculty members reported their understanding of how that process facilitated introduction of LiveText.

> Dr. Cranston:
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> That is the main reason we are using it: because it has a means to capture data about the student, so we can benchmark them in our program. Therefore, for every program we have standards. You are asking a question we are all grappling with right now so you are ahead of us in even asking these questions. We have program standards. We benchmark and make sure the students are meeting the standards. We look at an alignment of the program and we look at whether the students are meeting those standards.
>
> In LiveText, they can upload artifacts and they can upload where they can talk about a narrative and how that responds to their growth across a standard, or maybe several standards and their artifact, shows evidence of that growth. These are collected in LiveText. That is how it is benchmarked because that is how the program is divided up. We are going through changes now in trying to work with the different conceptual frameworks and alignment. (p. 71)

Category 5. Facilitating Student Learning and Assessment

The category of student learning and assessments encompasses the other gap shown by the NCATE review: a need to find an easier way for students to create artifacts that demonstrated that they met program standards. The faculty members use LiveText to teach and create artifacts that verify that meet standards. The following are some examples of faculty members' facilitation of student learning:

> Dr. Andrews:
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> One class I teach is a hybrid and other courses are completely online.
>
> I will use LiveText for working on classes where students are working on pieces that are going to be in their e-portfolios. I pretty much set up the course with an overview, objectives for the course, and the expectations. Then I try to divide the course into modules. I make it a part of the course assignments for LiveText, and once they finished with that and I evaluated it, they go into the template for the exit portfolio.
>
> Most of my classes, they are full semester courses. They may have anywhere from 10 to 14 modules to complete, and within those 10 to 14 modules they are developing and constructing artifacts for the exit portfolio.
>
> I just did a session for the online degree program on LiveText on Tuesday. I went to the MSIT website and just went to the area that said LiveText and used those documents and talked the students through the process, and then I opened up my desktop in Elluminate and actually built a portfolio using LiveText.
>
> Therefore, I think we do an excellent job of orienting our students to LiveText. We graduated some students who did not have a problem using software. They had some other issues. The use of the software was not an issue.
>
> That is one of the things I pride myself on is when you come onto the class I have everything built so you know what the entire course is about. Therefore, it is like a construction process where they are continuously building until they have finished everything and they are ready for graduation. (p. 70)

Faculty members from this study are familiar with the importance of benchmarking standards and shared details about this function provided by LiveText.

Dr. Marlowe mentioned the importance of LiveText for both benchmarking standards and as an online course management system. The course management system represented a recent addition to the functions available from this product:

> That is the main thing we use is for here, portfolios, and for course management. Also, we found that students were just putting things in their portfolio that they had already done for their classes. Therefore, when LiveText came out with their course management system, it has a way to assess students' work and generating reports on their work as they go. Therefore, we try to streamline the portfolio process and make it a more meaningful process, so the students are not just taking the things they have done before and regurgitating it into the portfolio. Because they have already done that, faculty members have already evaluated it.
>
> Therefore, it was an important and necessary step to cut down on the busywork for faculty. That is the most important thing from an administrative standpoint. That is what we use LiveText for is to generate reports for NCATE. (p. 72)

Category 6: Departmental Expert-Advocate

A departmental expert-advocate emerged as a category based on participant's observations. The emergence of a departmental expert or advocate occurred after initial training sessions were completed for LiveText. Dr. Marlowe, by her own admission and in the eyes of others, emerged as a leader and advocate for LiveText (Lumpkin, 2012). She described her conflicts and triumphs as she learned this application:

> It's kind of learn as you go, so the more frustrated I got, the more I would dig in and try to find the answers. At some point, people were coming to me for the answers. Somehow, I got the nickname of the LiveText guru, long before I deserved it. (p. 72)

Dr. Marlowe's facility with using LiveText added to her desire to share her enthusiasm for the program. It has led her to develop her own training online and offline:

> The more I use it the more I like it. I really do. I think it does much more than faculty and students are aware. It is just a matter of time. I would love to do a lot more training sessions, create more videos, and, of course, there is a mess of new people coming in. I would like to get more efficient about training faculty and students.
>
> At the end of each assessment period, I run a report and I send those reports back to the faculty so they can see the results of the assessments for their program and they can use those for a number of things—most practically for PAR reports and gathering data for NCATE. (p. 73)

Summary

CMSs serve to facilitate teaching and learning of content in higher education. A subset of CMSs are dedicated to facilitating institutional accreditation requirements, although faculty implemented LiveText based on a necessity to meet NCATE requirements and by extension to fulfill pressures for greater accountability in teacher education. In addition, this research outlined a process of adoption/implementation that also acknowledges the feeling, attitudes and beliefs that faculty members hold throughout these events. Consultation with faculty members concerning an adoption of any technological innovation is important for the success of the innovation. Acknowledging and supporting faculty members as originators or discoverers of technological innovations is important to the success of technology adoption.

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