Evaluating the Impact of a Canvas Training Module on Teacher Knowledge of Instructional Practices

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Abstract: The challenges facing modern public schools are daunting, prime among those, that of updating instructor expertise to match evolving school demographics. The increasing need for professional development is often stymied by difficulties involved in scheduling face-to-face training sessions. To that end, this action research project was enacted, whose purpose was to design an effective distance-learning alternative for professional development courses. Based upon Constructivist principles, the course at the heart of this project was designed to facilitate learning by engaging participants in hands-on tasks that developed from initial understanding to eventual mastery of the content area. The CASA model of online-learning (Menchaca, 2014) was employed as the organizational basis of the individual course modules; content delivery followed by asynchronous responses, synchronous face-to-face sessions, and completed with an assessment. The prototype utilizes the Canvas Learning Management System as the delivery method for materials, with individual components of each module supplied by Canvas-based quizzes and web-pages, Google Apps surveys and documents, and Prezi presentations. In designing this course, several considerations arose, the first being the need for more concise presentations, as older presentations, designed to be supplemented with face-to-face dialogue, were less effective online. A second consideration was the need to adapt materials into a cohesive format; prior materials having been developed over time with considerable diversity in their construction. If proven effective, this course would serve as a prototype for future iterations and serve as a guideline for other content areas. Such offerings could aid school systems in updating instructor expertise to meet demands.

Introduction

Since the implementation of English Language Learner (ELL) specific tests and goals, the vast majority of high schools in the state of Hawaii have failed to meet what the school district was calling AMAOs, Annual Measure of Achievable Outcomes. Since that time, many public schools have been moving away from the self-contained education of their ELLs, and moving toward the inclusion model, where ELL students are included in regular education classes. The problem with this method lay in the fact that most teachers at the high school level were not adequately trained in ELL instructional methodology. By the Hawaii Department of Education’s (DOE) mandate, all instructors of ELL students are required to have at least six credits in multicultural/second language
instruction. Full inclusion schools, like the chosen institution, require their instructors to have a minimum of 12 credits, as each instructor is considered the “ELL teacher of record” for those students. At the present time, however, most do not meet this goal. To rectify this training gap the institution’s ELL Coordinator carried out professional development sessions during school year 2014-15. While shown to be effective, the logistics of coordinating 100+ educators to training sessions proved to be problematic. It is hoped that the creation of an asynchronous alternative to the face-to-face sessions would alleviate these concerns.

The purpose of this action research project was to explore the impact of a Canvas Learning Management System (LMS) training module used to enhance the scaffolding and differentiation techniques of instructors with ELL students at a large public high school. It is hoped that by successfully completing the training module, participants will be better able to both scaffold standards into appropriate learning goals as well as differentiate classroom instruction and assignments to match the needs and abilities of their students.

There are two research questions that this project hopes to answer. The first is “how effective was the training module on the ability of instructors to appropriately scaffold and differentiate lesson plans for the needs of their English language learners?” The second is “how effective was the training module on the belief of instructors on the necessity to appropriately scaffold and differentiate lesson plans for the needs of their English language learners?”

**Literature Review**

In planning this online course, the researcher looked at several educational theories before deciding on a Constructivist approach. Constructivism was thought to be a good match for teaching scaffolding and differentiation techniques to educators because the very nature of Constructivism deals with building upon existing knowledge to achieve target learning (Cunningham & Duffy 1996). Constructivist theory also focuses on the importance of the learning context and the issue of learner control. The learning context provided would be directly related to the use of the learned skills as teachers would be tasked with creating lessons in their own field of instruction. Learner control would likewise be emphasized as participants would be able to work with the standards of their choosing and would have free reign to choose scaffolds provided they could be explained to be appropriate. (Cunningham & Duffy 1996)

Technological incorporation, something typical of online course offerings by their very nature, promised to meet the need for asynchronous interactions required by the varying
schedules of the target participant group. Additionally, the use of technology would further aid in the Constructivist approach to learning, as Cunningham asserted that “assessment of learning arises naturally from the performance of tasks and… authentic learning tasks promote learning” (Duffy & Jonassen 2013). Technology enables participants to perform tasks that are authentic to their eventual use, promoting the learning, retention and, it is hoped, eventual habitual use of delivered techniques.

Based on the availability of instructional materials and the novel method of chosen delivery (i.e., via an online course) action research seemed the appropriate research approach for the project. While not taking place in a traditional action research setting (i.e., a classroom), the basic elements of action research are preserved: an educator (the researcher, who is the ELL coordinator at the chosen institution) charged with providing instruction (professional development), conducting research to ascertain the effectiveness of a particular method of instructional delivery (a Canvas LMS hosted online course) to the target audience - instructors who have not been previous trained in ELL instructional techniques (Elliot, 1991). Additionally, action research has long been associated with the field of minority empowerment (Adelman, 1993), something that matched well with the ELL-instructional focus of the project, as by their nature, ELLs are a minority population.

Constructivism makes clear the need for scaffolding in education, particularly with ELLs. In the decade following 1992, there was an 84% increase in ELL students while mainstream students saw only a 10% increase in that time (Walqui, 2006). Additionally, it is believed that the use of scaffolding in education should be emphasized at all levels of instruction and conducted as a three tiered activity: planned progression over time (unit-level), procedures within a particular activity (lesson-level), and the collaborative process of interaction (activity-level). Differentiation, likewise, is noted to be effective in ELL instruction (Baecher, 2011), as it provides clear avenues for teacher instruction matching and meeting the needs of ELL students.

As the outcome of online courses depends heavily on the structured support of the instructors (Benbunan-Fich & Hiltz, 2013), choosing an effective organizational format for the course was of paramount concern. In the end, the researcher chose to utilize the CASA design model (Menchaca, 2014) based on its familiarity and overall effectiveness based on prior experiences. The division of materials and activities into the Content, Asynchronous, Synchronous, Assessment pattern aided in the development and organization of materials for the course and worked well with the chosen Learning Management System, Canvas. The online nature of the course, mandated by the particulars of scheduling the target participants, is a venue of education that is likely to increase in popularity in coming years, as technology continues to improve and the demand for education, driven by population growth, increases (Moore, 2011).
Additionally, there appears to be no appreciable difference in content absorption between online-only group and a face-to-face group (Fisher, Schumaker, Culbertson, & Deshler, 2010), meaning that there is no real argument against providing online courses in replacement of face-to-face options.

With regards to the ELL focus of the online course, recent studies point to the importance of improving educator awareness of ELL issues and the increasing feasibility of online resource to deliver training on them. The affective belief of instructors on ELL concerns mirrors their belief in the importance of student background in regards to student success (Anthony & Christopher, 2011). Based on this understanding, the more an instructor is made aware of the nature of ELL student backgrounds, the more likely they will be to implement ELL-appropriate supports. Additionally, increasing the information provided to teachers about their students can increase the recognition for the need of support services (Cheatham, Jimenez-Silva, Wodrich & Kasai, 2014). Providing more information on student backgrounds and appropriate supports can only help to improve the quality of ELL instruction.

**Project Design & Development**

In developing this learning module the key goal of the researcher was that it be something that participants could engage in, for the most part, asynchronously. Classroom teachers have a number of time constraints and demands on their schedule, therefore, any synchronous time would come at a premium. An ideal professional development course would provide most of its content asynchronously, allowing participants to engage on their own schedules.

After looking at various online Learning Management Systems, the researcher decided on the Canvas LMS. It was familiar to the researcher who had encountered it in several graduate-level courses; offered a newly-redesigned and much-improved interface over older iterations; utilized a logical organizational pattern (modules and sub-module items); and had a very robust internal quiz application. This quiz application allowed for assessments to be designed for each module but most importantly these assessments could be designed to provide immediate feedback for incorrect answers. Additionally, the quiz application quickly grades and posts results back to both the instructor and the learner, allowing for timely knowledge of current course progress.

Once the choice of LMS was made, the researcher set about creating content for the various modules of the course. The core of the course would be built around two learning modules, one for the concept of “Scaffolding Learning Goals” and the other for the concept of “Differentiating Instruction.” Additionally, a module was designed to
introduce participants to the basics of ELL instruction in Hawaii by acquainting them with the World-class Instructional Design and Assessment (WIDA) consortium system of ELL instruction in use in the state. Finally, an opening and closing module were designed to “bookend” the course.

The final course site (https://canvas.instructure.com/courses/905482) was then designed. The researcher then set about creating the content for each of the five modules to be included. Each module would follow the CASA design model, with Content-delivery followed by an Asynchronous response, then a Synchronous session and finally an Assessment of learning (Menchaca, 2014). Content-delivery would be accomplished through the use of several presentations. In deciding on a format for these presentations the researcher decided on the use of Prezi (https://prezi.com/) for its superior display elements and more appealing visual style, particularly when compared with the industry standard Microsoft PowerPoint. A total of four Prezi presentations were designed; one for a course overview orientation page and one each for the content-delivery of the WIDA, Scaffolding, and Differentiation modules.

Module 1 serves as the entry point for the learning module, beginning with a welcome page (see Figure 1) which introduced the purpose for the learning module and offers users links to course announcements and the overall course schedule via the course modules page. The welcome page also hosts a course overview Prezi presentation, to better familiarize participants with course particulars. The first item of module 1 is the course consent form, created and administered via Google Forms, which is mandatory for all participants; further progress through the learning module is impossible without first submitting the course consent. The second item of module 1 is the Common Course Vocabulary page, where key words, acronyms and phrases. Education tends to be acronym and jargon heavy, so having a common vocabulary page is invaluable to avoiding confusion. Module 1 ends with a pre-course survey, again administered via Google Forms, designed to gather baseline data to use in comparison to the post-course survey of module 5.
Module 2 is dedicated to familiarizing the participants with the World-class Instruction, Design and Assessment (WIDA) consortium and their English Language Development (ELD) levels system which the state of Hawaii uses for their ELL programs. A short Prezi presentation (see Figure 2) is followed by a 15 question mini-quiz that participants must pass to be able to continue further through the course’s modules.
Module 3 focuses on the first major content topic: scaffolding learning goals. Here, the CASA design model begins to be used. After a short welcome page for the module, the content is presented to participants via a Prezi presentation. As with Module 2, participants are then given a short quiz which they must pass in order to continue with the module’s content (see Figure 3).
Module 3 then continues, tasking participants with an asynchronous response to a discussion board question. In addition to responding to the prompt below, participants are also directed to respond to two of their peers’ responses.

“Teachers are so often presented with new educational fads and fly-by-night solutions every school year that it can become difficult to separate the wheat from the chaff. Explain why you think the strategy of scaffolding is more wheat than chaff.”

Following the asynchronous portion of the module, participants then interact synchronously via a Google Hangouts session. During this synchronous session, the facilitator reviews the content portion of the module, goes over the asynchronous responses from the discussion board and then previews the assessment section of the module by having participants engage in a collaborative activity that parallels the assignment given at the end of the module.

Module 3 concludes with an individual assessment. Participants are asked to create a series of learning goals scaffolded from a standard of their choice using a Google Document template hosted in Canvas. To submit their assessment, participants upload the Google document through Canvas, upon which the instructor is made aware of the submission via e-mail and can grade and comment on the submission before returning it to the learner.

Module 4 was designed and arranged in parallel with Module 3. A welcome page for the module proceeds quickly to a Prezi presentation on the module topic: Differentiation (see Figure 4). As in previous modules, a short quiz follows the presentation and requires participants to pass it before allowing further progress.
The module continues with similar asynchronous (i.e., discussion board response) and synchronous (i.e., Google Hangouts session) sections. As with the previous module, Module 4 concludes with an assignment, intended for use as an assessment, which tasks the participants with the creation of several levels of differentiation for a single, participant-chosen, learning goal. Additionally, each level of differentiation requires the inclusion of an instructional support appropriate to the ELD level associated with it.

The final module of the course, Module 5, primarily consists of the two exit surveys, the post-course survey and the course effectiveness survey. Each is designed and administered on Google Forms. The post-course survey mirrors the pre-course survey to make data comparison possible. The course effectiveness survey gathers data on the participants own impressions of the content effectiveness and the overall effectiveness of the Canvas LMS as a course delivery system.

Finally, Module 5 concludes with an exit page, thanking participants for their participation, informing them of relevant contact e-mails, and providing them with a number of links to further learning on the subject of ELL instruction.

Conclusion
Many lessons were learned in the process of designing and creating this online learning course, such as the need to refine older materials and the importance of taking the online-nature of the course into consideration. Future iterations of the course will most certainly benefit from any and all mistakes encountered in the creation of this one.

The consideration of the online nature of the course was something that the researcher did not take into consideration in the initial stages of the course’s design. It was assumed that previously used materials could easily uploaded and presented remotely to participants with little to no change in effectiveness. The researcher quickly realized that content presentations designed to be supplemented with presenter commentary would not work without an actual presenter. After redesigning all presentations to be independently effective, attention had to be turned to other course materials as well.

While almost all of the materials used in the creation of the course were developed prior to the origin of this course, they were created at different points in the past and had no cohesive “look,” something that could lead to confusion and misunderstandings by potential participants. Taking the time to re-create all relevant materials with a common theme improved not only the effectiveness of the course, but also helped to improve its professionalism. Once these changes were made, the overall course appeared to be more streamlined and appropriate for online learning.

In conclusion, the need for effective and appropriate ELL instruction is becoming more and more evident with each passing year, as ELL populations continue to increase. While proven strategies exist for developing appropriate instruction for English language learners, the sad fact of things is that the majority of educators have not been properly trained to do so. The purpose of this action research project was to ascertain the success of providing that training to educators via a platform that is both effective and accessible, an online professional development instructional module. It is hoped that the module developed in this project can be refined and improved to the point that it becomes that platform. It is further hoped that such an effective platform would then see wider use, promoting the knowledge and use of appropriate ELL instruction.
References


