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HOW DO INSTRUCTIONAL DESIGN MODELS INFORM THE ACTIONS
OF INSTRUCTIONAL DESIGN TEAMS?
A CASE STUDY EXAMINATION OF A UNIVERSITY'S DEVELOPMENT
OF AN ONLINE TRAINING PROGRAM

by

Grover L. Wray

A dissertation
submitted in partial fulfillment of the requirements
for the degree of Doctor of Philosophy in Instructional Design
Idaho State University
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To the Graduate Faculty:

The members of the committee appointed to examine the dissertation of Grover Wray
find it satisfactory and recommend that it be accepted.

Dr. David Coffland
Major Advisor

Dr. Dotty Sammons
Committee Member

Dr. Karen Wilson Scott
Committee Member

Dr. Jean Thomas
Committee Member

Dr. Curt Anderson
Graduate Faculty Representative

Idaho State UNIVERSITY

Office for Research Integrity
921 South 8th Avenue, Stop 8046 • Pocatello, Idaho 83209-8046

February 13, 2014

Grover Wray
BYU-Idaho, Sociology/Social Work Dept.
Thomas E. Ricks 132C
Rexburg, ID 83460

RE: Your application dated 2/7/2014 regarding study number 4045: How Do Instructional Design Models Inform the Actions of Instructional Design Teams? A Case Study Examination of a Universities Development of an Online Training Program

Dear Mr. Wray:

I agree that this study qualifies as exempt from review under the following guideline: 2. Anonymous surveys or interviews. This letter is your approval, please, keep this document in a safe place.

Notify the HSC of any adverse events. Serious, unexpected adverse events must be reported in writing within 10 business days.

You are granted permission to conduct your study effective immediately. The study is not subject to renewal.

Please note that any changes to the study as approved must be promptly reported and approved. Some changes may be approved by expedited review; others require full board review. Contact Patricia Hunter (208-282-2179; fax 208-282-4529; email: humsubj@isu.edu) if you have any questions or require further information.

Sincerely,

Ralph Baergen, PhD, MPH, ~~CIP~~
Human Subjects Chair



February 23, 2014

Dear Grover,

Your proposal to use human subjects from the BYU-Idaho faculty and staff for the study entitled *Describing the Process Used in the Development of an Online Training Course at Brigham Young University – Idaho* is renewed for 12 months from the date of this letter. Please notify the IRB if you intend to make any significant modifications to the study's design or implementation.

Good luck with your study.

Regards,

Scott J. Bergstrom, Ph.D.
Chair, BYU-Idaho Institutional Review Board

Scott J. Bergstrom Director, Institutional Research & Assessment, Kimball 290C
Phone (208) 496-1136 Fax (208) 496-5136 E-mail bergstroms@byui.edu

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ABSTRACT

The purpose of this case study was to describe the process used by an instructional design (ID) team to develop an online training course (OTC) for adjunct faculty at a medium-sized institution of higher education in the Intermountain West, in order to determine to what extent practicing instructional designers follow a formal instructional design process. A comparison of the literature with the team of designers revealed that the approach the designers in this study took during their development of the OTC aligned with what instructional designers are supposed to do.

The literature showed that instructional designers rarely adhere consistently to instructional design models in a rigid manner and that they also do not spend the majority of their time working with ID models. Instructional designers also engage in several tasks that are not reflected in formal models. Instructional designers modify and adjust instructional materials as needed (Passerini & Granger, 2000). The literature also asserts that instructional designers often do not complete all the steps of an instructional design model because of external constraints or because they are simply not necessary (Morrison, Ross, & Kemp, 2010). Mergel (1998) suggested that a more practical approach to selecting an instructional design model is to just find whatever works and use it.

The three themes that emerged from this study are 1) while a formal instructional design process was not followed, the OTC designers and revisers applied components of

instructional design models as a matter of practicality rather than intentionality ; 2) the OTC designers adjusted their procedures based upon their own experience and the constraints of the task; 3) since the development of the OTC in 2008, the incentive to make revisions to the course was the University's increased focus on online learning, combined with the feedback provided by students and instructors of the OTC.

CHAPTER 1

INTRODUCTION

Offering online courses using the Internet and web-based technology has become a preferred delivery method for many educational institutions (Motiwalla & Tello, 2000). As a consequence, the number of online courses offered by universities across the country continues to expand, as do the numbers of students enrolled in these distance education programs (Kim & Bonk, 2006). According to one report, “90% of 2-year public institutions and 89% of 4-year public institutions offered some form of distance education in the academic year 2000–2001” (Tallent-Runnels, M. K., Thomas, J. A., Lan, W. Y., Cooper, S., Ahern, T. C., Shaw, S. M., & Xiaoming, L., 2006, p. 93).

I. E. Allen and Seaman (2007) stated that there has been a 9.7% growth rate for online enrollments in higher education courses and that “nearly 20% of all U.S. higher education students were taking at least one online course in the fall of 2006” (p. 1). These authors also stated that “69% of academic leaders believe that student demand for online learning is still growing and 83% of institutions with online offerings expect their online enrollments to increase over the coming year.” (p. 2). In a later study by these same authors, they stated that “online enrollments have continued to grow at rates far in excess of the total higher education student population” (Allen, I. E. & Seaman, 2010, p. 1).

With the move toward using the Internet to deliver course materials and support distance learning, online course offerings will continue to grow (Bennett, Priest, & Macpherson, 1999; Kariya, 2003). One example of what makes distance learning so

popular is its ability of "getting people—often video images of people—into the same electronic space so they can help one another learn" (Filipczak, 1995, p. 111). Perhaps the popularity of distance education is a direct result of how efficient, accessible, and cost effective it is, along with the fact that online credentials are becoming more accepted by those in positions to hire (Schmeeckle, 2003).

As the use of the Internet and web-based technology to deliver online courses continues to rise in popularity, the government and universities will be called upon to provide needed funding and support (Bennett et al., 1999). Thirteen years ago, Lowe (2000) noted that there were approximately 17,000 courses available online, adding that more than 50% of Western U.S. universities were offering some type of online course. Rubin (2003) noted, "Traditional universities are becoming more like distance learning universities and not the opposite" (p. 59).

In a faculty forum held in August 2008, Kim B. Clark, then President of [REDACTED], stated that he was committed to the development of discussion-rich online courses. The president and his leadership council determined that these online courses would be taught by adjunct faculty. By using adjunct faculty, the university would be able to reach more students without overtaxing existing campus faculty and resources. The decision to hire online instructors outside the campus community was based on the expectation that more online courses needed to be offered to the students. By offering more online courses, the students would have a greater choice of online courses. Hiring online adjunct faculty would make it possible for campus faculty to continue their normal responsibilities. One result of hiring online adjunct faculty was the need to provide training for them.

The purpose of training the online adjunct faculty was to provide them with an understanding of what the university expected of them, to ensure all adjunct faculty were qualified and prepared to teach, and to inform them about the university's mission. [REDACTED]

[REDACTED] mission is to:

Build testimonies of the restored gospel of Jesus Christ and encourage living its principles; provide a quality education for students of diverse interests and abilities; prepare students for lifelong learning, for employment, and for their roles as citizens and parents; and, maintain a wholesome academic, cultural, social and spiritual environment. (Clark, K.B., 2008)

In order to comply with administration's request to hire qualified online adjunct faculty, the Curriculum Development Director made the decision that an online training course should be developed that would teach the prospective online adjunct faculty how to fulfill the university's mission.

[REDACTED] online courses are designed by on-campus faculty under the supervision of curriculum developers. Brigham Young University-Idaho has committed to increase online offerings in order to provide 20 percent of all instruction online. Currently, a variety of new online courses are being developed, and many more are being upgraded to serve an increasing number of students online.

For more than a decade, instructional design models have been recommended to improve the quality of online courses (Passerini & Granger, 2000; Major & Levenburg, 1997). According to Passerini and Granger (2000), instructional design plays an important role in the overall success of distance learning, and traditional instructional design models should continue to be incorporated during the development stages of web-

based instruction. Major and Levenburg (1997) maintained that using technology by itself will not be enough to develop quality online distance learning courses that can improve learning. These authors added that the use of a sound instructional design model, along with various other educational philosophies and technologies, is needed in order to generate the desired learning outcomes. Foshay and Bergeron (2000) stated:

Putting content on a webpage is no guarantee of learning. The web may be a great way to distribute information, but can you really teach with it? There is a big difference between information and instruction, and this basic principle is as true on the web as anywhere. (p. 16)

Cooze and Barbour (2007) agreed, stating, “It is important to remember that the foundations of the various instructional design models will impact upon the current process of developing instruction for online learning and do have a vital part to play in this process” (p. 11). Instructional designers are needed in order to “create a clear framework outlining the goals, delivery, and structure of the e-learning program with clear benchmarks for success” (Moller, Foshay, & Huett, 2008, p. 68).

As the delivery of online courses continues to show rapid growth and increasing popularity in higher education, it becomes crucial that institutions provide and maintain quality online programs (Kim & Bonk, 2006). These authors further asserted, “Evaluation is an important part of ensuring the quality of online courses and programs” (p. 28). Schmeeckle (2003) made a more direct claim regarding the importance of evaluating online courses, describing it as a necessity to the future quality of online courses. As web-based technology continues to rise in popularity, so does the importance of using instructional design in the development of web-based courses (Passerini & Granger,

2000). Therefore, this study will examine one institution's application of an instructional design process in their development of an online training course for adjunct faculty..

Purpose of the Study

The purpose of this case study was to describe the process used by an instructional design team to develop an online training course for adjunct faculty at a medium-sized institution of higher education in the Intermountain West in order to determine to what extent practicing instructional designers follow a formal instructional design process.

Research Questions

To achieve the stated purposes of this study, the following research questions were developed:

1. What describes the process used by an instructional design team to develop an online training course at a medium-sized institution of higher education in the Intermountain West?
2. To what extent was the process used by an instructional design team during the creation of an online training course informed by an instructional design model?
3. How would the instructional design team change their design process if they were to design a similar course today?

Research Design

According to Creswell (2007), qualitative research is used when “a problem or issue needs to be explored” (p. 39). This author further stated that qualitative research is conducted when there is a need to understand a complex, detailed issue (Creswell, 2007).

Obtaining a detailed understanding “can only be established by talking directly with people and allowing them to tell their stories” (p.40). “The backbone of qualitative research is extensive collection of data, typically from multiple sources of information” (Creswell, 2007, p. 43).

According to Orum, Feagin, and Sjoberg (1991), a case study is one way to gain a better understanding of an issue, obtain information through data collection from several sources, and achieve a more holistic view of the issue. Creswell (2003) reported that as one of five strategies of inquiry frequently used by researchers, case studies represent an “encompassing focus from narrow to broad” (p. 183). A case study is the choice of strategies when an extensive amount of information needs to be gathered from a variety of sources to gain an in-depth picture of the case (Creswell, 2007). I used a case study approach to describe how an instructional design team’s process may have been informed by an instructional design model in the development of an online training course. It was also used to determine what changes in the instructional design process the design team would make if they were to design the course today. This case was intended to serve as an example of how instructional design teams function.

The data collection methods for this study included interviews, observations, and review of artifacts. The questions that were developed for use in the interview process were directly aligned with the research questions in this study. Each question that was used during the interview process was assigned a category. The categories included what the design team did before developing the online training course, what they did during the actual development of the course, and what they did after the course development. The purpose of aligning the interview questions using this structure was to avoid using

terms from any one particular instructional design model in order to limit bias toward any design model's terminology.

I developed a semi-structured interview protocol to guide the interviews. This protocol was used to interview all members of the design team: administrators, developers, and programmers. I also observed the course in action as the online adjunct instructors received the training. I observed the assignments, discussions, and other activities within the course itself as a non-participant (Creswell, 2007). I also examined the artifacts that were created during the course development process. It was expected that the physical and virtual artifacts would include objects such as flowcharts and storyboards.

Delimitations

According to Creswell (2003), delimitations of a study are determined by the decisions made by the researcher and are used to narrow the scope of a study. A number of delimitations were identified.

In this study, a small group of five individuals who were responsible for designing, developing, facilitating, and administrating an online training course at the subject university were chosen to be interviewed. This group consisted of four males and two females, all Caucasian, who have varying degrees of formal training in instructional design.

Another delimitation of this case study was the time frame during which I interviewed all five participants (Gall, Gall, & Borg, 2003). I interviewed the designers, developers, facilitators, and administrators of the online training, during the 14-week spring semester of 2013.

Limitations

Creswell (2003) identified limitations as those things outside the researcher's control that threaten the internal validity of a study. Limitations specific to case studies will be addressed below. This research used interviews as the main source of information from each contributor responsible for designing, developing, facilitating, and administering an online training course. As a result, this study relied heavily on each participant expressing his or her views honestly, accurately, and fully.

A potential threat to the internal validity of this study was that the findings could be subject to various interpretations (Gall et al., 2003). When the data allowed multiple valid interpretations, I conducted follow-up interviews to ask the questions necessary to attain more detailed data that would determine an interpretation. Through this process of seeking more data through numerous interviews with the participants, the chance of multiple perceptions of the data was reduced.

Another potential limitation could be that my own personal bias may have unintentionally influenced the responses received by the participants being interviewed (Gall et al., 2003). For example, my bias may include several preconceived ideas of how online training courses should be developed, and my knowledge of many instructional design models that can be used in creating such a course. To reduce researcher bias, I engaged in a technique Creswell (2007) referred to as "bracketing." According to Creswell (2007), bracketing is the "return to natural science, relying on intuition, imagination, and universal structures to obtain a picture of the experience" (Creswell, 1998). The use of bracketing requires "setting aside all preconceived experiences to best understand the experiences of participants in the study" (p. 235).

A final limitation is that more than five years have passed since the initial development of the online training course described in this case study, and several revisions have already been made to it. Also, because this is a case study research design involving interviews with small groups of participants, it cannot be considered fully generalizable.

Role of the Researcher

Merriam (1998) described the researcher as “the primary instrument for gathering and analyzing data” (p. 20), asserting that the researcher “must have an enormous tolerance for ambiguity” (p. 20). My decision to do a case study about how an online training course was developed was initiated by my own desire to know whether the process that was used was based on instructional design principles. The inclusion criterion for selecting the participants in this study was that they had to be involved in either the development of the online training course or in the revision of the course. Any individual who may have taught the online training course but did not have a role in developing or revising the course, was excluded from this study.

One of my roles in this study was to develop a semi-structured interview protocol that I used during my interviews with the participants. As the primary interviewer, I was responsible for interpreting the data that this study produced. I was also responsible for reporting the data that emerged from this research. Another role I had as a researcher was to identify my possible biases prior to initiating this study. One way I did this was by setting aside my preconceived ideas and concentrating on understanding the experiences of participants in the study (Creswell, 2007).

Another recognized bias was my knowledge of instructional design models and their uses in developing courses. To reduce my bias in this area, I engaged in a strategy R. Johnson (1997) referred to as reflexivity. Implementing this strategy required that I actively engage in critical self-reflection about my biases and become more self-aware so that I could monitor them closely and not allow them to interfere with or influence my findings.

Definitions of Terms

Boettcher (1997) stated, “A new vocabulary for online teaching and learning environments is evolving. The problem is that we now have so many terms floating about that it is difficult to communicate with each other about these new teaching and learning models” (p.44). To reduce communication difficulties regarding this study, the following terms have been defined:

ADDIE model. Crawford (2004) defined the ADDIE model as being a generic instructional design method that uses five basic steps throughout the entire instructional design process, including analyze, design, development, implementation, and evaluation phases. This author further asserted that ADDIE is a simple model to use, is cyclical in nature, and adheres to a holistic practice of instructional designing.

Asynchronous online learning. Asynchronous online learning refers to a collaborative online learning process between the instructor and student at their convenience where they can engage in learning activities without being online at the same time (De Wever, Schellens, Valcke, & Van Keer, 2006; Sims, Dobbs & Hand, 2002; Hiltz, 1997).

Distance learning. This study used Holmberg's (1986) definition of distance learning, which is:

Various forms of study at all levels which are not under the continuous, immediate supervision of tutors present with their students in lecture rooms or on the same premises, but which, nevertheless, benefit from the planning, guidance and tuition of a tutorial organization. (p. 26)

Evaluations. According to the United States Department of Education (2008), evaluations are instruments that can provide information on improvement needed in online learning and can identify whether online resources are delivering as promised. The United States Department of Education also stated that an evaluation can predict if online learning is providing students with high-quality learning opportunities.

Instructional design model. According to Richey (1986), an instructional design model contains "detailed specifications for the development, evaluation, and maintenance of situations which facilitate the learning of both large and small units of subject matter" (p. 9).

Less-structured design model. The Herridge Group Inc. (2004) described a less structured model as being flexible enough to allow instructional designers with more experience the opportunity to decide for themselves how much or how little detail to use at each step. A less structured model allows for more flexibility and minimal structure, and steps that can be completed in any order (Chen & Toh, 2005; Jeroen & Martens, 2002; Passerini & Granger, 2000). Examples of less structured design models include the Kemp model, (Jones & Richey, 2000); R2D2 instructional design model, (Kranich, 2008); and Rapid Prototyping, (Passerini, & Granger, 2000)

Online Certification Training (OCT). The Online Certification Training (OCT) is the training course offered at the university in the study that provides instructors with a standard minimum set of online teaching skills, introduces the instructors to the university's mission, and assists in the improvement and overall quality of online education for the students. OCT also introduces newly hired faculty to the online community at the university, training them in aspects of online teaching at the institution. While training for online teachers is not unique, the OCT refers specifically to the training course provided at the university under study.

Pre-Screening Experience (PSE). The Pre-Screening Experience refers to the two-week training course that seeks to determine whether potential instructors can align themselves with the mission of university. This course also allows potential online faculty to showcase their competency levels in the use of basic online discussion boards, assessments, and technology.

Structured design model. According to Edmonds, Branch, and Mukherjee (1994), a structured model is one that provides “step-by-step descriptions of the process of designing instruction which are more useful for a novice or inexperienced instructional designer to employ” (p. 61). Examples of structured design models include the Dick and Carey model (Dick, 1996), and the Gerlach and Ely model (Gerlach & Ely, 1980).

Synchronous online learning. Synchronous online learning refers to real-time interaction between students and the instructor who are at different sites (Anderson & Elloumi, 2004; Hampel, 2006; Park & Bonk, 2007).

Significance of the Study

This study assists instructional design professionals of one institution of higher education in determining the extent instructional design models and techniques are actually used in the development of its online training course. Administrators at this medium sized institution in southeastern Idaho have chosen to serve more students by offering numerous online courses. Because of this initiative, this institution has invested extensive time, finances, and manpower into the development of an online training course. This course was designed to offer training to individuals who wish to be online adjunct instructors. Therefore, it is important for this institution, and any other institutions considering a similar initiative, to know if the design team used an instructional design model in the development of the online training course.

Knowledge of whether or not practicing instructional designers use the models they were taught in their instructional design program will provide feedback to colleges and universities on the usefulness of their programs.

Another potentially significant aspect of this study was the protocol developed for the design team interviews. Other researchers may use this instrument to evaluate the process of online course development in other cases. This interview protocol's availability may encourage more research into the online course development process.

Summary

Providing online courses is becoming popular among educational institutions as seen by the increasing number of online courses offered by universities across the country (Motiwalla & Tello, 2000; Kim & Bonk, 2006). The purpose of this study was to describe the process an instructional design team used in the development of an online

training course for adjunct faculty at a medium-sized institution in southeastern Idaho. To achieve this purpose, this study was developed to discover the extent in which the process used was informed by an instructional design model. This study also determined how the instructional design team changed their design process if they could design a similar course today.

This study made a significant contribution to instructional design professionals by providing guidelines that will help determine how instructional design models are being used in the development of online courses. Another significant feature of this study was the development of a semi-structured interview protocol used to evaluate the process of online course development. The literature review in Chapter Two will address distance learning, evaluation procedures, and instructional design models in greater detail.

CHAPTER 2

REVIEW OF LITERATURE

The purpose of this case study was to describe the process used by an instructional design team to develop an online training course for adjunct faculty at a medium-sized institution of higher education in the Intermountain West in order to determine to what extent practicing instructional designers follow a formal instructional design process. The review of literature informing this study will examine the topics of distance learning, evaluation methods, and instructional design models.

This review of literature will examine definitions of distance learning, adjusting instructional materials to meet changes in media, and the importance of designing relevant learning environments. Synchronous and asynchronous online learning, the evaluation of online training, and an explanation of how the researcher used evaluation as part of this particular study will also be addressed. Other areas that will be presented in the review of literature include a definition of and information about instructional design models, and an overview of the Dick and Carey, Gerlach and Ely, Kemp, and Rapid Prototype instructional design models. The remainder of this chapter will address the instructional design model known as ADDIE.

Distance Learning

Phipps and Merisotis (2000) identified the need for a specific definition for distance learning because since “technology is evolving, the definition of what distance learning is continues to change” (p. 11). Multiple examples of the changing definitions of

“distance learning” can be found in the literature. Of the numerous definitions of distance learning that exist, some are broad in nature, some focus solely on the “distance” aspect (Holmberg, 1986; Newby, Stepich, Lehman, & Russell, 2000; Bourdeau & Bates, 1996), and others empathize the “learning” part of the term (Moore & Kearsley, 1996; United States Distance Learning Association, 2010). Holmberg (1986), for example, offered a broad look at distance education:

Distance education includes the various forms of study at all levels which are not under the continuous, immediate supervision of tutors present with their students in lecture rooms or on the same premises, but which, nevertheless, benefit from the planning, guidance and tuition of a tutorial organization. (p. 26)

Newby et al. (2000) asserted that distance learning is "an organized instructional program in which teacher and learners are physically separated" (p. 210). This definition is less explicit than that by Holmberg (1986) in that it does not take into account any effects on the learner and merely describes the existence of a program in which learning may or may not occur. Newby et al. (2000), Bourdeau and Bates (1996) also focused on the distance element of distance learning, stating “with the emergence and spread of electronic media, the concept of distance refers to the use of media to overcome any problem of remoteness or synchronization of learning and/or teaching activities” (p. 268).

In contrast, Moore and Kearsley (1996) focused on the learning portion of distance learning when they stated that planned learning “normally occurs in a different place from teaching and as a result requires special techniques of course design, special instructional techniques, special methods of communication by electronic and other technology, as well as organizational and administrative arrangements” (p. 2). These

authors also asserted that because learning occurs in a different place than where teaching occurs, special instructional techniques are needed in order for learning to occur. In an attempt to encompass both distance and learning aspects, the United States Distance Learning Association (USDLA) (2010) placed their focus on the acquisition of knowledge and skills through mediated information and instruction, encompassing all technologies and other forms of learning at a distance.

Despite the lack of agreement on the definition of distance learning, Larreamendy-Joerns and Leinhardt (2006) asserted that “the growing presence of distance learning has changed the landscape of formal education” (p. 570). Passerini and Granger (2000) shared similar views about the growing presence of distance learning, stating that it has evolved from “correspondence study, open universities, teleconferencing, networks and multimedia delivery to today's Web-based technologies” (p. 1). This study used the USDLA definition of distance learning and focused specifically on distance learning that was developed using an instructional design model and delivered using internet technology and synchronous, asynchronous, or mixed synchronous/asynchronous methods.

Adjusting Instructional Materials to Meet the Changes in Media

Modifying instructional materials and teaching approaches in distance learning to become more compatible with the desired online delivery method is something Passerini and Granger (2000) argued as important:

Studies show that successful distance learning occurs when the class tasks and activities are appropriate to the technology used; are consistent with the instructor's philosophy and style of teaching; provide maximum student

interaction; are well organized and well presented; and when the technologies used are accessible and relevant to students. (p. 80)

Passerini and Granger (2000) also stated that distance learning is “characterized by new teaching approaches, including the adjustment of instructional materials supported by different delivery media” (p. 1). Instructional materials that are in line with technology will create an environment of success in distance learning settings (Passerini & Granger, 2000).

Modifying instructional materials and adjusting teaching approaches have both been determined to be important characteristics of distance learning (Passerini & Granger, 2000). Another significant characteristic trait of distance learning involves developing instructional materials that are relevant to the learner (Honebein, n.d., p. 19). This author added that instructors “should guide learners to pursue topics that interest or are relevant to the learner and encourage learners to experiment with various methods of solving problems” (p.19).

To accomplish this goal, Honebein (n. d.) suggested that instructors must possess skills to provide a variety of relevant learning environments, since “different types of learning environments obligate the designer to conceive of different instructional methods and strategies to bring the pedagogical goals alive” (p. 23).

Synchronous Online Learning

Synchronous online learning allows for real time interaction between students and the instructor (Anderson & Elloumi, 2004; Hampel, 2006; Park, 2007). Other benefits of synchronous learning, as expressed by Park (2007), are that “synchronous communication has a great potential to increase individual participation and group collaboration” (p. 245). In addition to increasing group cooperation, Anderson and Elloumi (2004) asserted that synchronous online learning can be used for guest interviews, debates, and presentations. These authors further reported that using a synchronous model has the advantage of being similar to teaching and learning in campus-based classrooms, providing increased access by “spanning geographic distance” (p. 278).

Hampel (2006) warned of the disadvantages, claiming that “while synchronous conferencing allows for immediate response, users can suffer from techno stress; and although it provides users with the opportunity for more authentic dialogue, it can require a skilled moderator to facilitate or control dialogue” (p. 111). Anderson and Elloumi (2004) also claimed that synchronous learning “constrains participants in terms of a single time that they must be present” (p. 278).

Asynchronous online learning

Over the years, the impact of asynchronous learning has changed the landscape of how learning occurs, and, as Hiltz (1997) explained, it allows learners to “engage in more reflective thinking before having to answer or discuss issues, as compared to a synchronous or same-time interaction” (p. 2). He further determined that “students can participate at their own convenience and thus better fit the demands of a college degree

program into busy lives” (p. 2). Sims, Dobbs, and Hand (2002) depicted asynchronous online learning as “an environment that integrates collaboration, communication, and engaging content with specific group and independent learning activities and tasks” (p. 138).

Pena-Shaff and Nicholls (2004) summarized the benefits of asynchronous learning:

Asynchronous learning not only allows students and professors to interact with each other, permitting both parties to shape the nature of the exchange, but also prompts students to review posted information and analyze their own ideas before responding because they are not constrained to respond immediately.

Furthermore, because most online communication is text-based, it has the potential to strengthen writing skills and encourage more deliberate articulation of ideas. (p. 244)

These authors further asserted that online asynchronous discussion groups have become a key focus of educational research, stating these asynchronous discussions provide students with “opportunities to develop sophisticated cognitive skills such as self-reflection, elaboration, and in-depth analysis of course content, allowing the purposeful construction of knowledge” (p. 248).

According to Driscoll (1999), asynchronous communication is a way to “allow students and instructors to engage in collaborative learning activities without being online at the same time” (p. 23). This author further noted that asynchronous learning environments are “well suited to develop skills that require analysis, synthesis, and evaluation” (p. 23).

The type of asynchronous learning used by students today has undergone changes over the years (Anderson & Elloumi, 2004). These authors described previous forms of asynchronous online learning, stating that the “early forms of distance education were constructed using text and the delayed forms of asynchronous communications afforded by mail services” (p. 52). Although the earlier forms of asynchronous learning served their purpose, the emergence of the Internet for online learning has provided “flexibility of access, from anywhere and usually at any time (p.4).

With the increasing use of media via the internet, new doors have opened for asynchronous online learning to give students an opportunity to engage in more types of learning activities (Anderson & Elloumi, 2004). In discussing the advances in online multimedia, these authors stated:

These online components, which are becoming known as learning objects, include text; electronic mail, discussion boards, chat utilities, voice over Internet protocol, and instant messaging; synchronous audio; video clips; interactive activities, simulations, and games; self-grading exercises, quizzes, and examinations; and Web sites. (p. 178)

Phipps and Merisotis (2000) noted these advancements in asynchronous online learning by calling them “signature characteristic of this technology” (p. 6).

Comparing asynchronous discussions to a synchronous learning environment, De Wever et al. (2006) suggested, “Students get more opportunities to interact with each other and students have more time to reflect, think, and search for extra information before contributing to the discussion” (p. 2). Because of the way asynchronous computer conversations are implemented, Jarvela and Hakkinen (2002) charged that learners do not

have to respond right away. Instead “participants are able to wait to answer until they have composed what they wish to say” (p. 17). Khine, Yeap, and Tan (2003) concurred, finding evidence that asynchronous text-based communication allowed for “anytime, anyplace interaction” (p. 117).

As multi-media technology continues to improve, Anderson and Elloumi (2004) suggested that “the capacity to support human and machine interaction in a variety of formats (text, speech, video, etc.) in both asynchronous and synchronous modalities creates a communications-rich learning context” (p. 273-274). Jonassen, Davidson, Collins, Campbell, and Banaan-Haag (1995) suggested that when two-way asynchronous communication occurs, it not only enables greater instructor-learner communication but also enables the social construction of knowledge among learners at a distance.

Although research has been done on the use of multi-media technology, Benbunan-Fich and Hiltz (1999) noted that “more research is needed to explore how technology-mediated asynchronous interaction affects the collaborative learning process” (p. 409). These authors proposed that “one of the most important benefits is the possibility of teaming up groups of people who would have been impossible to assemble in face-to-face or synchronous conditions” (p. 409).

Loomis (2000) investigated the relationship between students’ individual study and learning styles with their performance in an online research methods class. The findings determined there are potential drawbacks of the asynchronous learning approach. This study asserted: “Because of the asynchronous nature of this course, it is likely some students did not focus their undivided attention on the assignments as they might have in a more controlled classroom environment” (p. 28-29). Another negative

aspect of asynchronous online interaction is that “team members may get anxious or frustrated when they do not get timely feedback from the rest of the group” (Benbunan-Fich & Hiltz, 1999, p. 409). While noting these potential negatives, K. Morse (2003) determined that “as a whole, the existing literature concludes a generally positive benefit accrues from this delivery medium” (p. 37).

Asynchronous learning has undergone changes over the years including allowing greater instructor-learner communication. Although more research is needed to explore how technology-mediated asynchronous interaction affects the collaborative learning process as a whole, the existing literature maintains a generally positive outlook on asynchronous learning.

Evaluation

This section will discuss three different types of evaluations: student performance, teacher effectiveness, and program evaluation. Every evaluation serves a purpose, whether it is to judge a performance or improve learning outcomes. Regardless of what the purpose is, “The greatest practical use of any evaluation process is how it influences subsequent learning” (Prislin, Fitzpatrick, Lie, Giglio, Radecki, & Lewis, 1998, p. 344).

Evaluation of student learning. On the topic of evaluating student learning, Oermann and Gaberson (1998) stated, “While evaluation guides instruction, it ultimately requires making a judgment about performance, in other words, answering the question ‘How good?’” (p. 2). These authors further described this task as a “systematic process of collecting and interpreting information as a basis for decisions about learners” (p. 3). The evaluation of student learning, as addressed in President Clinton’s Goals 2000 initiative, was important enough that the federal government was asked to assist states in

developing ways to evaluate student performance-based progress through the use of assessments such as essays and research papers (Darling-Hammond, 2007).

Klenowski (1995) addressed the idea of self-evaluation, asserting it is an appraisal of the worth of a person's performance with the outlook of improving learning outcomes. Self-evaluations of learning progress, as suggested by Schunk (2003), can sustain self-efficacy, motivation, and learning. Klenowski (1995) further asserted that positive evaluations "raise self-efficacy and motivation because students believe they are learning and capable of further progress" (p. 162).

Fengfeng and Hoadley (2009) maintained that there are other forms of evaluation, such as online observation, in-depth interviews, and learning experience surveys, all of which can evaluate student success. As online teaching becomes more commonplace in higher education, Bauer and Anderson (2000) projected that effective evaluation by teachers of online classrooms will be a major topic. These authors further stated that teacher evaluation of student progress should include "judging the students' content, expression, and participation" (p. 70).

Tallent-Runnels et al. (2006) recommended having students evaluate each other's work and provide feedback to one another as one method of student evaluation. These authors further noted that students who participated in this type of evaluation experienced "enhanced learning and promoted mentoring, critical thinking, and socialization" (p. 100). Peer evaluations, according to Erez, Lepine, and Elms (2002), are a type of communication requiring members to think about and assess other students' contributions.

Evaluation of teacher effectiveness. In addition to the literature on evaluation of student learning, there is a body of literature on the use of teacher evaluations as a way to improve the overall quality of teaching. Darling-Hammond, Wise, and Pease (1983) asserted that evaluation of teacher effectiveness is gaining recognition:

Over the last decade teacher evaluation has assumed increasing importance. The demand for accountability in education has shifted from broad issues of finance and program management to specific concerns about the quality of classroom teaching and teachers. These concerns have led to a resurgence of interest in evaluating teachers and to the development of new systems for teacher evaluation. (p. 285)

Classroom observation by colleagues is a form of teacher evaluation that has contributed to the decisions made concerning faculty teaching effectiveness (Centra, 1975; Cohen & McKeachie, 1980). Other advantages include the assessment of teacher success, determining the effectiveness of knowledge, and providing an opportunity for self-improvement (Struyk & McCoy, 1993; Airasian & Gullickson, 1997). Wright, Horn, and Sanders (1997) proposed that a teacher evaluation should include “a reliable and valid measure of a teacher's effect on student academic growth over time” (p. 66). Danielson (2001) stated, “Schools and districts have discovered that they can shape an evaluation system so that it contributes substantially to the quality of teaching” (p. 2). Iwanicki (2001) recognized the use and effectiveness of teacher evaluations as being most effective when connecting them to student accomplishment and aligning them with professional growth and school enhancement.

Goe, Bell, and Little (2008) maintained that classroom observation of teachers are commonly used method of teacher evaluation “designed to measure teacher practices against some standard of effective teaching and value-added models that set out to measure the contribution of individual teachers to their students’ achievement gains” (p. 2). Centra (1975) stated, “Colleagues can make a unique and important contribution to the evaluation of faculty performance” (p. 327). Cohen and McKeachie (1980) concurred, stating that evaluations from colleagues can offer helpful information to assist administrators in making decisions concerning faculty teaching effectiveness. These authors further reported, “Peer ratings can also be used for both administrative and teaching improvement purposes” (p. 150). Using student feedback to evaluate teacher effectiveness is one of the most widely used methods of evaluation available (Wolfer & Johnson, 2003). These authors asserted that “committees continue to depend on student evaluations of teaching for making decisions about instructor hiring, promotion, tenure, salary adjustment, and retention” (p. 112).

Costin, Greenough and Menges (1971) reported, “Student ratings could provide feedback which the instructor might not be able to elicit from students on a face-to-face basis. This information alone, with no sanctions contingent, could improve teaching” (p. 512). Costin et al. (1971) also said the ratings could provide “departmental and college-wide norms against which individual faculty ratings could be judged” (p. 512).

Feldman (1997) estimated that the use of student ratings as a way to evaluate teachers will only increase as so many colleges and universities put more of an emphasis on quality teaching and rewarding good teachers. Marsh (1987) viewed student evaluations of teaching effectiveness as “the most thoroughly studied of all forms of

personnel evaluation, and one of the best in terms of being supported by empirical research” (p. 369).

Asserting that self-evaluation is an essential element of professional growth, Airasian and Gullickson (1997) defined teacher self-evaluation as “a process in which teachers make judgments about the adequacy and effectiveness of their own knowledge, performance, beliefs, and effects for the purpose of self-improvement” (p. 215). Wise, Darling-Hammond, McLaughlin, and Bernstein (1985) suggested, “Because teaching viewed as an art encompasses elements of personal insight (as well as theoretically grounded professional insight), the teacher as an artist exercises considerable autonomy in the performance of his or her work” (p. 66). These authors stated that “evaluation involves both self-assessment and critical assessment by others” (p. 66). According to Struyk and McCoy (1993), information received from self-evaluations help to identify problem areas that can be prioritized by the teacher and can be focused on one area at a time.

Recognizing that colleges and universities probably do not have the resources to carry out several yearly visits to observe former students who have begun teaching careers, Struyk and McCoy (1993) projected that “it may be possible to incorporate self-evaluation procedures into the follow-up programs” (p. 33). These self-evaluations can “reflect on what occurred, make decisions about why certain aspects of the activities were successful, why some failed, and what they could do different” (p. 33).

Evaluation of teacher effectiveness, the methods for measuring teacher effectiveness, the definition of effective teaching, and attitudes surrounding what is important to measure have evolved and changed over time (Goe, L., Bell, C., & Little, O.,

2008). These authors added that “measuring teacher effectiveness has remained elusive in part because of ongoing debate about what an effective teacher is and does” (p. 2). No matter the type of evaluation, educators are increasingly discovering that teacher evaluation can be used to improve teacher quality helping them grow professionally regardless of what career stage they are in (Danielson, 2001).

Evaluation of program effectiveness. Rovai (2003) maintained, “Evaluation is an essential component of program improvement and renewal and long-term success” (p. 110). According to Patton (1986), a program evaluation should consist of a “systematic collection of information about the activities, characteristics, and outcomes of programs to make judgments about the program, improve program effectiveness and/or inform decisions about future programming” (p. 426). Patton further maintained that defining evaluation in such a way is of “considerable import because different evaluation approaches rest on different definitions” (p. 427).

Alvarez, Salas, and Garofano (2004) defined training evaluation as “a measurement technique that examines the extent to which training programs meet the goals intended” (p. 387), while Crais (2011) suggested it serves “as gateways to services” (p. 342). Moore, Winograd, and Lange (2001) said that “because online course design and teaching are so new, evaluating the effectiveness of your course and then refining it based on the results of that evaluation become imperative” (p. 123).

However evaluation is defined throughout the literature, the United States Department of Education Office of Innovation and Improvement (2008) stated that good evaluations should begin with a “clearly stated purpose and a specific set of questions to be answered” (p. 7). They further established that good evaluations “can identify the

circumstances under which the program or resource is most likely to succeed or fail and can generate useful recommendations for strengthening weak points” (p. 26).

Regardless of what an evaluation consists of or how it is defined, Tallent-Runnels et al. (2006) asserted, “Evaluation is an important issue to consider in online teaching and learning” (p. 103). Research done by Rovai (2003) suggested that evaluation is a necessary component of successful distance education programs. Furthermore, in discussing how a framework for conducting evaluation is developed and what should be evaluated, this author added:

A synthesis of the program evaluation and distance education research literature is used to form a framework for conducting evaluations of online programs.

Evaluators should assess student performance, determine program and cost effectiveness, monitor quality to include technology and support services, evaluate course design and instruction, and ascertain teacher and student satisfaction. (p. 109)

Verduin and Clark (1991) concurred, stating that “continued development in distance education is essential and evaluation can reveal what is effective and what is not” (p. 184). In simpler terms, Schmeeckle (2003) asserted, “The goal of evaluation is to find a program that works efficiently and effectively” (p. 206).

Kirkpatrick (1978) reasoned that when a supervisory training program is completed, an evaluation should be done that provides a measure of how effective the program was. An effective evaluation can provide important information regarding the contribution it made to the organization, whether or not the program should be continued, and areas for improvement (Kirkpatrick, 1978). Spitzer (1999) argued that an evaluation

is the “best tool you’ve got to help turn training into a powerful force that is both valuable to your organization and valued by the people in it” (p. 42).

Recognizing the need for evaluation of online training, Schmeeckle (2003) proposed that “evaluation components should be integrated whenever online training or instruction is being used” (p. 240). Focusing on the reasons for evaluating training programs, Kirkpatrick and Kirkpatrick (2009) suggested:

The most common reason is that evaluation can tell us how to improve future programs. The second reason is to determine whether a program should be continued or dropped. The third reason is to justify the existence of the training department (Corporate University) and its budget. (p. 19)

Meyer (2004) suggested that through evaluation, faculty can explore what happened and how to improve upon future online discussions. As reported by Willis (1993), “Even the best designed or adapted distance delivered course will likely require revision” (p. 70). According to Finkelstein, Wittenborn, and Farris (2004), “Well-planned evaluations can lead to less burdensome yet more effective assessment and better program performance and can increase the knowledge base for health promotion practice” (p. 625). All things considered, “evaluation is an essential component of program improvement and renewal and long-term success” (Rovai, 2003, p. 110).

Evaluation of online training. Online instruction is becoming more commonplace in higher education, creating the need for effective evaluation (Bauer & Anderson, 2000). When evaluating online courses, Benigno and Trentin (2000) stated that an effective evaluation must assess both the learning process and the participant performance (p. 259). These authors proposed that in comparison to face-to-face learning,

there are several issues at various levels to take into account when evaluating distance education, specifically the evaluation of learning and the evaluation of the participants (p. 259). Since online training is delivered from a distance, it means that “there are new variables to assess, especially where evaluation of the entire process is concerned” (p. 259). An example of one online education variable is re-examining learning environments:

There is no longer any physical site where participants gather periodically, but rather a host of different learning environments, each built around an individual remote participant. This situation calls for tools that can monitor what goes on inside these environments, so that the most suitable educational strategy may be put into action. (Benigno & Trentin, 2000, p. 259)

Online teaching is becoming a routine part of curriculum in higher education. With this increase in online teaching, there is a need to provide effective evaluation aimed at improving the quality of the teacher and the training course to prepare teachers of online courses. Evaluations serve many purposes, such as judging performances, measuring teacher and program effectiveness, and exposing what is working and what is not. Through the process of evaluation, those being evaluated are able to determine ways to improve upon future online discussion.

Evaluation of synchronous learning. Driscoll (1999) described synchronous learning as a reflection of the traditional classroom and as a tool that allows both students and instructor to brainstorm, discuss, and debate while being online at the same time. Being online at the same time in a synchronous environment offers spontaneous communication (Chou, 2002). This author further maintained that synchronous

interaction plays a major role in the overall success of distance learning, adding that it has been ignored in the research in comparison to asynchronous communication.

There have been few studies done on synchronous learner interfaces, with even fewer studies being done comparing synchronous and asynchronous communication (Chou, 2002). Notwithstanding the lack of research, Chou (2002) maintained that synchronous communication may be underutilized due to “difficulty in coordinating meeting time, high cost in good quality synchronous communication technology, and tool stability” (n. p.). However, this author further asserted that with improvements in computer technology “synchronous conferencing systems have become more common in distance-learning environments” (n. p.).

In a study by Park and Bonk (2007), four students from distance settings and four from residential settings were interviewed to determine the benefits and challenges of synchronous communication. Student evaluation of the course was among the data used to determine the perceived benefits and challenges of synchronous interaction. The student evaluation data collected in this study showed that “slightly more than 85 percent of the residential students and nearly that same amount (i.e., 84 percent) of the distance respondents agreed that the online synchronous critiques were helpful for completing their projects” (p. 250).

Synchronous online learning allows students to interact with their instructor and classmates in real time. This type of distance learning interface has been connected to student success. On the downside, there is the potential for problems such as coordinating meeting times, cost, and quality of technology. However, with the continual

enhancements in computer technology, synchronous online learning is becoming more common in higher education settings.

Evaluation of asynchronous learning. Schulte (2004) discussed the development of her own asynchronous course and summarized some of the dilemmas she faced while trying to get students to interact within her chosen method of course delivery. This author elaborated on ways to evaluate asynchronous learning, providing five possible ways: comparing the asynchronous form of mediated delivery with face-to-face instruction; comparing asynchronous courses with “required discussion and courses where discussion is voluntary” (p. 9); comparing asynchronous courses that require various assignments, such as papers and interactive group presentations, “to examine qualitative learning outcomes” (p. 9); evaluating the “instructor's role in computer-mediated discussion through qualitative analysis” (p. 9); and finally, “more public discussion and critical evaluation of the specific strategies and practices that would promote more critical evaluation and, ultimately, more effective teaching” (p. 9).

A study by Ho and Swan (2007) concentrated on the evaluation of online conversation within an asynchronous learning setting. To evaluate the asynchronous process, these authors asked students to respond every two weeks to the topics posted by the instructor and to participate in general conference discussions. The asynchronous process was also evaluated through the use of online exercises, responses to required readings from learning modules, and various other writing projects.

One of the findings of this study was the “link between the formulation of discussion postings to students’ learning outcomes” (n. p.) and that “instructors need to advise students on how to make substantive contributions in conference discussions” (n.

p.). These authors concluded by stating their study could also help “program administrators examine important components in the non-traditional learning environment, namely the processes involved in productive online discussion” (n. p.).

Evaluating an asynchronous online learning approach can provide valuable information regarding what is working and what is not working for instructors and students. There are several ways to evaluate asynchronous online learning. For example, comparing the asynchronous online delivery approach with the face-to-face, traditional classroom approach, or allowing the public to discuss and evaluate ways to promote more effective teaching.

Current methods of evaluating student performance. Evaluating student performance has been researched for many years (Flanagan, Gosnell, & Fivars, 1963) with the use of the “grade point average being the most widely used summary of undergraduate student performance in our educational system” (V. E. Johnson, 1997, p. 251). According to Breen and Lindsay (2002), “While grades tend to be used as the outcome measures of student success rate, measures of motivation are as diverse and numerous as the various theoretical backgrounds and intentions of the researchers using them” (p. 694).

Another widely used evaluation of student performance is self-evaluation, which, according to Olina and Sullivan (2004), “can help learners appraise their current understanding in order to determine improvement needs” (p. 6). Furthermore, “studies involving comparisons of teacher evaluation and student self-evaluation have shown positive effects of self-evaluation on student continuing motivation” (p. 6). Zimmerman (1998) concurred, stating, “Self-monitoring, which involves observing and tracking one's

own performance and outcomes, has proven to be an effective way to enhance learning and performance of different student populations in a variety of tasks” (p. 78). According to Lan and Morgan (2003), “Researchers have shown the enhancing effects of self-monitoring on college students' learning” (p. 372).

In a study to determine whether students' overall satisfaction with life was related to their learning, as measured by academic performance, Rode et al. (2005) reported there is a significant relationship between “objective student performance measures and overall life satisfaction” (p. 429). They further noted, “Although cognitive ability most strongly predicted those performance measures, it is clear that life satisfaction has both statistical and practical significance in relation to student performance” (p. 429).

As was previously mentioned, student grade point average is one of the most widely used forms of evaluating student performance (Johnson, V. E., 1997). Regardless of this, there are other ways of measuring student performance (Breen & Lindsay, 2002), such as student self-evaluation (Olina & Sullivan, 2004; Zimmerman, 1998; Lan & Morgan, 2003).

Procedures used to evaluate learning and performance. The evaluation of learning and performance can be done, as Dodge and Kendall (2004) suggested, through the use of a learning community. These authors described a learning community as classrooms that combine with other classrooms and focus on learning-centered education as opposed to teacher-centered. By strengthening existing cluster classes around skills that are practical in a range of subjects, “students are more likely to perceive the relationships or connections among academic disciplines than if they take separate, non-linked classes” (p. 154). Learning communities can be used to evaluate learning and

performance as instructors “collaborate daily, attend each other's classes, grade assignments whose objectives go beyond those of a single discipline, and participate in field trips and projects initiated by one instructor but integrated into another's discipline as well” (p. 153).

Agreeing with the previous idea of Dodge and Kendall (2004), Van Der Vegt and Bunderson (2005) found that bringing cross-curricular groups together allowed these groups “to be more creative and innovative” (p. 534). Furthermore, these authors argued that through collaboration, individual and mutual learning is promoted:

Scholars have long recognized that exposure to individuals with different expertise, knowledge, and experience is a key source of individual and collective learning. Interaction with dissimilar others promotes learning and innovation by exposing individuals to new paradigms and perspectives and by enabling (and often requiring) the cross-fertilization of ideas. Consistent with this premise, past research in organizational settings has suggested that diverse groups tend to be more creative and innovative. (p. 534)

In a study by S. K. Wang and Reeves (2006), a web-based learning environment was designed to improve student motivation to learn science. They integrated factors designed to enhance intrinsic motivation such as challenge, curiosity, and control with their instructional design of a web-based learning tool. These authors maintained that the role of the educator is important, stating “What educators do to help students actively engage in learning may be more important to academic success than how much information is presented to them through instructional materials or other forms of instruction” (p. 598). Some of the procedures used by these authors to evaluate student

learning and performance and challenge their abilities included “observations, interviews, and questionnaires” (p. 609).

Galbraith, Sisco, and Guglielmino (1997) maintained that “evaluation is an essential element in effective programs for any target group” (p. 113). However, as Hosiea, Schibecib, and Backhausc (2005) noted, “There is not much agreement among education colleagues about what evaluation involves and how it should be undertaken” (p. 542). According to Meyer (2004), “Only a few frameworks have been specifically developed for analyzing online discussions” (p. 102). Schmeeckle (2003) reasoned that since online training is relatively new, evaluations are naturally lacking. This author further observed, “This lack of research makes it difficult, if not impossible, to discern which variables influence learning that generalize across situations, population, and time” (p. 240). Hosiea et al. (2005) addressed the lack of evaluation:

Despite the large investment in information and communications technology, there is still scant evidence to support the proposition that the new technologies have led to significant learning gains for students. This lack of impact may be the result of many factors, including: a lack of funding to support such research and a reticence of technology ‘evangelists’ to subject their work to rigorous evaluation. (p. 541)

Since there is very little research on the evaluation of online training for instructors, this study focused on developing an evaluation instrument that may assess online training courses.

Instructional Design Models

Reigeluth (1983) defined instructional design as “linking science—a body of knowledge that prescribes instructional actions to optimize desired instructional outcomes, such as achievement and affect” (p. 5). A similar definition of instructional design was given by Richey (1986), who stated, “It is the science of creating detailed specifications for the development, evaluation, and maintenance of situations which facilitate the learning of both large and small units of subject matter” (p. 9). A much broader definition of instructional design was offered by Reiser (2001a):

The field of instructional design and technology encompasses the analysis of learning and performance problems, and the design, development, implementation, evaluation and management of instructional and non-instructional processes and resources intended to improve learning and performance in a variety of settings, particularly educational institutions and the workplace. Professionals in the field of instructional design and technology often use systematic instructional design procedures and employ a variety of instructional media to accomplish their goals. (p. 53)

Regardless of which model an instructional designer selects, it will be up to that designer to interpret the needs and identify any potential strategies of the specific situation at hand (Rowland, 1993, p. 88).

Choosing an instructional design model. Stating that “instructional design is at the heart of each educational endeavor,” Crawford (2004) suggested the “process revolves around the steps through which the thoughtful productions of superior products are created” (p. 413). This author further claimed that “instructional design is viewed

through many lenses; at the same time, there are several approaches through which to implement instructional design plans” (p. 414). To make an efficient choice regarding what design model to choose, Andrews and Goodson (1980) suggested that “the educator may want to know where the model comes from; why it was developed; how it relates to the educator’s specific goals and setting; and what kind of documentation, application, and/or validation the model has undergone” (p. 2).

Another way of selecting an instructional design model, as suggested by Seels and Glasgow (1990), is to “define what is to be learned, plan an intervention that will allow learning to take place, and then refine the instruction until the objectives are met” (p. 3). Mergel (1998) took a more practical approach to selecting an instructional design model, concluding that instructional designers should just find whatever works and use it. This author further explained that instructional designers should understand the strengths and weaknesses of their instructional design approach and that “recipes contained in ID theories may have value for novice designers who lack the experience and expertise of veteran designers” (p. 19). According to Nelson, Magliaro, and Sherman (1988), expert instructional designers “represent problems differently than novices because of their superior ability to recognize patterns, infer relationships, disregard irrelevant information, and recall similar problems from past experience” (p. 33). Novice designers “are more likely than experts to use design models at a surface level” (p. 33).

An example of an instructional design model useful to both expert and novice designers is the Dick and Carey model (Dick, 1996). The Gerlach and Ely instructional design model is another example of a model that is used by developers in a wide variety of environments (Kranich, 2008). In contrast to the previously mentioned models, the

Kemp model provides the designer with more flexibility in the design and less structure and no particular order of performing the various phases (Passerini & Granger, 2000; Sortrakul & Denphaisarn, 2009).

In determining the usefulness of instructional design models, Dennen (2005) found that “courses and activities that are not well organized and designed can actually prevent learning and community building from taking place” (p. 128). According to Andrews and Goodson (1980), “Past experience has shown that models of instructional design are important in education and that the systematic approach is both logical and useful” (p. 2).

Another useful aspect of instructional design is the knowledge that good instructional design methods will work across different media, understanding that there may be some features of good instructional design that are exclusive to a particular medium (Mayer, 2003). This author explained that the principles of instructional design do not necessarily change just because the environment in which one learns changes; instead “instructional design methods that promote deeper learning in one media environment (such as text and illustrations) also promote deep learning in other media environments (such as narration and animation)” (p. 136).

Regardless of how a model is chosen or how useful it is, the number of models to choose from continues to grow. For example, Gustafson (1991) asserted, “Since the first appearance of instructional design models in the sixties, there has been an ever increasing number appearing in the literature of both instructional technology and general education” (p. 1). Despite the variety of models to choose from, Sortrakul and Denphaisarn (2009) stressed that “many models of instructional design have been

developed suitable for various instructional purposes and by differing levels of expertise of instructional designers” (p. 44). Dorsey, Goodrum, and Schwen (1997) suggested that whatever model is chosen, its intention should be “to serve as a framework to guide the thinking and practices of designers in the field” (p.445).

There is a variety of theoretical models of instructional development in existence, many of which frequently include some form of needs assessment that instructors can use to determine specific course objectives (Dick & Carey, 1977; Gagne, Briggs, & Wagner, 1992; Gerlach & Ely, 1980; Seels & Glasgow, 1998). Reiser (2001b) indicated:

Over the past four decades, a variety of sets of systematic instructional design procedures (or models) have been developed and have been referred to by such terms as the *systems approach*, *instructional systems design (ISD)*, *instructional development*, and *instructional design*. Although the specific combination of procedures often varies from one instructional design model to the next, most of the models include design, development, implementation and evaluation of instructional procedures and materials intended to solve those problems. (p. 58)

Despite the number of instructional design procedures that have been developed, Sortrakul and Denphaisarn (2009) stated that “the main goal of an Instructional Design model or process is to construct a learning environment in order to provide the learners with the conditions that support the desired learning processes” (p. 44).

Structured models. One approach to implementing instructional design plans was described by Edmonds, Branch, and Mukherjee (1994), who stated that some models “provide step-by-step descriptions of the process of designing instruction which are more useful for a novice or inexperienced instructional designer to employ, while other models

rely on an expert's intuition and experience to guide the process” (p.61). In Mergel’s (1998) study, she determined that because of the many technological advances of the 1980s and 1990s, designers have advanced toward a more constructivist approach to instructional design. She further stated, “One of the most useful tools for the constructivist designer is hypertext and hypermedia because it allows for a branch design rather than a linear format of instruction” (p. 17).

However, with the advancements in technology, there are “some concerns over the novice learner becoming ‘lost’ in a sea of hypermedia” (Mergel, 1998, p. 17).

Following are examples of simple, step-by-step models of instructional design, such as the Dick and Carey model, followed by models that are used by expert designers (Passerini & Granger, 2000; Cowell, Hopkins, McWhorter, & Jorden, 2006).

Dick and Carey model. The Dick and Carey model is not intended to constrain the creative processes of the designer but is to be applied as a tool that can be used proficiently in a variety of different settings by designers who have been trained by a variety of instructors (Dick, 1996). In reference to his own model, Dick stated it was “originally developed for training novices who required a methodology for producing instruction. There were almost no practitioners when the model was developed; therefore, it was never intended to be a reflection of what practitioners actually do” (p. 58).

The Dick and Carey model consists of a series of steps that can be utilized by inexperienced instructional designers (Passerini & Granger, 2000). Cowell, C., Hopkins, P. C., McWhorter, R., & Jorden, D. L. (2006) viewed the Dick and Carey model as one that is useful to designers at all experience levels, from beginners to experts. The Dick and Carey model involves all of the phases found in the ADDIE model, beginning with

identification of instructional goals and ending with summative evaluation (Sortrakul & Denphaisarn, 2009). Cowell et al. (2006) concurred:

Although there are a great many systematic training models and variations, this model is probably the most widely utilized among instructional designers who inherit training projects from training managers. The model uses a systems approach for designing instruction very similar to the process utilized in the original ADDIE. (p. 463)

The Dick and Carey model is adaptable for users “ranging from novice to expert, as the step by step descriptions aid with progress through the model” (Sortrakul & Denphaisarn, 2009, p. 45). Passerini and Granger (2000) provided further description of the Dick and Carey model, stating it “consists of a series of events in which the designer establishes the learning objectives and creates the instructional strategy to accomplish the objectives, and assessment tools measure learning goals compared with the instructional goals” (p. 5).

According to Cowell et al. (2006), ten steps are involved in the Dick and Carey model:

1. Determine instructional goal. Define what it is that the learners are to be able to do when they have completed the instruction;
2. Analyze the instructional goal. Perform a step-by-step determination of what people are doing when they perform the goal and what entry behaviors are needed;
3. Analyze learners and contexts. Define the context in which the skills will be learned and the context in which the skills will be used;

4. Write performance objectives. Specify behavior skills to be learned, the conditions under which they must be performed, and the criteria for successful performance;
5. Develop assessment instruments. Create assessment instruments based on the performance objectives;
6. Develop instructional strategy. Identify strategies to achieve the terminal objective. Emphasis is on presentation of information, practice and feedback, and testing;
7. Develop and select instructional materials. Produce instructional materials to be utilized in content delivery;
8. Develop and conduct formative evaluation. Test the instructional materials in one-to-one, small groups, or field evaluations so that the materials can be evaluated with learners and revised prior to distribution;
9. Revise instruction. Data from the formative evaluation are summarized and interpreted to attempt to identify difficulties experienced by learners in achieving the objectives and to relate these difficulties to specific deficiencies in the materials;
10. Summative evaluation. Conduct an independent evaluation to judge the worth of the instruction. (p. 463)

Sortrakul and Denphaisarn (2009) determined that the Dick and Carey model is a “straight forward linear process which allows a structured flow to development of instruction” (p. 40.5). These same authors asserted that the model is flexible enough to be used in a variety of settings, “including primary and secondary schools as well as

business and government uses” (40.5). Gustafson and Branch (1997) made the following statement regarding the Dick and Carey model:

The popularity of the Dick and Carey model can be partially explained by its very readable text and the authors continually updating the model to reflect emerging ID philosophy. They also accompany their model with clear and simple examples of each of the steps and excerpts from cases of its use to provide readers with a frame of reference. (p. 73)

Dick (1996) stated, “It might be argued that the primary consumers of the model are students who are learning instructional design” (p. 59). Passerini and Granger (2000) also noted that in the Dick and Carey model, “There is little room for individualized instruction. The up-front determination of objectives stipulates that the learner will follow the set of objectives established by the instructor/designer” (p. 5). Dick (1996) agreed with Passerini and Granger:

Novice designers are encouraged to learn the process by beginning at the beginning and working through the model in an orderly fashion. In their initial learning projects they typically get to be the subject-matter expert, the evaluator, the graphics designer, the writer, the manager, and the "gopher" as well. (p. 59)

Gerlach and Ely model. Developed from a need for a complete overview of teaching and learning, the Gerlach and Ely model represents a way to systematically plan instruction (Gerlach & Ely, 1980). This model includes the need to have “carefully defined goals and the tactics on how to reach each goal. Both parts are absolutely essential for effective teaching” (p. 4). This author further stated that their model adopts an orderly approach to teaching and learning, having “the necessary elements

contributing to instruction included. The model also shows the relationship between one component and another, and offers a sequential pattern that can be developed into a strategy for good teaching and learning” (p. 10).

The first of five steps in the Gerlach and Ely model is specifying the objectives, followed by the assessment of the entry behaviors of the learners (Gustafson & Branch, 2002a). The third phase of the model includes a combination of several tasks:

- (a) determining the instructional strategies to employ (ranging from lecture to discovery), (b) the organization of the students during their activities (from group work to individual work), (c) how time will be budgeted among the activities, (d) where the activities will take place (including work outside the classroom), and (e) the instructional resources needed to assist in the learning. (Gustafson & Branch, 2002b, p. 21)

According to Taylor (2008), the final two steps of the Gerlach and Ely model include evaluation of performance and analysis of feedback.

Gerlach and Ely’s instructional design model is an example of a relatively simple model that is used by developers in a wide variety of environments (Kranich, 2008). Gustafson and Branch (2002a) described the Gerlach and Ely instructional design model as being one that fits more in the K-12 classroom, “taking the instructional designer/presenter through five phases of ID in a linear, stepwise manner” (p. 22). This type of a model is suitable for beginning instructional designers because it outlines how learning environments can be changed and it allows the use of multimedia in instruction (Taylor, 2008).

Less structured models

When diagramming an instructional design model, it may emerge as being somewhat rigid, linear, and iterative, going forwards and backwards between various steps and activities (Moore, Bates & Grundling, 2002). However, according to The Herridge Group Inc. (2004), “Most are also flexible; leaving it to the experienced designer to decide how much detail is required at each step. This flexibility and iterativeness may explain why ISD has survived and flourished for so long largely unchanged” (p. 7). Models such as Kemp, R2D2, and Rapid Prototype are examples of instructional designs that demonstrate more flexibility, minimal structure, and steps that can be completed in any order (Passerini & Granger, 2000; Chen & Toh, 2005; Jeroen & Martens, 2002).

Kemp model. The Kemp design model is particularly appropriate in two-way audio communication in distance learning courses, aiming at increasing interaction with learners (Passerini, & Granger, 2000). These authors explained that feedback from the learner characteristics is taken into account, influencing the selection of instructional teaching strategies and objectives, while allowing for individualized instruction for the learners.

The Kemp model is representative of another instructional design resource, one that appears to have less structure to it than the previously mentioned models (Passerini & Granger, 2000). These authors further asserted that Kemp “takes a more flexible approach to design by identifying several development phases, without any particular order within the system” (p. 5). Sortrakul and Denphaisarn (2009) described Kemp’s model as one that allows for steady revision to occur and “makes use of all factors in the

learning environment including subject analysis, the learners' characteristics, learning objective, teaching activities, resources which will be utilized, support services required as well as evaluation" (p. 46). Wang (2007) included Kemp's design model among a group of other models in her statement that these models "contain essential steps to revise the existing material for enhancement" (p. 568). According to Morrison, Ross, and Kemp (2003), the model consists of "four fundamental components of learners, objectives, methods, and evaluation" (p. 7).

Sortrakul and Denphaisarn (2009) stated that the Kemp model is "holistic in its approach to instructional design, focusing more on analogies and discovery type learning" (p. 46). Passerini and Granger (2000) said that the Kemp model "presupposes the continuous evaluation of each design and redesign stage (in the form of formative evaluations) during the development and that it is particularly suitable to two-way audio communication in distance learning courses" (p. 5).

Commenting on his own model, Kemp (1987) clarified the elements involved in the process:

Identifying the broad goal for the course and any constraints that need attention (completion date, funds and services available), examining characteristics of students taking the course, selecting content topics and stating purposes to be served for each topic, outlining subject content for a topic, writing learning objectives for students, related to the content, preparing a pretest for the course or individual topics, as appropriate, to determine student preparation and needed remedial learning activities, deciding on teaching and learning methods and activities for communicating the content and accomplishing the objectives,

choosing appropriate instructional media and other resources for teaching and learning, recognizing support matters that need attention (budget for materials, personnel to conduct the course, facilities required, equipment needed), and developing test questions and other evaluation instruments to measure learning (accomplishment of learning objectives). (p. 154)

In order to develop a comprehensive treatment in instructional design, there must be attention given to the steps, however, what order they are used in and which factors to pay attention to are flexible (Kemp, 1987).

R2D2 model. The R2D2 instructional design model is another framework that Chen and Toh (2005) said “encourages a nonlinear approach, where the suggested procedures can be completed in any order that seems appropriate” (p. 113). Kranch (2008) also viewed the R2D2 model as being nonlinear, providing instructional designers the opportunity to enter the development process at any point and emphasizing continual assessment and development. Because the R2D2 model is iterative in nature, it makes it possible for designers to return to any point of the process during the design and development of the product, making modifications and revisions as needed (Chen & Toh, 2005).

Dick (1996) clarified the main activities of the R2D2 model as being define, design and develop, and disseminate, emphasizing there is no beginning or ending, rather continuous interaction among all the major parts of the model. Willis (1995) described his R2D2 model as being non-linear and self-repeating, where the same issues may be addressed many times and decisions may be made over and over again. According to Chen and Toh (2005), the R2D2 model is best suited for the design of instruction that

uses newer technologies, suggesting “it allows the merging of the design steps and the development steps, as happens in rapid prototyping, where parts of the project are conceived, produced, and evaluated quickly during the instructional design process” (p. 113).

According to Willis and Wright (2000), “In R2D2, there is not so much an emphasis on ‘accuracy’ as there is on helping the team cooperatively develop a vision of what this instructional material will be and why it is being created” (p. 12). These authors further asserted:

Most ISD models do ‘big iterations’ when they do iterations at all. That is, students and instructors may only look at the instructional material a few times after big changes have been made. In the R2D2 model, there is an emphasis on ‘small iterations.’ That is, as small changes are made, the designer is encouraged to get student input on them (as well as expert input). (p. 12)

An additional attribute of the R2D2 model, according to Willis (1995), is that “developers begin the process of instructional design without a crisp, clear definition of where they are headed” (p.21).

Rapid prototype model. Another instructional design approach, rapid prototyping, was defined by Baek, Cagiltay, Boling, and Frick (2007) as “a user-centered design approach in which users participate in a rapid, iterative series of tryout and revision cycles during the design of a system or a product until an acceptable version is created” (p. 660). Jones and Richey (2000) asserted, “Basically, prototypes are either workable models of the final product or simply shells that demonstrate the projected appearance of the product” (p. 64). According to Baek et al. (2007), “The purpose of rapid prototyping

is to demonstrate possibilities quickly by building an inexpensive series of mock-ups so designers are able to obtain early feedback” (p. 665).

Jones and Richey (2000) provided information regarding the process of rapid prototyping, stating that it “involves the development of a working model of an instructional product that is used early in a project to assist in the analysis, design, development, and evaluation of an instructional innovation” (p. 63). According to Jones and Richey (2000), instructional designers are commonly faced with the task of generating high quality products as well as reducing design and development time. One way to resolve this dilemma is a rapid prototyping approach. Wilson, Jonassen, and Cole (1993) provided further insight into rapid prototyping:

At very early stages of planning, a small-scale prototype is built that exhibits key features of the intended system. This prototype is explored and tested in an effort to get a better handle on the requirements of the larger system. The prototype is then scrapped as designers start over and build the larger-scale system. Its advantage is that it allows for tryout of key concepts at early stages when costs are small and changes more easily made. (p. 2.1)

One of the characteristics of rapid prototyping, according to Susarla, Adcock, Van Eck, Moreno, and Graesser (2003), is the model’s usefulness when “designers do not have the domain expertise needed to develop the tool up front” (n. p.). Some models are not as useful when conducting complex instructional designs; however, Jeroen and Martens (2002) viewed the rapid prototyping approach as being very flexible and suitable for the design of new learning environments. Baek et al. (2007) viewed rapid prototyping “as an alternative to the conventional ISD process” (p. 665).

ADDIE model. The ADDIE model is a generic instructional design method highlighting five basic steps throughout the entire instructional design process: analyze, design, development, implementation, and evaluation (Crawford, 2004). This author emphasized the flexibility of the ADDIE model, stating, “The simplistic nature of the ADDIE model, including the ease of application and possibilities towards the cyclical features of the process, enables a more holistic overview of the instructional design process” (p. 415).

Because the ADDIE model uses a step-by-step process to develop training programs and can be applied to any training need, novice designers may find it convenient to use (Myers, Watson, & Watson, 2008). According to Kulvietiene and Sileikiene (2006), “This approach provides a step-by-step system for the evaluation of students' needs, the design and development of training materials, and the evaluation of the effectiveness of the training intervention” (p. 1).

Myers et al. (2008) stated, “ADDIE can provide a structured guide or roadmap for the entire training project” (p. 133). The ADDIE model is a flexible system that excels in problem solving and decision making, giving the design team freedom to design, develop, and implement instruction as needed (Allen, C. W., 2006). Kulvietiene and Sileikiene (2006) described the ADDIE model as being an interactive process “where the results of the formative evaluation of each phase may lead the instructional designer back to any previous phase. The end product of one phase is the starting product of the next phase” (p. 1).

Myers et al. (2008) stated, “ADDIE serves as the fundamental basis for nearly all ISD models and provides a valuable tool for training specialists in creating and delivering

effective programs” (p. 132). Many of the current models of instructional development are “spinoffs or variations of ADDIE” (Cowell et al., 2006, p. 460). Molenda (2003) asserted that “almost all classic instructional design models are a variation of the ADDIE model” (p. 35). Johnson, Aragon, Shaik, and Palma-Rivas (2000) concurred, stating, “While the models do vary, the major components of analysis, design, development, implementation, and evaluation serve as the foundation for all instructional design models” (p. 43).

Further support of the influence of the ADDIE model comes from C. W. Allen (2006), who stressed that “although there are many system models, almost all are based on the generic analysis, design, develop, implement, and evaluate (ADDIE) model that evolved from the instructional systems research following World War II” (p. 430). Weston, Gandell, McAlpine, and Finkelstein (1999) discussed the importance of selecting the most appropriate instructional method available, stating, “Online instruction is an instructional strategy which, like any instructional strategy is chosen on the basis of its appropriateness for achieving the goals of instruction for the students and the subject matter” (p. 41). Referring to the ADDIE model as a way to ensure quality instruction, Rossett (1987) stated, “The objectives, strategies, and goals are used as guides in an effort to ensure that the instructional system focuses on resolving current instructional inefficiencies” (p. 11). According to Wang and Wilcox (2006), “Traditional ADDIE models start with the assumption that training is needed and moves on to systematically create and deliver that requested training” (p. 535).

Phases of the ADDIE Model

The ADDIE model is only one of the many instructional design models that provide an outline for instructional designers to use. The ADDIE model is made up of several phase: analysis, design, development, implementation, and evaluation. The following paragraphs will discuss each phase of the ADDIE model in more detail.

Analysis. According to Peterson (2003), the analysis phase of the ADDIE model gives consideration first to the target audience by requiring a needs analysis that will help distinguish between the knowledge learners already have and what they will need to know at the conclusion of the training course. He further asserted that the analysis phase is a time when instructors and designers begin to establish a foundation through examining standards and competencies (p. 228). Offering a similar definition of the analysis phase, Myers et al. (2008) stated, “In the analysis step, we ask the ‘Who?’, ‘What?’, ‘Where?’, ‘Why?’, and ‘By whom?’ types of questions. We analyze the business goals, learner current capabilities, desired capabilities, and materials and resources” (p. 133). According to Fardoun, Montero, and Jaquero (2009), “The ADDIE analysis phase defines the project’s needs and the ways to measure its success” (p. 1297).

Shelton and Saltsman (2008) provided a similar definition of the analysis phase, asserting that the analysis phase is the time when the designer should conduct an audience analysis in order to determine the learner’s needs and preferences. Olgren (1998) pointed out that, “If learning is the goal of education, then knowledge about how people learn should be a central ingredient in course design” (p. 77). C. W. Allen (2006) concluded that designers and developers need to develop a task list to be accomplished by the training, comparing the tasks with the skills, knowledge, and abilities of the incoming

students. He stated, “The difference between what they already know and can do and what the job requires them to know and be able to do determines what instruction is necessary. The activities of formative evaluation begin” (p. 436).

Shelton and Saltsman (2008), in defending the importance of the analysis phase of the ADDIE model, concluded, “Without an analysis of the delivery medium, the online course can result in shovelware content” (p. 43). The term - *shovelware content* was used by Fraser (1999) as a way to describe “content that is simply moved from one medium to another without regard for the capabilities of that medium” (p. B8).

Identifying problems and goals, determining content, and soliciting suggestions for course structure are but a few tasks the analyze phase of the ADDIE model addresses (Sarmiento, & Durao, 2009). Griffith and Hamza (2006) stated “In the analyze phase, the instructional problem is clarified, the goals and objectives are established, and the learning environment and learner characteristics are identified” (p. 3). Sarmiento and Durao (2009) concurred, describing analysis as the phase where “the instructional problem is clarified the instructional goals and objectives are established, and the e-learning environment and learner’s existing knowledge and skills are identified” (p. 48).

The literature reveals similarities as well as slight variations among authors in the steps that should occur in the analysis phase of the ADDIE model. For example, Gagne, Wager, Gola, and Keller (2005) used very structured components, asserting that there should be four steps to the analysis phase:

- a) determine the needs for which instruction is the solution; b) conduct an instructional analysis to determine the target cognitive, affective, and motor skill goals for the course; c) determine what skills the entering students are expected to

have, and which will impact learning in the course; d) analyze the time available and how much might be accomplished in that period of time. (p. 22)

The purpose for using these steps in the analysis phase is because it “provides important information to support decisions during the subsequent design stage” (p. 26).

Griffith and Hamza (2006) were less specific in their criteria for what should be included in the analysis phase of the ADDIE model, stating that the analysis phase is where “the instructional problem is clarified, the goals and objectives are established, and the learning environment and learner characteristics are identified” (p. 3). Myers et al. (2008) provided yet another variation of what they saw as primary steps within the analysis phase of the ADDIE model:

a) assess the needs to determine overall goals and objectives and instructional goals; b) identify the target audience; c) determine the existing skills, knowledge, behavior, performance; d) determine the desired skills, knowledge, behavior, performance; e) identify the performance gap; f) discovery – general review of existing materials and resources; g) choose the instructional setting (overall); h) initial technical infrastructure analysis and assessment; i) validate this phase. (p. 133)

These authors understood the importance of having steps to follow in the analysis phase, asserting that the analysis phase of ADDIE serves as the starting point of instructional design, providing the designer with step-by-step information that takes the learners from beginning to end.

In summary, the analysis phase enables designers to examine the goals of the course that define the knowledge, skills, and attitudes to be acquired through the

instruction (Koneru, 2010). The analysis phase is a significant component of the instructional design process, and “it is critical to do a learner analysis before building an online course” (Su, 2005, p. 64). Peterson (2003) asserted that “if a thorough analysis is not conducted instructors or designers may find that they are replicating their efforts during the implementation stage” (p. 228).

Design. Gagne et al. (2005) described the design phase of the ADDIE model as being much like a blueprint for designers to follow:

The product of design is a set of specifications of plans for the developers to follow in producing the instructional support materials. The guidelines they follow to do this, or the amount of detail they specify in their design, depends a great deal upon the situation and the scope of the project. (p. 26-27)

According to Sarmento and Durao (2009), the design phase of ADDIE deals with learning objectives, assessment instruments, media selection, and subject matter analysis. The design phase should be an organized, logical, and detailed method of identifying, developing, and evaluating planned strategies so that project goals can be attained (Sarmento & Durao, 2009). These authors stated that “each element of the instructional design plan needs to be executed with attention to details” (p.48). Shelton and Saltsman (2008) stated that before designing an online course, it is helpful for instructors to view existing courses already offered online. Not only does this “familiarize the course developer with the basic components of an online course, it usually inspires ideas that generate excitement about the design process” (p. 44).

Peterson (2003) discussed the importance of paying attention to details, asserting one should fully understand the importance of all the information gained in the analysis

phase. Gagne et al. (2005) explained more about the design phase, stating that “the design component of the instructional systems design process results in a plan or blueprint for guiding the development of instruction” (p. 26). Griffith and Hamza (2006) concurred, stating, “The design phase is where the instructional strategies are designed and media choices are made” (p. 3).

The design phase is a dynamic and innovative process. However, defining what constitutes the proper design procedure is left up to debate because no two instructional designers will arrive at the same conclusion on any given problem (Gagne et al., 2005). Therefore, instructional designers may differ on what they see as key steps of the design process. For example, Myers et al. (2008) included the following steps in the design process:

a) design business, performance, and specific learning objectives; b) design instructional material using the objectives and other criteria or restrictions such as time limitations and available resources; c) sequence and structure learning objectives; d) plan/lay out instructional strategies; e) design performance test or assessment materials; f) determine entry behaviors and abilities; g) write the instructional design document; h) write the technical infrastructure plan document; i) specifically address security; j) validate. (p. 133-134)

Meyer (2004) supposed the steps in the design process are important in that they emphasize performance and designing learning objectives that ultimately provide for the basis of all the instructional material (p. 133).

Gagne et al. (2005) set forth a more structured process for the design phase, creating a very specific outline for developers to use as additional instructional support

materials. These authors included the following steps in their version of the design phase of the ADDIE model:

- a) translate course goals in to major course objectives; b) determine the major units or topics of instruction, the major outcomes for each unit, and how much time will be spent on each unit; c) flesh out the unit objective by specifying the learning outcomes for each unit; d) break the units down into lessons and learning activities; e) develop specifications for lessons and learning activities; f) design specifications for assessment of what students have learned. (p. 26-3)

It could be argued that Gagne et al. (2005) used this top-down approach to designing instructional design because of the belief that the design process should be a dynamic and creative process where course goals can be arranged into course level performance objectives.

Koneru (2010) suggested the following activities should be performed in the design phase:

- a) articulate learning objectives in performance behavioral terms; b) develop structure of the content; c) decide on the evaluation strategies to be developed for assessing learning outcome; d) select the instructional strategy and delivery media based on the needs analysis and learner's accessibility. (p. 28)

Through following the steps outlined by Koneru (2010), the designer can “document specific learning objectives, assessment instruments, exercises, and content” (p. 28).

“The design phase is where instructional strategies are designed and media choices are made” (Griffith & Hamza, 2006, p. 3). Gagne et al. (2005) agreed, stating that the design phase of ADDIE can be seen as a blueprint that guides the development of

instruction. The design phase is the step that deals with learning objectives, assessment instruments, media selection, and subject matter analysis (Sarmiento & Durao, 2009).

Sarmiento and Durao (2009) also suggested that paying attention to detail as an important factor in the design phase. Discussing the importance of paying attention to details, Peterson (2003) asserted that this can be done by fully understanding and considering how important all the information gained in the analysis phase is.

Development. There are several definitions of the development phase of ADDIE. For example, Sarmiento and Durao (2009) described the development phase as being the time when programmers develop and integrate technologies and create and assemble the content that was created in the design phase and a time when the project is reviewed and revised based on the feedback given. Griffith and Hamza (2006) described the development phase as when “materials are produced according to decisions made during the design phase” (p. 3). Fardoun et al. (2009) provided a more detailed definition of the development phase of ADDIE:

The actual course content and training materials will be created during the development phase. A successful development phase draws upon the information collected in the needs analysis phase and the decisions made in the design phase. Since there are many types of training projects, the development phase often adapts to fit the project and the client’s needs. (p. 1297)

According to Koneru (2010), the design phase is important “in the creation and/or development of learning modules in the development phase” (p. 30). It is during this phase of the ADDIE model that training materials and course content need to be created (Fardoun et al., 2009). These authors continued that for the development phase to be

successful, it must “draw upon the information collected in the needs analysis phase and the decisions made in the design phase” (p. 1297). Shelton and Saltsman (2008) stated that the development phase can be a very rewarding step in instructional design because the results are usually concrete and visible.

Griffith and Hamza (2006) concluded that the materials produced in the development phase rely heavily upon the decisions that were made during the previous two phases of analysis and design. Fardoun et al. (2009) agreed, stating, “A successful development phase draws upon the information collected in the needs analysis phase and the decisions made in the design phase” (p. 1297).

The steps included in the development phase of the ADDIE model will vary slightly, based on the author and the use of the model. For example, Shelton and Saltsman (2008) asserted that the development stage should include “a review of the course objectives, an analysis of the textbook, content module development and content chunking, the creation of content, the development of learning objects, student assessment and additional resources” (p.47). These authors used the steps in the development phase as a way to “guide the course developer during the development stage” (p. 48).

Gagne et al. (2005) included the following steps in the development phase:

- working within an existing curriculum (augmenting existing material);
- repurposing existing material (modifying some of the goals or content and/or moving to a new delivery system
- incorporating elements of existing material into a new course
- building a new course (p. 31-33).

These authors referred to the development phase as being challenging because of the many directions it can be approached from (p. 31). The direction of the instructional design is determined by the relationship among the instructional objectives, degree of detail in the design, appropriateness of existing material, and how the course is delivered.

Myers et al. (2008) offered yet another example of the variations that can be found in the steps of the development phase:

- use results from the analysis and design steps to develop course materials;
- review existing materials;
- develop and integrate instructional strategies and choose the specific delivery system and methods;
- create a prototype (if/as needed);
- develop instructional materials;
- review and revise instructional materials;
- develop and/or program any software tools;
- develop hardware and technical infrastructure, as needed;
- secure environment and access;
- review, revise, and validate—prototypes, tabletop reviews, pilot training;
- final changes and quality reviews. (p. 135)

These authors emphasized that the development phase of ADDIE should produce all instructional materials, including lesson plans, measurement tools, and participant materials. They stated, “Lesson plans should be developed for use by trainers so that the course content can be consistently delivered, and meet all objectives of the training” (p. 135).

Although there is much to be done in the development stage, Shelton and Saltsman (2008) stated that the development phase is rewarding because the final results are concrete and visible. These authors also asserted that the development stage involves reviewing course objectives, analyzing textbooks, developing content for modules, content chunking, developing learning objects, and creating student assessments as well as any other additional resources. Gustafson and Branch (2002a) added the preparation of both student and instructor materials within the development phase. In addition to the work that is done in the development phase is the need for evaluation and feedback. Crawford (2004) addressed this issue, stating “development revolves around the evaluation and feedback so as to further enhance and refine the product” (p. 416).

Implement. The implementation phase of the ADDIE model has been referred to as a period of time where unnecessary interferences or other unforeseen disruptions can set the tone, possibly preventing learning from occurring (Shelton & Saltsman, 2008). Implementation is the time period for instructional designers “to implement or tryout their instructional system (Feinstein, 2004, p. 33). Fardoun et al. (2009) addressed the implementation phase:

It is important to make sure that the course gets delivered smoothly and effectively to the learners. Of course, these delivery issues will substantially depend on the course’s delivery format. Usually, the implementation phase contains a lot of project management and logistic issues. (p. 1298)

While there are many items to address in the implementation phase, the smooth and effective delivery of the course is most important (Fardoun et al., 2009). C. W. Allen (2006) added, “When properly implemented, ADDIE has a proven record of creating

training that results in learners acquiring specified expertise, a foundation of performance” (p. 440). Myers et al. (2008) agreed, stating that a key part of any successful training “is for learners to apply their learning as soon as possible and as often as can be arranged following completion of the training. This is very important for retention, mastery, and building of self-confidence” (p. 136).

The literature has several suggestions regarding what steps should be included as part of the implementation phase. For example, Koneru (2010) asserted that the following components should exist in the implementation phase: “a) loading the content developed into the chosen learning content management system; b) training the facilitators and delivery team; c) interaction of instructors and facilitators with students, and d) pilot testing the learning system and modules developed” (p. 31). This author further claimed that as the steps of the implementation phase are performed, feedback from focus groups is obtained, and any refining of structure and content is done to make the learning modules more useful for the learners (p. 31).

Gagne et al. (2005) provided another example of implementation requirements they see as essential: “a) develop a learning management system that is adequate for the requirements of the situation; b) provide for student guidance and support; c) plan for change; d) plan for delivery environment; and e) plan for maintenance of the system” (p. 34-35). These authors further explained the implementation process, stating there can actually be two types: the first being pilot studies that occur during the creation of the course, and the other commencing after the course has been fully launched. The implementation planning requirements are in preparation for successful launching of the course.

Sarmento and Durao (2009) incorporated the following guidelines: “a) a procedure for training the facilitators and the learner is developed; b) preparation of the learners; project manager ensure software is in place and that the learning application or Web site is functional” (p. 48). They used these steps because “each step has an outcome that feeds into the subsequent step” (p. 48).

Another way to view the implement phase was provided by Myers et al. (2008). They used the following eight steps:

- use of a management plan;
- train-the-trainer sessions if/as needed;
- assembly and use of a training management plan;
- trainers review lesson plans and prepare;
- conduct the training and deliver the material;
- remediation for individual learners
- application of the training by learners; h) adjustments and revisions. (p.

135)

Myers et al. (2008) described their rationale for using this 8-step process for the implementation phase of ADDIE, stating:

Companies rely on training for improvements and reduced costs (improved profitability) in return for investments in the program. Training can be used to: ensure legal compliance and reduce liabilities; improve efficiency, productivity, and reliability; train new people or train on new processes; and introduce the company and its safety culture, among other uses. (p. 135)

By following the ADDIE implementation process, an instructional designer will have a high degree of confidence about the course when it is ready to launch.

The implementation phase is a time where instructional designers can apply and try out their instructional system (Feinstein, 2004). Once the instruction has been designed and developed, “the actual system is ready to become operational in the implementation phase” (Allen, C. W., 2006, p. 437). In general, the implementation phase was summed up by Wang and Hsu (2009), who stated, “Implementation concerns the actual launching of the course” (p. 80).

Evaluate. One explanation of how evaluation is used and what it can provide is offered by Rossett (1987):

The evaluation phase is used to ascertain if the instructional system has filled the gap described in the needs assessment. This phase also provides instructional designers with information to determine the "worth of the training effort" and if the goals created in the first phase were achieved. (p. 10)

Much has been written in the literature regarding what an evaluation is, what it does, and how it can be used, (e.g. Sarmento & Durao, 2009; Griffith & Hamza, 2006; Dick & Carey, 1996; Kemp, Morrison, & Ross, 1998; Smith & Ragan, 1999; Myers et al. 2008). Fardoun et al. (2009) stated, “The ADDIE evaluation phase can produce pretty graphs and metrics, but that’s not its main purpose. The evaluation phase measures the course’s efficacy and it searches for opportunities to improve learner’s on-the-job performance” (p. 1298).

Gagne et al. (2005) offered an uncomplicated explanation about evaluation, stating, “Evaluation is the final stage in the ADDIE model. This placement reflects its

logical function as the point at which you determine whether your proposed solution to a problem has succeeded” (p. 35). Another description comes from Myers et al. (2008): “The purpose of evaluation is to gather and document learner performance in a course and, ideally, on the job. The goal is to improve and make the training better” (p. 136). It is important to be able to evaluate what students have learned as a result of some form of instruction (Dick & Carey, 1996; Kemp et al., 1998; Smith & Ragan, 1999).

Griffith and Hamza (2006) stated, “The evaluation phase consists of two parts: formative and summative. Formative evaluation is present in each stage of the ADDIE process. Summative evaluation consists of tests designed for criterion-related referenced items and providing opportunities for feedback from the users” (p. 3). As cited throughout the literature, evaluation and feedback take place virtually throughout every stage of the ADDIE process (Sarmiento & Durao, 2009; Griffith & Hamza, 2006; Chan & Robbins, 2006; Myers et al., 2008; Wang & Wilcox, 2006; Allen, C. W., 2006; Koneru, 2010).

The evaluation of student learning is a major concern when designing any instruction (Dick & Carey, 1996; Kemp, et al., 1998; Smith & Ragan, 1999). Furthermore, Rovai (2003) asserted that “evaluations resulting in program refinements are highly important if quality is to be achieved and maintained” (p. 111). According to Galbraith et al. (1997), “Evaluation is an essential element in effective programs for any target group” (p. 113).

Having discussed what the literature reveals regarding the nature, importance, and overall purpose of the evaluation phase, the various steps to the evaluation process will now be explored. Gagne et al. (2005) for example, stated that effective evaluation should

“implement plans for student evaluation, implement plans for program evaluation, and implement plans for course maintenance and revision” (p. 22). These authors continued:

Evaluation is the final stage in the ADDIE model. This placement reflects its logical function as the point at which you determine whether your proposed solution to a problem has succeeded. However, in the ISD process, evaluation actually occurs at several points and may even be included in all of the stages of the process, including the post-development phases after the product has been implemented. (p. 35)

Myers et al. (2008) included a list of five primary steps in evaluation:

- develop evaluation instruments to verify and validate that the training is meeting the need;
- conducting formative evaluations throughout the ADDIE process; c) conducting a summative evaluation at the end;
- feeding the evaluation results back into the ISD process for improvement;
- evaluating the success against the objectives. (p. 136)

According to Myers et al. (2008), the evaluation phase occurs in every phase of ADDIE as well as after the completion of the training program and as the learners return to their places of employment (p. 136). The overall purpose of evaluation “is to gather and document learner performance in a course and, ideally, on the job. The goal is to improve and make the training better” (p. 136).

Crawford (2004) summarized the importance of the evaluation stage: “Beginning with the conception of the product through the analysis, design, development, implementation and subsequent refinement of the product, it may be argued that the main

emphasis is upon the evaluative element” (p. 417). Wang and Hsu (2009) shared a similar conviction regarding the evaluation phase, stating, “The evaluation helps the instructor determine whether the curriculum was successful and how it could be improved for the next implementation phase” (p. 81). These authors asserted that both formative and summative evaluations should be conducted and that the formative evaluation should be done during each phase of the ADDIE model, while the summative should be done at the end to determine the effect of the curriculum on the learner’s performance and learner’s satisfaction with the curriculum.

Summary

There are many models of instructional design to choose from that can be used by instructional designers of different levels of expertise (Sortrakul & Denphaisarn, 2009). The Dick and Carey model is a good example of a model that is adaptable for a variety of users “ranging from novice to expert, as the step by step descriptions aid with progress through the model” (Sortrakul & Denphaisarn, 2009, p. 45). Instructional design models serve the purpose of providing an abstract framework for designers to use as needed. According to Kenny, Zhang, Schwier, and Campbell (2005), instructional design models are valuable to designers and can also inform practice, but few, if any, designers use models to confine their practice.

CHAPTER 3

METHOD

The purpose of this case study was to describe the process used by an instructional design team to develop an online training course (OTC) for adjunct faculty at a medium size institution of higher education in the Intermountain West, in order to determine to what extent practicing instructional designers followed a formal instructional design process. This chapter includes the rationale for using a case study, the context of the case study performed, information regarding how the participants were selected, a description of the development of the interview protocol, and a description of data collection and analysis procedures.

Rationale for Case Study Design

The rationale for using a case study approach, as opposed to other types of qualitative research, was that case studies focus more on process than on outcomes (Merriam, 1998). According to Sanders (1981), “Case studies help us to understand processes of events, projects, and programs and to discover context characteristics that will shed light on an issue or object” (p. 44). One of the deciding factors for choosing a case study approach was the usefulness of case studies in obtaining an in-depth understanding about a particular phenomenon (Merriam, 1998).

Case studies are also more concrete rather than abstract. Creswell (2003) stated that cases can be bound by time and place. This case study meets both of these criteria because it focused on a concrete example of events and was bounded by time and

context. The development of the OTC at a single university took place during a six-month period in 2008.

Case studies are particularly appropriate for obtaining intensive descriptions and analysis of a phenomenon. While other qualitative approaches may exhibit similar characteristics, one advantage of case studies is that they are “richly descriptive and afford the reader the vicarious experience of having been there” (Merriam, 1998, p. 238). Merriam (1998) also stated that case studies “bring about the discovery of new meaning, extend the reader’s experience, or confirm what is known” (p. 30). Case studies separate themselves from other qualitative approaches because they provide the researcher the ability to get closer to the subjects through observation (Merriam, 1998).

In this study I gained relevant insight into the designers’ perceptions about how they developed the OTC, and I obtained distinguishing information from the participants regarding their involvement in the development of the course. According to Olson (in Merriam, 1998, pp. 30-31), one of the characteristics of case studies is that they are heuristic in nature in the sense that they enable the researcher to discover or learn about the phenomenon. In this case, I was able to determine reasons for developing an OTC and to obtain background information about the course.

Another characteristic of a case study is that they take a holistic view of situations, focusing more on how individuals handle specific problems (Shaw, 1979). In this study I focused specifically on the process five individuals used to design an OTC. Because my focus was so specific and in small scale, I was able to address the perceived practicality, along with the difficulties, of designing an OTC.

Case studies are also very descriptive (Merriam, 1998). Using direct quotations assisted my ability to be descriptive. Based on these characteristics of a case study, this design aligns clearly with my research purpose, which is to describe the process used by an instructional design team to develop an online training course at a medium size institution of higher education in the Intermountain West, in order to determine to what extent practicing instructional designers follow a formal instructional design process.

Context

The case under study here arose from the desire of a private western university to increase its online offerings. The president of the university stated that “the decision for more online courses was necessary in order to serve more students, reduce the cost of education, and to increase the quality of the learning experience” (Clark, 2008). The president and his leadership council also determined that these online courses would be taught by adjunct faculty. By using adjuncts, the university was able to reach more students without overtaxing existing campus faculty and resources. The decision to hire online instructors outside the campus community was based on the anticipation that the number of students who would be taking online courses would increase. Because of the demanding teaching loads that were already placed on full-time faculty on campus, the university decided to outsource the online courses to adjunct faculty.

As a result, more teachers needed to be hired to facilitate those online courses. As the university began the process of identifying qualified individuals who could facilitate the online courses, it became necessary to provide some training for them. The Director of Curriculum Development made the decision that an OTC should be developed that would teach the prospective online adjunct faculty how to fulfill the university’s mission.

The purpose in training the online adjunct faculty was to provide them with an understanding of what the university expected of them, to assure that all adjunct faculty were qualified and prepared to teach, and to inform them about the university's mission.

Purposeful Participant Selection

The inclusion criterion for selecting the participants in this study was that they had to have been involved in some way in developing, revising, or facilitating the OTC. I was able to identify the five individuals by asking the Director of Curriculum Development. Four of these individuals were university staff and one was a faculty member. Each participant identified took part in either developing, supervising, facilitating, or revising the OTC.

Once I knew who my participants were, I determined what their roles had been in the online course development process. The course was developed between April and September 2008. At that time there were two individuals involved: the Director of Curriculum Development and the person assigned to develop the OTC. The Director of Curriculum Development was asked to supervise the person assigned to develop the OTC. Hereafter, the Director of Curriculum Development will be referred to as "Andy-Supervisor", and the person assigned to develop the OTC will be referred to as "Jan-Designer One."

After the development process was completed in 2008, Jan-Designer One facilitated the OTC for approximately two years. During this time, Jan-Designer One made revisions to the course as needed. However, by 2010, the number of students enrolled in the course had increased, requiring two additional team members. The first person hired was assigned to facilitate the OTC, and the second person hired was

assigned to oversee the revision efforts. The first person hired in 2010 will be referred to hereafter as “Heidi-Course Facilitator/Trainer,” and the second person hired will be referred to as “Matt-Reviser One.” These new team members reported to Andy-Supervisor.

Approximately six months after Matt-Reviser One and Heidi-Course Facilitator/Trainer had joined the team, Jan-Designer One resigned and returned to her previous responsibilities at the university as an adjunct instructor in the English Department. Also at that time, Andy-Supervisor went from being the Director of Curriculum Development/Supervisor to the Online Learning Managing Director. However, he continued to supervise Heidi-Course Facilitator/Trainer and Matt-Reviser One’s efforts. In 2011, the fifth member of the team was hired. This person’s main responsibility was to work with Matt-Reviser One and to assist with the revision efforts of the OTC. This person will be referred to hereafter as “Kay-Course Facilitator/Reviser Two.” Once these individuals were identified, I obtained permission from the institution that sponsored my research, and the university from which my research was conducted to interview them as part of my study.

The five participants were sent email invitations, requesting their assistance in this study. (See Appendix A). The email included a detailed outline of my proposed study and an informed consent form. If they were willing to take part in this study, they would need to sign and return the informed consent forms to me prior to scheduling any interviews. The participants were reminded of the voluntary nature of their participation and that they had a choice regarding the documentation of the interviews. Those documentation choices included permitting me to tape record the interviews, to take notes during the

interviews, or both. They also were given the opportunity to choose the date, time, and place of the interviews.

Data Collection

Case study data collection procedures. Case study procedures can include numerous sources of information in order to gain a broader understanding of what is being studied. According to Patton (1990), “Multiple sources of information are sought and used because no single source of information can be trusted to provide a comprehensive perspective” (p. 244). Data was collected from multiple sources of information as I sought to gain a more complete view of how the OTC was developed. For example, I gathered data through my observations of the OTC, through my review of the OTC materials as they were being taught to the students, and from what the participants reported during the interviews. As part of these data collection procedures, comprehensive notes were kept.

The procedures used to collect the data in this study were generic and common to qualitative studies. According to Merriam (1998), “Interviewing is probably the most common form of data collection in qualitative studies in education” (p. 70). Merriam (1998) also referred to conducting interviews, observing, and analyzing documents as data collection techniques that are frequently used in case studies. The data collection methods used included participant interviews, observations, and mining data from the interview transcripts.

First, I obtained permission to observe the existing OTC and to observe the finished product being offered to students. Second, I developed an interview protocol. Third, I conducted two semi-structured interviews with each of the participants. While

conducting the interviews, I took detailed notes, so I could refer back to my thoughts and impressions while analyzing the data (Merriam, 1998, p. 87). Following all interviews, I analyzed the interview transcripts. Each of these steps is described in more detail below.

Observation data collection of the online training course. Having been granted permission from the institution that sponsored the research, and from the institution from which the research was conducted, the first thing I did was to obtain permission from the OTC instructor to observe the three-week OTC before beginning the interview process. I was granted permission, but only as an observer and not as a fully-enrolled participant. This meant that I would be allowed to view lesson plans, discussions, and interactions between instructor and students. My intentions for observing the OTC was to gain insight into the design elements of the course. By the time I began observing the OTC it had already been in existence for approximately five years, during which time several revisions had already been made to it.

By conducting an observation of the OTC as a non-participating observer, I gained an understanding of how the course was administered to the participants, and my observation protocol was simple. I kept a daily journal of my thoughts, impressions, questions, and overall general attitude of the students 'through their comments. I attempted to observe as much as possible, and then I recorded in as much detail as possible everything that I had observed (Merriam, 1998).

I observed the OTC for approximately two hours a day, five days a week, during a three-week period. Logged into the course at different times each day, I could observe a variety of discussions on different topics. I was able to observe the assignments the students were completing and the feedback the instructor provided them. After each of

my observations, I recorded my impressions and opinions in a journal. For example, following a group discussion the students had on how teaching one another can be effective in the classroom, the instructor posted the following feedback to her students:

Your group discussions are going well; I am impressed with the insights and ideas that you are sharing. You are all wonderful individuals with great gifts and talents that will richly bless the lives of your future students. Thank you for sharing your knowledge and understanding. As you can see, our Mission, Framework, and Learning Model create a unique teaching/learning environment. The final discussion forum about prepared curriculum (in the Ponder/Prove folder) is getting a slow start, but a few of you have shared some excellent insights about the benefits of teaching from a prepared curriculum. As you have noted, the role of the instructor cannot be underestimated.

In order to finish this course, you should have all of your tasks and discussion posts completed by Friday night (midnight). It is a pleasure getting to know you, and I am looking forward to more discussion board conversation tomorrow.

Please let me know if you have any questions.

Much of the data I collected aligned with tenets of instructional design models. For example, the use of evaluation is a common feature found in instructional design models. According to Gagne et al. (2005) "Evaluation occurs at several points and may even be included in all of the stages of the process, including the post-development phases after the product has been implemented (p. 35).

During my observations of the OTC, the instructor used an evaluation rubric to judge the performance of her students. This rubric allowed the instructor to not only

judge performances of students, but also to determine how effective the OTC was.

Oermann and Gaberson (1998) asserted that evaluation not only guides instruction, but it also determines how good the instruction was. The instructor also taught the students how to develop podcasts and how to generate thoughtful discussion topics. Students were instructed in the use of developing modules and lesson plans.

According to Merriam (1998), the amount of information researchers are able to record from observations depends on the researchers' role and the extent to which they are participants in the activity. Merriam (1998) also stated, "On-site recording can thus range from continuous, to taking sketchy notes, to not recording anything at all during an observation" (p. 104). I wrote key words during the time I was observing the OTC, and I later re-wrote my notes in more detail. Merriam (1998) noted that "It is much more likely that a researcher will jot down notes during an observation and wait until afterward to record in detail what has been observed" (p. 104). In the photos below are a few examples taken from some of my journal entries during the three-week period that I observed the OTC. Refer to Figure 1 below for an example of my observation notes from one of the last days that I observed the OTC.

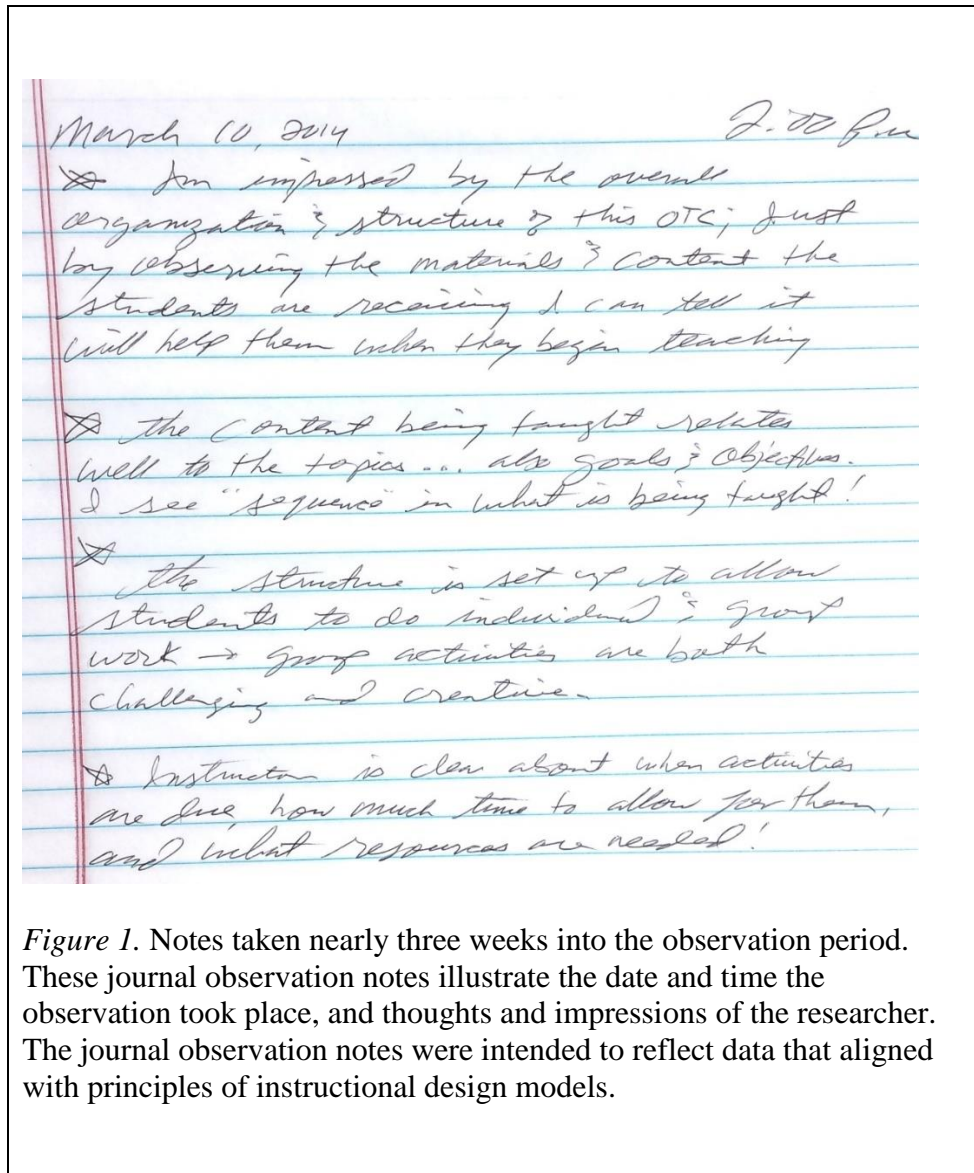


Figure 1. Notes taken nearly three weeks into the observation period. These journal observation notes illustrate the date and time the observation took place, and thoughts and impressions of the researcher. The journal observation notes were intended to reflect data that aligned with principles of instructional design models.

I tried to keep my journal entries fairly consistent, although some entries contained richer descriptions than others. Due to the fact that I was observing different aspects of the OTC from day to day. I used these data bits from my overall observations in my final analysis of the data, which will be explained later in this chapter. A detailed summary of my findings is provided in Chapter 4.

Interviews Data Collection. The interviews were conducted using the researcher designed protocol. In this section I will address the interview protocol, interviews with participants, and interview field notes.

Interview protocol. Once I had observed the OTC, I wrote the interview protocol. With my research questions in mind, I developed prompts and open-ended questions that related to many steps found in instructional design models. Research Question One stated: “What describes the process used by an instructional design team to develop an online training course at a medium sized institution of higher education in the Intermountain West?”

” Research Question Two stated “To what extent was the process used by an instructional design team during the creation of an online training course informed by an instructional design model?;” and, Research Question Three asked “How would the instructional design team change their design process if they were to design a similar course today?”

The interview protocol I developed to assist me in gathering the data for this study consisted of 29 questions. (See Appendix B). I patterned my interview protocol on the research done by Jacob and Ferguson (2012), who suggested that the starting point should be a review of the literature. My review of the literature provided me with several tenets of instructional design that I used to build my interview protocol. For example, one of the questions on the interview protocol asked if an analysis of the need for the OTC was done prior to developing the course. According to C. W. Allen (2006), almost all of the many instructional design models in existence include a generic analysis. Another question in the interview protocol relates to how the topics of instruction, media, and type of delivery

system for the OTC were chosen. The literature suggests that the design phase of most models is where media choices are made (Koneru, 2010). The interview protocol also asked if there were some form of evaluation included in the OTC.

The interview questions I developed were aligned with the research questions and related to the tasks that were performed in the development of the OTC. Research Question One was: “What describes the process used by an instructional design team to develop an online training course at a medium size institution of higher education in the Intermountain West?” Examples of interview questions that helped answer Research Question One were, “What process did you use to collect and process data for the purpose of making decisions about the OTC?” and, “How were the topics of instruction, media, and type of delivery system for the OTC chosen?”

Research Question Two was, “To what extent was the process used by an instructional design team during the creation of an online training center informed by an instructional design model?” Corresponding questions from the interview protocol were “Did you use an instructional design model as a guide in designing the OTC?” and “What process did you and the team go through to plan how you would do this project?”

Research Question Three was, “How would the instructional design team change their design process if they were to design a similar course today?” The question from the interview protocol that related to this question was “In what ways would you, as part of the design team, change the design process if you were to design a similar course today?”

Table 1 below shows examples of the relationship between some of the questions in the interview protocol and the research questions with which they are aligned, (See Appendix C for a complete list of all interview questions and their related research

question). I reviewed all of the questions and all of the responses in order to pair the responses and questions to the Research Question.

Table 1

Relationship between Interview Protocol Questions and Research Questions

Interview Protocol Questions	RQ1	RQ2	RQ3
1. What information did the team seek before you started planning the course?	X	X	
a. What analysis was done to determine the need for the OTC prior to developing the course?	X	X	
b. Who told you there was a need for an online training?	X	X	
c. Did you collect any information on the students prior to the course?	X	X	
d. How were the purpose, goals, and objectives of the OTC determined?	X	X	
2. What process did you and the team go through to plan how you would do this project?	X	X	
4. Tell me about your involvement in the actual building of the units and topics for instruction for the OTC.	X	X	X
a. What management system did you develop and use to measure what the students learned in the OTC?	X	X	

Interviews with participants. I conducted two separate tape-recorded interviews with each of the five participants. Although I developed the interview instrument prior to receiving permission from the Institutional Review Board, I did not actually begin the interviews until I had received permission. The interviews took place in either my office, the participants' offices, or over the phone. There was no systematic process to the order in which I conducted my interviews. Instead, the interviews were based on the convenience of the participants' schedules. I asked each participant to provide me with a date and time that would work best for him or her and I arranged my schedule to fit his or her schedule.

Prior to beginning the interviews, I explained the voluntary nature of the study and informed the participants that they could choose to participate or not. I began my interviews in the following order: Heidi-Course Facilitator/Trainer; Andy-Supervisor; Jan-Designer One; Matt-Reviser One; and Kay-Course Facilitator/Reviser Two. Each of these five individuals was interviewed to determine his or her role in the process used to develop the OTC. I describe these five participants and the interviews in greater detail in Chapter 4.

Interview field notes data collection. I waited until all the interviews were complete and then I listened to the audio recordings of the interviews before reading through my field notes. As I listened, I added further impressions, questions, and reflections to my notes. I then gave the tapes and field notes to the transcriber. The notes I took during the interviews consisted of my own impressions, observations, and anything that I determined needed further clarifications and were less related to the participant's actual response. For example, one impression I had during one of my interviews was that

the participant was not finishing her sentences. My observation note read, “It’s hard for me to focus on the meaning of her comments because she isn’t finishing her sentences, and she gets side tracked by something and loses focus easily!”

I organized my notes by first identifying the person being interviewed, the date and time of the interview, and where the interview took place. The body of my notes was then organized with the following headings: (a) My personal observations of the person being interviewed; (b) My reactions to the person being interviewed and the interview process; (c) My comments regarding the surroundings in which the interview took place; and, d) Participant answers that need further clarification. Refer to Figure 2 below for an example of my interview notes.

Name:	Date:	Time:	Place of Interview
Heidi	April 3, 2014	10:00 a.m.	Heidi's Office
<p>a) Personal observations about the person being interviewed: Heidi is very talkative; open & friendly; great eye contact. Uses her hands a lot and smiles when she talks; seems to get off track a lot - answers are lengthy. Q: are my questions clear?? Sometimes it sounds like she's guessing or speculating; doesn't finish sentences and she seems distracted</p> <p>b) My reactions to the person being interviewed and the interview process I'm having a hard time focusing; answers are long!! She doesn't make great eye contact @ times - distracted by the computer screen</p> <p>c) My comments regarding the surroundings in which the interview took place Desk space is very cluttered with books and papers - she seems comfortable in her surroundings</p> <p>d) Participants answers needing further clarification I need more specifics about her role in the development?!</p>			

Figure 2. Display of notes taken during the interview with Heidi (pseudonym) illustrates the note taking format used in the interviews.

Data Collection Saturation

Saturation is defined by J. M. Morse (1995) as “data adequacy, operationalized as collecting data until no new information is obtained” (p. 147). Morse (1995) also stated that “saturation is the key to excellent qualitative work” (p. 147). My data became saturated through the two interviews I conducted with each of the five participants. At the end of the second interviews, I could see that there was not any new information to add.

My data became saturated as I combed through my observation notes and my interview notes, looking for any new data that could potentially emerge.

Verification. Lincoln and Guba (1985) asserted that case study research should employ a thorough verification process in order to achieve trustworthiness, which is a combination of credibility, dependability, transferability, and confirmability. In addition, Creswell (1998) affirmed that verification is the standard for judging the quality of a study. Creswell (1998) also stated, “I recommend that qualitative writers strongly consider how they plan to substantiate the accuracy of their accounts and employ multiple procedures” (p. 215).

According to Patton (1990), researchers use multiple data collection methods to obtain information because using only one method does not provide a comprehensive perspective. This author further stated, “By using a combination of observations, interviewing, and document analysis, the fieldworker is able to use different data sources to validate and cross-check findings” (p. 244). I collected data from my observations and from my interviews with the participants who designed the subject online course. By using multiple data collection methods, I was able to triangulate the data as a verification process, therefore gaining corroborating evidence for my findings.

Credibility. To establish credibility and increase the chances that credible findings would be produced in this study, I engaged in the technique of triangulation (Lincoln & Guba, 1985). According to Creswell and Miller (2000), triangulation is a process where “researchers search for convergence among multiple and different sources of information to form themes or categories in a study” (p. 126). I had three sources of

data pertinent to my research questions: (1) Observations I made of the OTC; (2) Interview transcripts; and, (3) Interview field notes.

Member checking is another verification technique I used, which allowed members to check their responses. According to Creswell and Miller (2000), the researcher “takes data and interpretations back to the participants in the study so that they can confirm the credibility of the information and narrative account” (p. 127). Lincoln and Guba (1985) also suggested that member checking is “the most crucial technique for establishing credibility” (p. 314). I completed the process of member checking in a continuous and informal manner. I was formal in my approach to member checking, as I scheduled second appointments with the participants to go over their responses to the questions from the first interview, to ask questions that I did not have time to ask in the first interview, and to clarify interviewee responses.

Dependability. Lincoln and Guba (1985) viewed dependability as a process used to account for all the changing conditions in whatever is being studied and for any changes in the design of the study needed to gain a better understanding of the context. One technique these authors discussed as a way to enhance dependability is the method of overlapping. Overlapping methods are described by Brown (2005) as “carefully planned methodological triangulation, or multiple data gathering procedures (e.g., observations, interviews, and questionnaires), in order to create overlapping (and therefore cross-validating) data” (p.31). Overlapping differs from triangulation in that the latter refers to multiple data sources, while the former refers to multiple methods.

I used the technique of overlapping in this study by employing multiple data gathering procedures such as personally observing the OTC, interviewing participants,

and taking notes during the interviews. According to Eisenhardt (1989), “A running commentary to oneself and/or research team, is an important means of accomplishing overlap” (p. 538). Through the use of more than one data gathering procedure, I was able to increase dependability in this study.

Transferability. Another element of trustworthiness is transferability.

Transferability is the process of an author/researcher building a case to allow another researcher or reader to transfer the findings to other settings (Lincoln & Guba, 1985). In order for transferability to occur from my study, I provided a wide range of information and a thick description of data, organized such that it makes “transferability judgments possible on the part of potential appliers” (Lincoln & Guba, p. 316). The rich, thick description and clear audit trail provided within my report provides enough specificity to clearly demonstrate the logic of each step, and my conclusions.

Confirmability. Confirmability is established through determining whether the “data, findings, interpretations, and recommendations of this study are supported by the data and are internally coherent, so that the bottom line may be accepted” (Lincoln & Guba, 1985, p. 318). These authors also maintained that confirmability can be enhanced by using clear audit trails, which is a “residue of records stemming from inquiry” (Lincoln & Guba, 1985, p. 319). In order to establish confirmability, I kept and preserved the data by keeping thorough field notes. I accomplished this by providing a rich, thick description of the findings of this study, which is found in Chapter 4. According to Merriam (1998), providing a rich description of the findings from a study “enables the readers to compare the fit with their situations” (p. 211).

My overall plan for this study was to compare the three sources of data that I collected, which included my observation notes of the OTC, participant interviews, and my research notes taken during the interviews. I performed a cross-check of these three different data sources in order to gain a deeper understanding of the process the design team went through to develop the OTC. According to O'Donoghue and Punch (2003), cross-checking is a method that researchers use when searching for regularities from multiple sources in the research data. Creswell (1998) stated that cross-checking also involves "taking data, analyses, interpretations, and conclusions back to the participants so that they can judge the accuracy and credibility of the account" (p. 203). I made several contacts with the participants to cross-check my conclusions and to confirm the accuracy of my findings.

Data Analysis

In this section I describe the steps I took to organize and analyze my data, and the process I used to condense the data into manageable units. I did this through constant comparison of the data I received from three main sources: 1) Interviews; 2) Notes I took during the interviews; and 3) Observations I made while observing the OTC. Through this method of constant comparison I was able to reduce over 200 data bits into 31 concepts. The 31 concepts were later reduced into 9 categories and, finally, into 3 main themes.

According to Bogdan and Biklen (1982), qualitative data analysis is the process of "working with data, organizing it, breaking it into manageable units, synthesizing it, searching for patterns, discovering what is important and what is to be learned, and deciding what you will tell others" (p. 145). There are numerous computer software

programs available to facilitate qualitative data analysis (Creswell, 2007). The qualitative data analysis software I used to analyze the data in this study was *QDA Miner*.

As explained by Merriam (1998), “the right way to analyze data in a qualitative study is to do it *simultaneously* with data collection...Data that have been analyzed while being collected are both parsimonious and illuminating” (p. 162; italics in original). Merriam concluded, “These meanings or understandings or insights constitute the findings of a study” (p. 178). Merriam also stated, “The final product is shaped by the data that are collected and the analysis that accompanies the entire process” (p. 162).

The approach I took was to analyze my data after the interviews had concluded, which did not adhere to Merriam’s suggested approach. My intentions were to follow Merriam’s outlined data analysis procedure; however, this step did not occur because the dates and times the participants chose to be interviewed were so close together. I did not have adequate time to collect and analyze the data simultaneously. However, since the initial interviews and follow up interviews were completed in a short period of time and the transcriptions of the interviews took less than one week to complete, my data still presented as revealing and informative. Since not much time had elapsed between the interviews and review of transcripts, the information was still fresh in my mind.

On the other hand, I did experience to a certain degree some of what Merriam (1998) warned about when she said, “Without ongoing analysis, the data can be unfocused, repetitious, and overwhelming in the sheer volume of material that needs to be processed” (p. 162). This is an accurate description of what I experienced. I was overwhelmed due to the amount of data that were collected in this study, and my analysis

took longer than it should have. However, in the end, a rich, thick, detailed set of themes eventually did emerge.

My process of analyzing the data began with the interviews. Once I had completed all of my interviews, I hired a professional transcriptionist to type them. The tape-recorded interviews were transcribed separately from my individual notes, thus providing me with both a transcription and a set of notes for each interview. Once the transcriptions were returned to me, I engaged in the coding process by reading through each transcript twice. Merriam (1998) described coding as a way to bring meaning, understanding, and insight to the findings of a study. She further stated, "Coding is nothing more than assigning some sort of shorthand designation to various aspects of your data so that you can easily retrieve specific pieces of the data" (p. 164). With each reading, I wrote further comments and impressions in the margins next to a data bit, which Merriam calls a passage that seems potentially relevant.

I then grouped together data bits consisting of my thoughts, impressions and content from the actual interviews, and exhibiting shared meaning and similarities into concepts. Dye, Schatz, Rosenberg, and Coleman, (2000) described the process of grouping data bits together as a back-and-forth procedure that compares and refines raw data until a grand concept emerges. I then labeled each of the combined concepts. Examples of the data bits that I grouped together included "participants relied heavily upon one another's knowledge and expertise while developing the OTC" and "personal experience was helpful in the development process." I then combined these data bits into the concept of "relied on personal experience and expertise." I developed the data bits

first, and then combined similar data bits to create concepts. The concepts were my initial synthesis of what these data could mean.

I then performed the same process as described above with my field notes and my notes taken while observing the OTC, grouping topics together based on shared meaning and similarities, and then labeling those groupings. While I was grouping together the data bits of a data set, I kept in mind the list of concepts from the other data sets I had grouped together, checking to see whether they were present elsewhere. This iterative process allowed me to compare notes and impressions from all three data sets, which were the transcripts, the field notes, and the observations I made of the OTC. Table 2 below provides an example of several data bits from all three sources and how they were grouped together to support a particular concept.

Table 2

Data Bits by all Three Sources and the Relationship to Concepts

Data Bits by Source			Concept
Observation	Interview Notes	Transcripts	
There was constant feedback from students to facilitator and from facilitator to the students	We were always asking questions	Revision, refining, and producing materials motivated by feedback	Feedback was a main staple in the online training course
Elements of ID, such as feedback, assessing student needs and asking questions were in place in the training	No format for evaluating the course other than informal feedback from others	Revisions were done based on good instructional design principles, instructor feedback, and brainstorming	
	Personal observation and feedback were important to the developers	Revisions made to the training course based on training instructor's feedback	
	Revision, refining, and producing materials motivated by feedback		
	Revisions were done based on good instructional design principles, instructor feedback, and brainstorming		

Each of the concepts reflected the purpose of my research in some way. However, while reading through the transcripts, notes, and observations, I identified 125 separate data bits, which proved to be unmanageable. Therefore, I spent a considerable amount of time trying to reduce them into more manageable categories.

The process I used to reduce my data was to merge the concepts from my interview transcripts, my notes that I made during the interviews, and my observation

notes of the OTC made prior to conducting interviews. The first step in this process of merging my data was to compare the concepts retrieved from the notes I took during my observation of the OTC and the notes I took during my interviews by using a simple two-column spreadsheet in Microsoft Excel. Column One was called “notes taken during interviews” and Column Two was called “notes taken during my observation of the OTC.” The rows consisted of the concepts that emerged from my observations of the OTC and concepts that arose from the notes I took during the interviews. Table 3 below illustrates how the data from my observation notes were combined with the notes I took during the interviews to create categories.

Table 3

Categories from OTC Observations and Interview Notes

Concepts	Category
Feedback was a main staple in the online training course	Feedback from others
There was constant feedback from students to facilitator and from facilitator to the students	
Elements of ID, such as feedback, assessing student needs and asking questions were in place in the training	
No format for evaluating the course other than informal feedback from others	
The work turned in by the students in the course are reviewed by the facilitator and feedback is given within days; good turn around, sometimes the same day!	
Personal observation and feedback were important to the developers	

With the information placed side by side, I highlighted similar concepts in red.

Next, I coded my data by assigning a short-hand designation to the highlighted concepts

in the form of single words and phrases (Merriam, 1998, p. 164). Each of these words and phrases I used to code my concepts reflected what I was seeing in the data. All of these concepts were then saved and placed in QDA Miner. The data organization logic I used in this study is closely aligned with Merriam's (1998) ideas:

All the information about the case should be brought together – interview logs or transcripts, field notes, reports, records, the investigator's own documents, physical traces, and reflective memos. All this material needs to be organized in some fashion so that data are easily retrievable. (p. 194)

Next, I compared the master list of concepts from the spreadsheet described above in Table 3 with the five interview transcripts I had previously downloaded into QDA Miner. By doing this step, I was able to more easily discover similar words and phrases and recurring regularities among all three data sources. This was done by clustering similar concepts together into specific categories. For example, the following concepts emerged from the comparison of my observation notes and my interview notes: (1) The design team relied upon existing technology and available resources; and (2) The design team considered what worked in other programs to determine lessons to include in the course. These concepts were then combined with the following concepts from the five interview transcripts: (1) The design team used resources available to them; (2) The design team sought feedback and observed what was working in other programs and universities in order to determine which lessons should be include in the OTC. These four concepts from observation notes, interview notes, and interview transcripts eventually produced the category, "The design team used available resources to design the OTC." A more detailed description of findings from this process is found in Chapter 4.

Using QDA Miner allowed me to make comparisons among all three data sources, searching for similarities, key words, and commonalities. When similarities were found, I electronically highlighted those concepts that emerged, just as I did by hand with the spreadsheet mentioned earlier. I also used the same coding process described earlier in which I clustered concepts and assigned words or phrases/labels to identify categories. My logic for highlighting the concepts was to make it easier for me to identify, retrieve, and code categories. I used this method of coding to determine whether the data bits and concepts could be combined any further and to determine whether any new categories would emerge. My logic for combining concepts into categories was to create a basic structure for my readers and for myself, so I could see “how all the parts fit together” (Merriam, 1998, p. 184).

Another benefit of clustering concepts into categories was that it allowed me to see more clearly how to distinguish between the criteria for assigning data to one category or another (Merriam, 1998), sorting out those that reflected the purpose of my study and those that did not. My sorting criteria consisted of entering the interview transcripts, observation notes, and interview notes verbatim into QDA Miner. Then by entering key words and phrases from each document, I was able to determine possible matches among all three documents. I then read through the sentence it appeared in and the context of the paragraph it was located in. If the match to the key word appeared to be relevant to my study, I assigned a Concept label to it. The results of this sorting process are described in greater detail in Chapter 4.

My data analysis approach aligned most closely with that recommended by Glaser and Strauss (1967, in Merriam, 1998). These authors referred to their data analysis

approach as the constant comparative method. According to Merriam (1998), who recommends the constant comparison, “the basic strategy of the method is to do just what its name implies – constantly compare” (p. 159). For example, a researcher will start with a “particular incident from an interview, field notes, or document and compares it with another incident in the same set of data or in another set” (Merriam, 1998, p. 159). My analysis consisted of comparing similar incidents that emerged from the notes I took during my interviews, my OTC observation notes, and the data received from the actual interviews. By using this type of comparative method, more than 200 categories emerged as I compared the data to each other. Table 4 depicts an example of how data bits from my interview transcripts, observations, and interview notes were sorted and then merged into concepts, categories, and themes.

Table 4
Merging Data Bits into Concepts, Categories, and Themes

Data Bits From All	Concepts	Categories	Theme
Three Sources			
Elements of ID, such as feedback, assessing student needs and asking questions were in place in the training	Feedback was a main staple in the online training course	Feedback from others	The Instructional Design team adjusted their procedures based upon feedback from others, their own experience, and the constraints of the task
Obtained feedback through email, phone calls, discussion boards, and asking questions	No format for evaluating the course other than informal feedback from others	The design team used available resources to design the OTC	
Feedback from previous course participants was important	Personal observation and feedback was important to the developers		
Revisions were based on good instructional design principles, instructor feedback, and brainstorming			

I pursued a detailed and exhaustive process of analyzing and organizing my data in order to draw out the main themes for this study. The development of final themes was my end goal for this study. The three main themes that emerged from this study were 1) While the design team applied several instructional design components in the development of the online training course, an explicit, formal instructional design model

was not intentionally observed; 2) The instructional design team adjusted their procedures based upon their experience and the constraints of the task; and, 3) The instructional design team used elements found in formal design models. Each of the main themes reflect one or more of my research questions.

Summary

A case study method was used in this research project to describe the process used to design an OTC for potential online instructors. Five university employees who participated in the development or revision of the OTC were selected to provide detailed information on this case. Data were collected through transcribed face-to-face interviews, observations of the OTC, and notes taken during the interviews. An interview protocol was developed to gather data for this study, involving questions designed to understand the tasks that were performed in the development of the OTC.

Data collection procedures included observation of the OTC, reviewing transcripts of the recorded interview sessions, and taking detailed notes taken during the interviews. In Chapter 4, I provide a description of the participants, a discussion on how this case study originated, and the results of this case study which are organized by the research question.

Chapter 4

RESULTS

The purpose of this study was to describe the process used by an instructional design team to develop an online training course for adjunct faculty at a medium size institution of higher education in the Intermountain West, in order to determine to what extent practicing instructional designers followed a formal instructional design process. The following research questions were developed in order to achieve the stated purpose of this study:

1. What describes the process used by an instructional design team to develop an online training course at a medium sized institution of higher education in the Intermountain West?
2. To what extent was the process used by an instructional design team during the creation of an online training course informed by an instructional design model?
3. How would the instructional design team change their design process if they were to design a similar course today?

This chapter begins with a detailed description of each participant who was interviewed for this study, followed by a narrative describing the group as a whole. A description of the data is also presented, including how the data bits were identified and clustered to become a particular concept, how those concepts then merged into

categories, and how those categories eventually contributed to a particular theme. This chapter concludes with a discussion of the findings (themes).

Meet The Participants

For the purpose of maintaining confidentiality, I gave each of the five participants in this study pseudonyms: Andy-Supervisor, Jan-Designer One, Heidi-Course Facilitator/Trainer, Kay-Course Facilitator/Reviser Two, and Matt-Reviser One. In the following paragraphs is a description of each of the participants, accompanied by my impressions that I gathered during my time spent with the participants as I conducted the interviews. The following participant portrayals are placed in the order in which each participant became involved in the development of the OTC and not in the order in which I interviewed them. Each interview was arranged based on the participant's availability and work schedule.

Andy-Supervisor. Andy is a Caucasian male in his mid-30's, is slightly balding, and has a thin build. Andy's appearance was always professional. In both interviews Andy was dressed in a white shirt and tie, and his office was always clean and organized. While it is required that men at this university from which my research was conducted dress in professional attire, white shirts are not a requirement.

I conducted the first interview with Andy on April 6, it lasted for approximately one and a half hours. The second interview took place on April 9 and it lasted approximately one hour. Both interviews were conducted in Andy's office. During both of the interviews, Andy was very helpful and informative. Andy provided information from his perspective and he was well spoken, articulate, and intelligent. Andy was a good historian and his memory of the development of the online training course was remarkable and insightful.

Andy used several analogies to describe the process the design team used to develop the online training course, and he provided insight into the background of the project. Andy was straight forward in his responses and did not make excuses for anything. Andy's speech was slow and articulate, he maintained good eye contact during our conversations, and he was not distracted by anything as we spoke. Andy showed very little animation in his gestures and facial expressions, and his voice did not fluctuate much during his responses. Each time I reflected back to him what I was hearing he would smile and open his eyes wider if what I said was accurate. If it was not, he would sit quietly, showing little emotion, and then repeat his answer using a different analogy or example. Andy appeared to be patient, which was demonstrated by his warm smile and soft spoken demeanor.

Andy became the Curriculum Development Director at the university in April, 2008. He was in charge of instructor training and was the supervisor over the development of the online training course. Andy was later appointed as the Online Learning Managing Director in April, 2010.

Jan-Designer One. Jan is a Caucasian female in her mid-40s with a background in teaching and developing online college English courses. Jan is short in stature, who presented in professional attire. In 2008, Jan was asked to lead the development of the online training course. Jan was chosen for this assignment because she had previous experience in creating online courses for the English department. After developing the OTC, Jan returned to the English department in late 2010. I conducted two interviews with Jan. The first interview occurred on April 7 and lasted for approximately one and a half hours. The second interview was held on April 10 for approximately the same amount of time as the first interview. The first interview was conducted in my office, and the second one was done over the phone per Jan's request.

During the interviews, Jan was very formal and businesslike. She was good at maintaining eye contact during the entire interview, seldom looking away, and at times was intimidating because of her confidence, piercing stare, and overall knowledge of the OTC. Jan was a very engaging, friendly, and insightful person, who exhibited a soft-spoken and polite demeanor, and she was well-versed about the history of the OTC. At times, however, Jan's answers were lengthy, straying away from the original question and asking for the question to be repeated. Overall, Jan's answers were very descriptive, and she came across to me as an intelligent and determined individual by the serious tone of her voice and intense look on her face. The information that Jan offered was presented

as fact, backed up by specific details and information regarding the work she did in developing the online training course. Jan's answers were well thought out, almost scripted in the sense that she could provide so much detail.

I observed Jan to be driven and energetic as evidenced by the excitement in her voice and the widening of her eyes when she described her role as developer. Jan exuded confidence as demonstrated by her good posture, her warm facial expressions, and her clear and direct answers. She made no excuses for what she did or did not do during the development of the online training course; she just told her story as she experienced it. Jan mentioned several times that she was glad to be part of developing the online training course, stating "I am proud of all the hard work that I put into the course and what I have accomplished with it from the beginning."

Heidi-Course Facilitator/Trainer. Heidi is a Caucasian female who appeared to be in her mid-30s. Heidi was dressed in semi-formal slacks, and a sweater. Heidi's brown hair came down slightly past her shoulders, and she wore it straight. Heidi and I met on two separate occasions, first on April 3, and then again on April 9. Both interviews were held in Heidi's office and lasted approximately one and a half hours. Heidi was hired to facilitate (teach) the OTC in 2010. She was asked mainly because she had had some previous experience teaching online courses through the university's English department. Heidi does not have any formal training or experience in designing online instruction. Approximately one year after being hired to teach the OTC, Heidi was also assigned to train others who would be hired to teach the OTC. Heidi continued both responsibilities during her involvement with the OTC. Heidi displayed a lot of energy and excitement in her responses, evidenced by her animated facial expressions, voice inflections, and rate

and tone of her speech. Several times during the interview the rate of Heidi's speech became more rapid, almost pressured, as she explained her involvement in the OTC. For example, when she began recounting her role as a facilitator of the OTC, her eyes widened and she became animated with her hands. The overall volume of her voice increased, and the rate of her speech increased.

However, some of her responses were somewhat tangential or vague. Many times Heidi would become so excited about what she was explaining that her answers became lengthy. Several times during the interview, Heidi asked that a question be repeated, stating "I forgot where I was going with my answer."

Heidi's passion about her role in the development of the OTC was impressive, her excitement was contagious, and it was evident that she enjoyed being able to contribute to the project. There were times, however, when Heidi would become distracted and begin discussing other areas that were not directly related to the question. Heidi's office was somewhat chaotic and cluttered. Papers and books covered the entire surface of her desk, and her computer monitor was turned on. Several times during the interviews, Heidi became distracted by email messages that would appear on her monitor, causing her to ask me several times to repeat my question. Overall, Heidi appeared to be a genuinely kind, friendly, animated, and talkative individual who was open to sharing her knowledge about the OTC. Heidi continues to work as a course facilitator and trainer for the OTC.

Matt-Reviser One. Matt became part of the team in 2010. Matt is a Caucasian male who appeared to be in his early to mid-30s. Matt was dressed in professional attire, wearing a white shirt with a tie that hung loosely around an unbuttoned collar. I interviewed Matt on April 13 for an hour and again on the 15 for just over an hour. The

first interview took place in Matt's office, and the second interview was done over the phone because his schedule had changed from our previous plans to meet in his office. Prior to joining the design team, Matt had been an administrator in Student Services at two online universities. In 2011, when Matt was assigned to oversee Kay-Course Facilitator/Reviser Two in making revisions to the online training course, he was a Ph.D. student in instructional technology and psychology.

During our first interview together, Matt did not elaborate on responses to most of the questions, appearing somewhat impatient and detached. Matt gave me the impression that he was disinterested in the interview process, as evidenced by his brief answers and frequent glances at his watch and computer. Matt did not smile during the interview, and his eye contact was minimal as I attempted to get him involved in the interview.

Matt was not present during the development of the OTC; therefore, he was unable to respond to any of the questions relevant to that process. So instead of asking Matt questions that he was unable to answer, I revised the questions to reflect his actual role in making revisions to the OTC. Once I began talking about revisions and not the initial development of the course, Matt seemed to be more invested. I noticed that he stopped looking at his computer and at his watch, he leaned forward in his chair, his facial expressions were more inviting, and his responses were much more detailed. Matt began to be more animated and excited in his answers, as evidenced by his lengthier responses and increase in rate and tone of his speech. There were also fewer periods of silence once the questions I asked became centered on Matt's role of revising the online training course. Matt continues to work with the OTC doing revisions and he supervises Kay in her role as facilitator and reviser.

Kay-Course Facilitator/Reviser Two. Kay is a Caucasian female who appeared to be in her late 30s to early 40s. The most prominent feature about Kay was that she had long, straight grayish blonde hair. Kay was dressed professionally, and she was polite and responsive to my questions. Prior to joining the team, Kay was a student in one of the first online training courses offered. When Kay joined the design team in 201, she was assigned to teach in the OTC and also to begin making revisions to the OTC. Prior to joining the team, Kay had experience teaching some online English courses. Although Kay did not have previous experience in revising courses, she was asked to make revisions to the OTC out of necessity.

I interviewed Kay on two separate occasions. Our first interview was on April 14 and the second interview was on April 17. The first interview took place in my office and lasted approximately one and a half hours. The second interview took place over the phone and lasted one hour. Kay was not able to provide detailed answers to the questions regarding the development of the online training course, stating frequently that “I was not a part of the initial development of the online training course.” However, when I altered my questions to reflect the revision process, her answers became more detailed and she became more invested in the interview. This was observed mainly by the excitement in her voice and the increased detail in her responses. Kay’s responses began to reflect more of an investment in the interview process as evidenced by an increase in eye contact and more of a relaxed posture than she had in the beginning. Kay also smiled more often as we talked about her role in the revision of the online training course, and when Kay could not answer a question, she would apologize and say that she wished she could be of more help. Kay continues to facilitate courses and provide training for the OTC.

Participants as a team

Numerous times throughout this study the word “team” has been used to describe the group of participants who took part in the development of the OTC. The term “team” as it is referred to in the context of this study represents five individual participants who were involved in the development of the OTC but who were hired at different times. Some of the participants joined the team after others had already left and so never actually worked together.

For example, Andy-Supervisor was appointed as the Curriculum Development Director in April 2008. A few months later, Jan-Designer One was hired to develop the OTC, and Andy became her supervisor. Upon completing the development of the OTC in 2009, Jan’s role switched to “facilitator” (instructor) of the course. In 2010, the number of trainees enrolled in the OTC had grown, requiring the need to hire someone else. Heidi-Course Facilitator/Trainer, a former online English instructor, was hired in 2010 to be an instructor of the course. Jan provided training for her in that position. At the end of 2010, Jan resigned and returned to her former job of developing and teaching online courses for the English department. At this time, Andy’s title was changed to Online Learning Managing Director, although he continued to supervise Heidi in her role as instructor of the OTC.

After Jan resigned in 2010, it was necessary to hire another individual to facilitate the OTC. Matt was hired in 2010 to make revisions to the OTC. Kay-Course Facilitator/Reviser Two was hired in 2011 as the second facilitator. Kay was also asked to begin the process of making revisions to the OTC. Prior to accepting the position to facilitate the OTC, Kay had taught online English courses at the university. With the new

hire of Matt-Reviser One, Heidi-Course Facilitator/Trainer continued with her responsibilities, while Kay-Course Facilitator/Reviser Two facilitated the OTC, and assisted Matt with the needed revisions to the OTC. At the time that I conducted the interviews with the five members of the OTC development team, all but Jan-Designer One were still involved in the project. Refer to Table 5 that describes the timeline and responsibilities of the participants.

Table 5

Participant Timeline

Participant	Timeline
Andy-Supervisor	2008 – Present (currently the Online Learning Managing Director)
Jan-Designer One	2008 - 2010
Heidi-Course Facilitator/Trainer	2010 – Present (overlap with Jan-Designer One)
Matt-Reviser One	2010 – Present (no overlap with Jan-Designer One)
Kay-Course Facilitator/Reviser Two	2011 – Present (no overlap with Jan-Designer One)

In summary, each participant who was assigned to work on the OTC played an important role. Andy-Supervisor had managerial skills that he used to supervise Jan Designer One. Jan-Designer One had experience in creating online courses for the English department so she was able to draw from her experience to develop the OTC. Heidi-Course Facilitator/Trainer had been an online instructor for the English department, which provided her with experience in facilitating the OTC. Matt-Reviser One, was also qualified to make revisions to the OTC. Kay-Course Facilitator/Reviser

Two also had experience teaching online courses for the English department, which provided her with some knowledge and experience that helped her to facilitate the OTC.

In the following sections, I have provided descriptive details pertaining to the results of my analysis. I defined the coding process, followed by what I found in each of the analysis steps. My results are organized by how data bits were determined, followed by how they were combined into concepts, how the concepts were merged to become categories, and how the categories were combined to become themes.

Coding

Merriam (1998) described coding as a way to bring meaning, understanding, and insight to the findings of a study. She also suggested assigning a shorthand description to parts of the data so that specific pieces of the data can be easily recovered.

Data bits. The first step I took in the process of coding was to type up my observations notes and my interview notes. I then saved them as a Word document on my computer and added them to the same electronic folder in QDA Miner that my interview transcripts were in. With all three data sources in an electronic format and placed into QDA Miner, I began comparing the data from all three sources. The data analysis process I used in this study is closely aligned with that recommended by Merriam (1998).

I completed this process over several days, each time looking for something I may have missed or that stood out to me as being potentially relevant to my study. After I had compiled a lengthy list of data bits consisting of relevant words and phrases (See Appendix D), I typed them one at a time into QDA Miner. This program then performed an automatic word search of my key words and phrases within my interview transcripts, observation notes, and interview notes.

For example, while searching for pertinent words and phrases from one of my data sources, I observed that the word “experience” was used multiple times. This word “experience” seemed important to my study because most of the participant’s I interviewed mentioned that they relied upon their own experience when developing the OTC. I made a note to myself during the interviews that this word may be important to my study and to examine the use of the word “experience” while combing through my data. When I entered the word “experience” into QDA Miner, it identified not only the exact word but also how many times it appeared within all of my data sources, the sentences it appeared in, and which data source it was retrieved from. I then read through the sentence it appeared in and the context of the paragraph it was located in. If the match to the key word appeared to be relevant to my study, I added it to my growing list of data bits. Eventually, the data bits were clustered together and then labeled as concepts. Then, similar concepts were clustered together and labeled. The labels describing these similar concepts became categories. These similar categories were finally merged with others to become a theme. Refer to Table 6 below for an example.

Table 6

Data Bits to Concepts

Data bits	Data source the data bit was found in	Concept assigned to the data bits
The online training course was developed based on our own experience	Interview transcripts, observation notes, interview notes	Used own knowledge and experience
Relied on each other’s knowledge and experience	Interview notes, interview transcripts	

As I searched my transcripts for applicable terms and phrases, I looked for those that seemed significant to the purpose of my study and to my research questions. When I discovered relevant data bits, I compared them with others, looking for similarities and for clarity and understanding of the participant's individual meaning. As part of this process, I combined data bits with similar meanings into concepts. As I continued this process of constant comparison, I combined those concepts that were similar into categories. Likewise, those categories that had shared meaning were merged into themes. While making these constant comparisons, I gained a clearer understanding of what was emerging from my data. I also tried to keep in mind feasible meanings of what was being said by each individual participant and by the group as a whole.

While entering key words and searching through the data looking for matches, similarities, and other common themes, I excluded many words from the list of data bits. An example of those key words or phrases that I excluded were those that I determined to be irrelevant to my study, such as matching words that were embedded within an interview question or a comment made by me during an interview. Through this process I was able to combine and reduce my data.

As I continued to read through the data sources, words and phrases that were relevant to my study continued to emerge. Each time they emerged, I electronically highlighted them in red and assigned a shorthand designation to the highlighted category in the form of single words and phrases.

I repeated this process multiple times, highlighting in red words and phrases placing data bits into appropriate categories. Next, I went back through all the highlighted data to see whether anything stood out to me as being relevant or that I may have missed

during my previous coding iterations. I did not find many that seemed relevant, but for those that I did, I electronically highlighted them in the same manner described above but this time in yellow. By going through this process, I was able to identify over 200 data bits. However, this amount of data was large and unmanageable. Therefore, combining them through this series of electronic comparisons into concepts was the next phase. Refer to Figure 3 below for an example of the coding process I used to discover data bits.

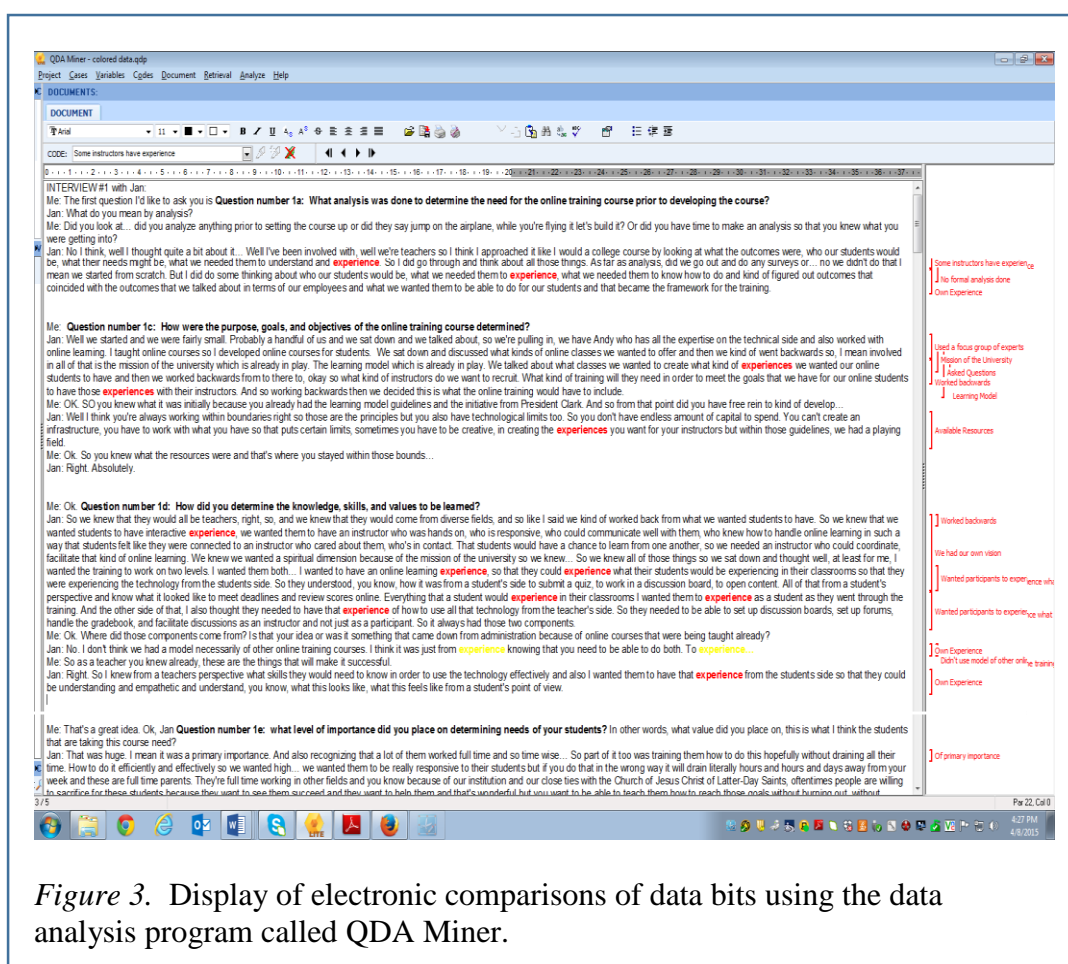


Figure 3. Display of electronic comparisons of data bits using the data analysis program called QDA Miner.

Concepts and Categories

After completing the data reduction process described above, I reduced the more than 200 marked words and/or phrases from my interview transcripts and their corresponding labels to 31 concepts. Eventually, after additional reviews and

comparisons, I was able to further reduce that number to nine categories. Each category represents a combination of several similar concepts. Table 7 below provides an example of similar concepts combined to create a category. Refer to Appendix E for a comprehensive list of concepts that were combined into categories.

Table 7

Merging Concepts into Categories

Concepts	Categories
No formal analysis completed	Informal development process
Informal feedback	
No formal evaluations	
Would be more formal if done over	
Informal collection and processing of data	

Table 8 lists the nine final categories that emerged. Refer to Appendix F for a breakdown of how the data were combined in order to go from 125 data bits to the final nine categories listed in table 8.

Table 8

Categories

Categories	
Category	Informal development process
Category	Relied upon own knowledge and experience
Category	Unintentionally incorporated formal ID steps
Category	Observed other programs and asked questions
Category	Developed OTC on the go and out of necessity
Category	Used available resources
Category	Increase in collaboration improving student experience
Category	With increased resources, students better prepared
Category	More clear about mission and direction of OTC

Informal development process. Planning the online training course was reported as being completed informally. According to Andy-Supervisor, “There really was not a planned out process to develop the online training course; rather it came about through informal conversations, email, and other informal interactions between the team and others on campus.” Andy-Supervisor also reported that an outlined format in draft form was created only after the informal interactions had taken place. Participants stated that they would ask questions among themselves to find out where they wanted the prospective instructors to end up and what experience they wanted them to have.

According to Jan-Designer, “I would ask what they felt worked best and what they learned the most from.”

The participants relied upon one another’s knowledge and expertise and from others on campus who had some involvement in online course development. One participant mentioned there was some research conducted prior to course development but was unable to provide specifics as to the nature of the research. Other participants indicated that the implementation of the online training course was “informal,” reporting that they had to write the training, offer it to a handful of instructors, revise it, and offer it again until they could figure out where the gaps were. According to Andy-Supervisor:

We revised it again, offered it to a handful more, revised it again, and then did a peer group, and revised it again. Every single time it was offered, we revised it based on things that we were learning, things what worked, and things that didn't work. And that is the process we are still in. We are a little more intentional about it now, but back then it was very informal.

Similarly, Jan-Designer One stated, “We put it on paper and put it in the system and had other people review it, and we tried it out and got feedback from that first group and refined again.” The informal plan for implementation of the online training course was an iterative process of creating a design, getting feedback on what was working and what was not, and then revising again. Based on participant responses, there were no formal procedures in writing; however, the process became more formalized as the process repeated itself over time through revisions and trial and error.

Kay-Course Facilitator/Reviser Two commented, “I don't know if there was anything formal in place to measure what was learned.” Heidi-Course Facilitator/Trainer

did state that “there was a syllabus and it had objectives and expectations for each week.” Beyond that, there was no other formal process in place to let the prospective instructors who were taking the online training course know what was expected of them. On occasion, the course facilitator would email students to provide additional information regarding expectations.

The OTC was also monitored informally through feedback from those who were taking the course and those teaching it, and revisions were made as needed. The revisions that have been done since 2008 may suggest that the OTC has been effective. For example, Matt-Reviser One stated that monitoring of the online training course was done with “offhand conversations or the feedback that we got from either the instructors themselves that were taking the course or from the course facilitators.”

Evaluating the online training course is another area where an informal approach was taken. Andy-Supervisor noted that the evaluation process was not formalized; instead, evaluations were done “more out of curiosity to make sure we got it right, rather than intentionally creating an evaluation plan.” Andy continued by reporting that a formalized process of getting feedback on the course itself had not been set up, that they relied instead on the feedback that they got informally from the instructors who taught the courses.

Determining when the objectives of the course were met was also done informally. Matt-Reviser One said there was not a good measure in place to assess the impact the online training course had on those who took the course. Matt further noted that, “other than it’s an anecdotal sort of qualitative feedback that we get back from the trainees that they enjoy it; we do get positive feedback from them, but quantitatively it’s

really tough to measure.” In summary, there was not a formal plan in place guiding development of the online training course. The designers relied upon personal experience and feelings, augmented by informal feedback through emails, and phone calls, in place of a formal plan.

Matt-Reviser One, the one most involved in the process of revising the online training course but who had no role in the initial development of it, stated, “Today as we make the revisions, we approach it with a formalized course map structure; we have conversations about what specifically the prospective instructors need to know.” Matt-Reviser One continued:

In those early days of designing the course it was probably an informal process based on today's standards. Now we have a complete curriculum development department, we have course maps; we have very formal structured ways that we look at putting a course together where you actually lay it out and design it before you do it.

This participant continued, stating if the opportunity presented itself to develop the same course today, a more formalized curriculum development process would be used.

Based on the responses, it could also be determined that there was not a formalized process of collecting and processing data for the purpose of making decisions about the online training course. Any efforts made to collect data were done on an informal basis, such as asking questions. According to Andy-Supervisor, “We haven’t really formalized on an evaluation process, but it would be a great idea to do that.”

Determining which lessons to include in the online training course was also an informal process. For example, Andy-Supervisor stated “We didn't establish the criteria

upfront.” Andy also mentioned that they used a concept map to select the lessons to be used in the online training course: “It was a matter of looking at the lessons side by side in a concept map, saying this lines up really well with our goal, [but] this one doesn't so much.” Andy-Supervisor continued: “When you saw them side by side it was pretty clear which ones were more important and which ones were not. So, that was probably the technique we used, which was just comparing them next to each other.” The participants suggested that the lessons were chosen by a variety of informal strategies, such as seeing what others in the field were doing and relying upon their own experience.

There was also no framework in place for revising, refining, and producing materials and activities for the online course. Many of the participants noted that there was no formalized process, and, according to Matt-Reviser One, “We would just always ask ourselves what we could do better.” Matt-Reviser One also commented that there was nothing really formal in place; instead they sought feedback from others as needed. This participant continued: “We didn’t have any kind of a survey or data collection.” According to Heidi-Course Facilitator/Trainer, revising, refining, and producing materials and activities were done more out of necessity: “There was a need, and we would say this isn't meeting the need so then we have to change it and adapt it.”

Relied upon own knowledge and experience. In developing the online training course, much of it was based on the participants’ past experiences. According to many of the participants, they determined what knowledge, skills, and values they wanted the trainees to learn as a result of their own experiences. According to Kay-Course Facilitator/Reviser Two, all of the participants asked themselves, “What makes a good online instructor, and what will make the instructors become what we need them to be?”

Andy-Supervisor stated that because of personal experiences, “They envisioned a highly interactive, engaging course where the online instructor trainees and facilitators are talking all the time.” This participants own experience brought about the idea that the course should incorporate cultural, interactive, and technology elements.

Andy-Supervisor stated that the knowledge and skills used in developing the online training course did not come out from any other online training courses, but just from their own experiences and acquired knowledge and skills. This participant reported that the course designers had their own vision of what they wanted for the trainees in the training course, which was for them to be part of an interactive experience. Kay-Course Facilitator/Reviser Two stated that although she was not present during the beginning stages of development, her understanding was that Jan’s and others’ experience were used to determine the needed resources.

Jan-Designer One noted that topics chosen for the OTC were based on their own knowledge and experiences. Jan-Designer One further noted that “it was more just sitting down and figuring out that these are the things we will need them to be able to do and the things they will need to know.” Choosing which lessons to use in the online training course was also based on participant’s experience. Heidi-Course Facilitator/Trainer stated, “The course was built upon our own teaching experience, having built online courses and having taught online.”

Several participants referred to “relying upon their own experiences” as being a big help to them while developing and revising the online training course. Matt-Reviser One said, “These are things from experiences that we’ve learned that you are going to want to know and understand. These are things that are important.”

Jan-Designer One added, “I drew a lot from experience and so I knew, from my own experience what an instructor would need to know and understand.” This same participant continued: “I knew from my own experience and then I did other research, but I knew what the key was to a really good online instructor, the key skills that an instructor would need.”

Unintentionally incorporated formal ID steps. When I asked the participants whether they used an instructional design model to inform them in developing an online training course, several responses were given. An informative answer to this question came from Andy-Supervisor:

It was taking bits and pieces of many models. We didn't formally follow a particular model for that, you know, where we said for example, “here's Gagne's 9 events of instruction” or “here's the pebble in the pond theory.” We didn't pick the model and then build around it; we said, here's some aspects of this that are useful, here's some aspects of ADDIE. We incorporated all the aspects of ADDIE but probably not as systematically as we could have. We incorporated different aspects of active learning theory, but it wasn't really a conscious choice, like, “oh, I'm going to go pull from this theory and this theory and this theory and this model, this model, this model.” It was more ad hoc and not really intentionally.

Matt-Reviser One and Kay-Course Facilitator/Reviser Two stated they did not know if those involved in the early development of the online training course followed an instructional design model or not. These two participants joined the team later to assist with revising the online training course. Matt-Reviser One, the one who was involved the most in making revisions to the course, stated, “We did do some revisions based on just

good instructional design principles, such as ADDIE; kind of the most common process that someone might go through to design a course.”

Observed other programs and asked questions. A category that emerged throughout the interview process was that asking questions and seeking feedback were very important to the participants. The online training course was built around it. Feedback from others was a major contributing factor as the participants asked each other what type of course they wanted to offer. They asked for input from campus instructors who had some expertise in developing online courses and, according to Andy-Supervisor, “surveyed the field to see what they could include.” The participants asked for feedback from those taking the course to see what they thought was important. Jan-Designer One added that “it was important to go out and talk to all of the top teachers and ask questions about their experiences in online teaching.” This participant conducted interviews with experienced online teachers and asked them what was working and what was not.

Participants stated that an important factor in improving the online training course was the feedback and input they received. Participants received input from others on campus, people who had previously gone through the training, and from other experts in the field. Jan-Designer One, who has been with the project from the beginning stages, mentioned that seeking feedback from the supervisor before making any changes was very helpful. Andy-Supervisor noted that his involvement initially was exclusively giving feedback to those designing the course:

It got built and I would give feedback and then point out areas where it didn't match reality or where we needed to change it to better align it with the way that

we did stuff. I wasn't involved in writing anything or creating anything, only giving feedback on what was created.

Receiving feedback from the online instructor trainees taking the course was also mentioned as a way to monitor what was taking place within the course. Jan-Designer One mentioned:

We got feedback from the prospective instructors through a survey, so we had them do an assessment at the end of the course. They had opportunity to give us feedback during the course, but at that end of the course we had a formal assessment. We asked them to give us feedback on the course itself and on the instructor or facilitator.

This same participant further commented that “feedback from the facilitators of the course was probably the most common way that we would find out how the trainees were doing.”

The participants also asked questions and sought feedback to determine whether the goals of the online training course were met. Participants reported that they relied on feedback from the trainees upon completion of the course and after they had been teaching to find out what worked, what did not work, and if they felt prepared. The participants also relied on asking questions and seeking feedback to determine which lessons should be taught in the online training course. According to Andy-Supervisor, “It was a one-person decision-making process, but there were probably three or four points of feedback, but only one decision maker.” Another element that factored into the selection of lessons for the online training course was the feedback received from the

prospective instructors. Kay-Course Facilitator/Reviser Two noted, “The feedback on that is always great; it helps us know that part of the lesson is really helpful.”

The participants also asked questions and sought feedback in revising, refining, and producing materials and activities for the online training course. Andy-Supervisor commented that there was nothing really formal; instead they sought feedback from others as needed. Matt-Reviser One stated, “We are just always asking what we can do better, such as feedback from facilitators telling us the things that were not working.” Asking questions and seeking feedback were also used by the participants to see how effective the course was.

Matt-Reviser One noted that “the most common way they would find out how they were doing was just through the opinions and through the feedback given by the actual course facilitators.” Kay-Course Facilitator/Reviser Two stated that they got feedback from trainees in the course about their experience and their perception of “how effective they felt the course was and if they felt they were well trained or if they felt like they knew what they needed to know.” The participants also asked for feedback from the trainees after they finished the course and had already started teaching online classes.

Another common thread, according to Jan-Designer One, was that the participants asked a lot of questions among themselves, such as “where do we want the trainees to end up?” and “what experience do we want them to have?” The participants relied upon each other’s knowledge and expertise and found most of the answers to their questions either from their own knowledge, or from others on campus with experience in online course development.

Collecting and processing data for the purpose of making decisions about the online training course were accomplished through asking questions. The participants noted that any efforts made to collect data were done on an informal basis, such as asking questions. The participants also asked questions when considering what the prospective instructors in the course would potentially need to help them be successful. Much of the assessing that was done to determine whether the course goals and objectives were met was accomplished through asking questions by either email or surveys. In summary, there was not a structured process in place for developing a list of important concepts, principles, and rules for the training course. The designers did not approach the pedagogical content in the same way an instructional designer might because they were not instructional designers. Instead, they applied their own pedagogy based on their prior knowledge and experience of creating online courses for the English department. They used their own terminology in their own formal way by relying on their own experiences, seeking feedback, and asking questions along the way.

Developed OTC on the go and out of necessity. Many of the participants commented that the development of the online training course was done out of necessity and that when they saw a need, they would meet it however they could. For example, Andy-Supervisor stated that because the program was built out of necessity, “it meant that we had to relearn lessons over and over again as new people came on and as things changed, rather than having something solid in place.” According to Heidi-Course Facilitator/Trainer, “it seemed more pure necessity; there was a need and say this isn't meeting the need then we have to change it and adapt it.” Prior to the online training

course, there were no set guidelines or protocols in place from which to guide the process. Instead, as Andy-Supervisor described:

Much of it was on the fly, like, you know what, it's obvious that we're lacking here, let's just change it. And we didn't really have a good data-driven decision-making process. It was more gut feel, on the fly kind of thinking kinds of things on the fly surveys.

Heidi-Course Facilitator/Trainer gave a similar analogy of building the course as it was being taught, stating, “We're building the airplane as we're flying it.” The idea of designing on the go was a focus throughout the entire project. For example, Andy-Supervisor gave this comparison:

It's kind of like building a house without a blueprint... you kind of have a notion of what the house is going to look like, but not exactly... and so you just start to build... well, we know we need a living room, and we know we need a bathroom, and this is what a bathroom functions like, so you build it and it's kind of messy, but its functional. And, you're always adapting it right... you're living in the house, and you're always building on it, you're always tearing down this wall, rebuilding this one, and that's the way we did it. If you build a house with a blueprint, it's much more efficient, it looks better, it's much neater, and you can do more stuff with it over time because you're coming off of this plan. We didn't have a blueprint, we just started building. Based on what we know now, we could have started with a blueprint.

Andy-Supervisor also stated:

It was kind of like writing a paper; you just created a draft, and then you looked at it and said, (“did that make sense?”), and then, say, ”well no,” and you go and give it some time, and then you re-draft and you re-draft.

This same participant summed up the idea of building on the go, stating, “We could have been better at just the design process; tying into known practices; best practices for design. We could have been better; it all stems back to just being intentional about it instead of just slapping it together.”

Used available resources. Another category that emerged numerous times throughout the course of interviewing the participants was that the online training course was designed using limited resources available from the university at the time. Other than computers, books, general materials, and personal experience, knowledge, and skills, there was the “Learning Model,” which is discussed later in this chapter. In the early stages of the development of the online training course, there were also strict time constraints for completing the course. Jan-Designer One noted, “We were starting with what was available through the University, and we started with that and then worked from there.”

In addition to limited resources and completion deadlines, Jan-Designer One was initially the only one involved in designing the course. She said, “I was starting with what was available through the university, and I started with that and then worked from there.” This participant also added that “we didn't have individual team members at the time. I would set up a task list and then assign myself to it. Honestly, we didn't have a team working on the material the first time through.” Kay-Course Facilitator/Reviser Two

added,” I don't think there was a lot of assigning out because there weren't a lot of people to assign out to; I really think Jan-Designer One did most of it herself.”

Another main point brought up by the participants was that their purpose, goals, and objectives for the online training course were limited by their available resources. Jan-Designer One commented, “You work with what you have so that puts certain limits; sometimes you have to be creative in creating the experiences you want for your instructors, but within those guidelines, we had a playing field.” This participant also added, “We started out very small and had a really tight timeline to create training and to get it up and running; we just didn't have the resources or the people.”

The one resource the university did have in place while the online training course was being developed was the Learning Model. This model served as the foundation for all courses of instruction, both online and traditional classroom instruction. As stated by Matt-Reviser One, “Our resources were determined by looking at the essential skills and components found within the Learning Model system that the prospective instructors would use when they finished the course.”

Based on information retrieved from the university website, the Learning Model is based on three key steps: Prepare, Teach One Another, and Ponder and Prove. This model suggests that the learners should come to each class prepared to learn by studying assigned readings, completing required homework, and participating in online discussions and pre-class study groups. Through instructor-led discussions in class, trainees teach each other what they've learned; honing and refining their own understanding in the process. Later, learners are expected to internalize their learning through review, reflection, and application.

This model's proactive, engaged approach to education is a defining aspect of the university; therefore, using the model as a resource for the online training course was both expected and purposeful. Andy-Supervisor stated that they used the Learning Model as a guide while developing goals and objectives because it emphasized engaging online instructor trainees in the teaching process and the principle of teaching one another.

Another existing resource available through the university that the participants used in the development of the online training course was Blackboard TM. Blackboard was the Learning Management System (LMS) used by the university and was the only delivery method for the online training course. Since the participants had minimal funding, this resource was both convenient and beneficial. With regard to funding, Andy-Supervisor stated, "We didn't have any funding to do anything other than what we already had, so we used our existing resources."

Another benefit of using Blackboard as their LMS was that those taking the online training course would be trained using the same system they would use when they began teaching an online course. Nearly every participant commented that it was important to train the prospective instructors using the same technology that they would be using while teaching once they completed the course. According to Jan-Designer One, "We wanted them to have the experience, both as a student and also as an instructor, using the LMS they would use to facilitate their courses." Kay-Course Facilitator/Reviser Two added, "Because it is the system they are going to teach in and they need to know it, you deliver the course in the format they are going to teach in."

In the beginning stages of the development of the OTC, resources available to the design team were scarce. However, the participants reported that resources have

improved since then. According to Andy-Supervisor, “We didn't have any funding to do anything other than what we already had, so we used our existing resources.” Matt-Reviser One said, “Resources are better now than when the course was first designed; there are more people, and more thought going into it.” According to Heidi-Course Facilitator/Trainer, “It seemed like the initial training course was developed not so much around principles, like we kind of move more toward principles now, but it seemed more kind of task-oriented.”

Increase in collaboration improving student experience. In 2008, when the OTC was first being developed by Jan-Designer One, there was no one other than Andy-Supervisor to collaborate with. Other than Jan, all other members currently remain on the team, and communication between occurs regularly. Matt-Reviser One stated:

Every semester we as a team look at the OTC and decide what changes we should make. It's hard to say what we would do if we could because we can and we do. We are always looking at it and making the changes. We would brainstorm how to address those needs more effectively and things like that.

With increased resources, students better prepared. Since the OTC was developed in 2008, the design team have made improvements to the course. Matt-Reviser One reported:

I have talked with a couple of instructors [of the OTC] that have been around for a while and they commented on how they wished they had received the training we offer now instead of what they had then because back then it was very minimal and just putting fires out. Now, we just have better resources, more people, more thought going into it.

Kay-Course Facilitator/Reviser Two added:

The initial course didn't have much media. There was some little audio podcasts that were used. They weren't video. As we have developed it, I have actually brought in little video segments, audio segments, and training modules that are built in story line. We are bringing in a lot more media as we have transitioned the course. In the beginning there was very little; there was podcasts of Jan-Designer One as the instructor.

With regards to improving the multi-media components of the OTC, Matt-Reviser One added:

We have had some upgrades to some of the software we use. We are using an E-Learning software package that gives us some engagement factors. It's not just reading content. There's some interactive pieces to it that we can [use to] incorporate multi-media elements. We can do quizzing; we can do all kinds of things with some of the improvement in software we've used to design the content.

The design team also now have more opportunities to consult with curriculum developers for input into course changes. For example, Kay-Course Facilitator/Reviser Two stated:

We actually consult with curriculum developers now to make the changes that we make. When the course was first built, there were no curriculum developers here. It was Andy-Supervisor and Jan-Designer One, so they worked with what they had and who was there. We didn't have those resources at this university. There were no curriculum designers.

More clear about mission and direction of OTC. When I asked Matt-Reviser

One what he thought it was that contributed to bringing more clarity into the OTC, he stated:

I think one of the things that has made it possible to be better is that we have better operational policies in place that give us better forecasting, better ability to anticipate the needs of the course load that we have coming on and better ability to screen out and to identify those who would be better qualified. So, because we have all of those things, all of that infrastructure in place, it gives us the ability to have better planning in advance for what our needs are going to be to help train them. I think the course itself has really improved over time because we have had just that much more experience with what instructors really do need and what they don't need.

Kay-Course Facilitator/Reviser Two also asserted:

I know from when I took the course, because I took the first version of it, that there wasn't anything specific about individual need; it was delivered with all the content the same. From taking the course itself, I don't think that the course was specifically tailored to assess individual need. It was meant to train a group of instructors to be able to facilitate courses online.

Matt-Reviser One summarized the difference between the course as it was first developed and how it is now:

It might have been just been the nebulous nature of the program itself. There was just not a lot of idea of where everything was going to head anyway and what the overall mission of online training was, I don't think.

Three Final Themes

Three final themes emerged after completing the constant comparison method of data, as previously described. Table 9 presents an example of combining data bits to create concepts and merging the concepts into categories and then into themes. Refer to Appendix F for a complete table.

Table 9

Categories to Themes

Themes	Categories
Theme 1: <i>While the design team applied several instructional design components in the development of the online training course, an explicit, formal instructional design model was not intentionally observed.</i>	Category: Informal Development Category: Unintentionally incorporated formal ID steps
Theme 2: <i>The Instructional Design team adjusted their procedures based upon their own experience and the constraints of the task.</i>	Category: Relied upon own knowledge and experience Category: Observed other programs and asked questions Category: Developed OTC on the go and out of necessity Category: Used available resources
Theme 3: <i>With increased resources, collaboration, and direction, the OTC students are better prepared to teach online.</i>	Category: Increase in collaboration improving student experience Category: With increased resources, students better prepared Category: More clear about mission and direction of OTC

Theme One: *While the design team applied several instructional design components in the development of the online training course, an explicit, formal instructional design model was not intentionally observed.* This theme emerged from the careful combining of two categories: 1) informal development process and 2) unintentionally incorporated formal ID steps. These two categories are made up of many

similar concepts that were merged, leading to the conclusion that the design team was given the task of creating an online training course for the institution from which my research was completed without formal training in instructional design. The design team had little, if any, knowledge of ID models. Subsequently, an informal process emerged that included the unplanned use of some features common in various ID models.

Theme Two: *The Instructional Design team adjusted their procedures based upon their own experience and the constraints of the task.* This theme emerged from the careful combining of the following categories: 1) developed the OTC on the go and out of necessity; 2) used available resources; 3) observed other programs and asked questions; and 4) relied upon own knowledge and experience. The relative meaning of this theme is that since those who designed the OTC were not instructional designers, they had to draw from what they already knew and upon the university resources that were available to them at that time.

Theme Three: *With increased resources, collaboration, and direction, the OTC students are better prepared to teach online.*

This theme emerged by combining the following categories: 1) increase in collaboration improving student experience; 2) with increased resources, students better prepared; and 3) more clear about mission and direction of OTC. The intended meaning of this theme is to suggest that in the years that followed the initial development of the OTC, more members joined the design team; as the numbers increased, so did the amount of collaboration. Subsequently, as the design team has progressed since the early beginnings of the OTC, they have become more formal in their approach while making

revisions. As a result of this and the increased resources from the university, students are becoming better prepared to teach online courses.

Findings organized by research questions

Research Question One. “What describes the process used by an instructional design team to develop an online training course at a medium sized institution of higher education in the Intermountain West?” Each of the three themes describes the process the design team used to create the online training course. Theme One: *“While the design team applied several instructional design components in the development of the online training course, an explicit, formal instructional design model was not intentionally observed.”* Theme Two: *“The instructional design team adjusted their procedures based upon their own experience and the constraints of the task.”* Theme Three: *“With increased resources, collaboration, and direction, the OTC students are better prepared to teach online.”*

The design team used an iterative process of offering the course. Team members designed the course, received feedback from prospective instructors about their experience in the course, and revised it based on what they thought would be best for the online instructor trainees. As noted by Jan-Designer One, “You put it on paper and you put it in the system and you have other people review it, and you try it out and you get feedback from that first group and refine again.” The things the team thought would be best for the prospective instructors came from their own personal experiences in writing and teaching online courses and from feedback received from those who also had experience in online instruction. As described by Andy-Supervisor, “Its perpetually

formative evaluation, we're always adapting and changing and every semester we're adjusting something." This same participant also noted:

There was no protocol, it was kind of like writing a paper, you just create a draft, and then you look at it and say, "Did that make sense?" and then say "well, no" and you go and give it some time, and then you re-draft and you re-draft. But at the same time, we were kind of under a time gun to get some stuff done; we didn't have a lot of time for some good editing processes, so we just got some stuff up, edited as we go and just made it work.

Description of the categories informing theme one, theme two, and theme three.

Each of the nine categories were synthesized to address each of the three themes.

For example, planning the online training course was reported as being informal.

According to Andy-Supervisor, there really wasn't a planned out process to develop the online training course, rather it came about through informal conversations, email, and other informal interactions between the team and others on campus. This same participant also reported "We didn't do this intentionally; this wasn't premeditated at all, back then it was very informal." All five of the participants stated they would ask questions among themselves to find out where they wanted the prospective instructors to end up and what experience they wanted them to have.

The participants relied upon one another's knowledge and expertise and from others on campus that had some involvement in online course development. Jan-Designer One mentioned they did some research prior to course development, which mostly consisted of reading a book written by Palaf and Pratt entitled "Excellent Online Instructor." All five participants indicated that the implementation of the online training

course was informal, reporting that they had to write the training, offer it to a handful of instructors, revise it, and offer it again until they could figure out where the gaps were.

According to Andy-Supervisor:

We revised it again, offered it to a handful more, revised it again, and then did a peer group, and revised it again. Every single time it was offered we revised it based on things that we were learning, things what worked, and things that didn't work. And that is the process we are still in. We are a little more intentional about it now, but back then it was very informal.

Similarly, Jan-Designer One stated “we put it on paper and put it in the system and had other people review it, and we tried it out and got feedback from that first group and refined again.” The informal plan for implementation of the online training course was an iterative process of creating something, getting feedback on what was working and what wasn't, and then revising it again. According to participant responses, there were no formal procedures in writing, becoming more formalized as the process repeated itself over time through revisions and trial and error.

Many of the participants commented that the development of the online training course was done out of necessity, that when they saw a need they would meet it any way they could. For example, Andy-Supervisor stated that because the program was built out of necessity, “it meant that we had to relearn lessons over and over again as new people came on and as things changed, rather than having something solid in place.” According to Heidi-Course Facilitator/Trainer, “it seemed more pure necessity; there was a need and say this isn't meeting the need then we have to change it and adapt it.” Prior to designing

the online training course there were no set guidelines or protocols in place from which to guide the process. Instead, as Andy-Supervisor described:

Much of it was on the fly, like, you know what, it's obvious that we're lacking here, let's just change it. And we didn't really have a good data driven decision making process, it was more gut feel, on the fly kind of thinking kinds of things; on the fly surveys.

Heidi-Course Facilitator/Trainer gave a similar analogy of building the course as it was being taught, stating “We're building the airplane as we're flying it.”

The idea of designing on the go was a topic throughout the entire project. According to Andy-Supervisor, “We could have been better at just the design process; tying into known practices; best practices for design. We could have been better; it all stems back to just being intentional about it, instead of just slapping it together.”

In developing the online training course, much of what went into it was based off of the participants past experiences. According to many of the participants, they determined what knowledge, skills, and values they wanted their trainees to learn as a result of their own experiences. For example, Heidi-Course Facilitator/Trainer stated all of the participants asked themselves “what makes a good online instructor, and what will make the instructors become what we need them to be?” Andy-Supervisor also noted that because of personal experiences, they envisioned a highly interactive, engaging course where the online instructor trainees and facilitators are talking all the time. This participant’s own experience influenced the idea that the course should incorporate cultural, interactive, and technological elements.

According to Andy-Supervisor, the knowledge and skills used in developing the online training course did not come out of any other online training courses, rather from their own experiences and what they thought was important for the prospective instructors to receive. This participant had their own vision of what they wanted for the trainees in the training course, which was for them to be part of an interactive experience. Heidi-Course Facilitator/Trainer stated that although they were not present during the beginning stages of development, their understanding were that Jan-Designer One used her personal experience to determine which resources were needed.

Research Question Two: “To what extent was the process used by an instructional design team during the creation of an online training course informed by an instructional design model?” The theme that most accurately addresses this question is Theme One: *“While the design team applied several instructional design components in the development of the online training course, an explicit, formal instructional design model was not intentionally observed.”* Although the design team’s approach to designing the OTC appeared to be informal, it does not preclude the unintentional use of instructional design steps or principles.

To determine the extent to which the development of the OTC was informed by an instructional design model, I compared the design team’s experience and knowledge of instructional design models with the steps they actually took (See Table 10). I used the stages of the ADDIE instructional design model as a means of comparison because it is generic, flexible, and allows designers the freedom to develop and implement as needed (Allen, C. W., 2006; Crawford, 2004; Myers et al. 2008). The five basic steps of ADDIE are Analysis, Design, Development, Implementation, and Evaluation.

Table 10

Comparison of OTC Design Steps to the ADDIE Instructional Design Model

Steps the design team took	ADDIE instructional design model
Identified some goals and objectives for the OTC prior to offering the course	Analyze
Used a concept map to select lessons	Design
Created assessment for the course Developed materials, received feedback, and revised content	Development
Interaction between students and instructors, received feedback for future improvement	Implementation
Informative evaluations, summative evaluations through assessments	Evaluation

The analysis phase of the ADDIE model is a time to consider who the target population is and to analyze the knowledge they already have and what they will need to know at the end of a training course (Peterson, 2003). The participants in this study reported that prior to offering the OTC, they did not conduct a formal or structured analysis of the prospective trainees. Instead, Andy-Supervisor reported:

We did tons of work with existing instructors to figure out what needed to be in the training, so that we could use that information for the new people coming in. We sat down and discussed what kinds of online classes we wanted to offer and then we kind of went backwards.

The participants who were not part of the original development of the OTC reported that there was probably something in place to determine the needs of the

prospective trainees, but they just did not know what it was. Those who were present during the initial development of the OTC stated there was not an analysis conducted prior to launching the OTC. The process of determining when the objectives of the course were met was also informal. Matt-Reviser One said there is not a good measure in place to assess the impact the online training course had on those who took the course. Also, when Heidi-Course Facilitator/Trainer was asked if storyboards were used in the development of the online training course, she replied, “We typically don’t use those. We use like a course map format where we outline the objectives and the lesson material and what media will be used and things like that.” Andy-Supervisor also noted, “We didn’t have a pilot period; the pilot and the actual first offering were the same.”

Establishing goals and objectives is also part of the analysis phase of the ADDIE model (Griffith & Hamza, 2006). According to Jan-Designer One, they had some goals in mind prior to the start of the OTC: “I think that we were quite careful in identifying goals to start with.” Jan-Designer One also stated:

We had clear objectives; I hope they were clear. We had objectives set up for every unit. In terms of this is what we were going to do and this is what you should be able to do by the end of this unit. Every task we asked them to do had a set of criteria, things that we would be looking for. So I think mainly setting up objectives for each unit. It was built into the course that every unit had objectives set up. They could download, I don't know if we called it, I don't think it was called a handbook. But they could download a hard copy of the things that we were discussing that included the whole course and included the outcomes and everything.

The design phase of the ADDIE instructional design model is much like a blueprint for designers to follow while producing the instructional support materials using predetermined course objectives (Gagne et al., 2005; Myers et al., 2008).

According to Andy-Supervisor, the lessons they included in the online training course were done informally, not “establishing the criteria upfront.” Andy-Supervisor also stated that they used a concept map to select the lessons to be used in the online training course, saying that “it was a matter of looking at the lessons side by side in a concept map, saying this lines up really well with our goal, this one doesn't so much.” Andy-Supervisor continued: “When you saw them side by side it was pretty clear which ones were more important and which ones were not. So, that was probably the technique we used, which was just comparing them next to each other.” Many of the participants suggested that the lessons were chosen by a variety of informal strategies such as seeing what others in the field were doing and relying upon their own experience.

This phase is also a time to develop assessments to determine what students have learned (Gagne et al., 2005). As reported by Jan-Designer One, “They (trainees) had opportunity to give us feedback during the course, but at that end of the course we had a formal assessment.” When Heidi-Course Facilitator/Trainer was asked if assessments were done on the trainees, she replied:

It was more just like a check, like your checking, you're check marking what you feel comfortable with, what you know how to do. And here's the other things that we want you to know how to do and you're going to get with your instructor to either figure them out or... But I don't think they really assessed... I don't think

they evaluated... I don't know how they evaluated their experience there. There wasn't time, I don't think for thorough assessment.

The development phase of the ADDIE model is a time for developers to collect the content that was developed in the design phase and to draw from what was assembled in the analysis phase. This is also the phase where the project is reviewed and revised, based on the feedback that is given (Fardoun et al. 2009; Sarmiento & Durao, 2009). Other criteria in the development phase include expanding and repurposing existing materials, modifying goals or content, or even building a new course (Gagne et al. 2005).

According to the participants' responses, they met some of the criteria of the development phase of ADDIE. For example, Sarmiento and Durao (2009) described the development phase as being the time when programmers develop and integrate technologies and create and assemble the content that was created in the design phase and a time when the project is reviewed and revised based on the feedback given. Fardoun et al. (2009), provided a more detailed definition of the development phase of ADDIE, stating that "A successful development phase draws upon the information collected in the needs analysis phase and the decisions made in the design phase (p. 1297).

The final phase of the ADDIE model is evaluation. Evaluation is a time to retrieve information about the results so that improvements can be made as needed (Myers et al., 2008; Dick & Carey, 1996; Kemp et al., 1998; Smith & Ragan, 1999). Evaluations are present throughout every phase of the ADDIE model, providing opportunities for feedback (Sarmiento & Durao, 2009; Griffith & Hamza, 2006; Chan & Robbins, 2006; Myers et al., 2008; Wang & Wilcox, 2006; Allen, C. W., 2006; Koneru, 2010). In reference to the OTC, Andy-Supervisor stated, "its perpetually formative evaluation."

Andy further commented that “Jan-Designer One would say, “Hey what do you think about this idea, what do you think about that idea?” So we had tons of that back and forth but it was very much an informative evaluation, very small chunks.”

Driscoll (1999) stated that a formal process of instructional design includes “the deliberate arrangement of learning conditions to promote the attainment of some intended goal” (p. 33). According to the comparisons that were made between the steps participants took in developing the OTC and the stages of the ADDIE instructional design model, the participants in this study did not use a formalized process in developing the online training course and there was no specific instructional design model to which they adhered. Instead, the team developed the online training course based upon their own previous experiences in creating online courses. However, the design team unintentionally followed many of the steps found in the ADDIE instructional design model.

Description of the categories informing theme one. Several categories of responses were combined to justify the theme of using an informal design process rather than a formal design model in the development of an online training course. As an example, the design team did not use storyboards in the development of the course, and they did not perform a pilot test prior to launching the course. Both of these categories are supportive of the major themes, and serve as examples of tasks that were omitted from the design team’s process. The above mentioned examples also provide credibility that the design team did not use a formal design model.

The design team performed neither a formal or informal analysis of learner characteristics. Instead, the team sat down and drew upon each other’s knowledge and

experience, made outlines about what they thought the trainees needed. According to Jan-Designer One, “I put my thoughts on a legal pad as I was writing the course.” Andy-Supervisor also stated, “Our own analysis was comparing what other people are doing, that was it. We just said what's out there, what's going on, pulled all that knowledge together and then we said ok, this makes the most sense.”

As a result of not having a formal process in place during the development stages of the online training course, it had an impact on the ability to measure what the trainees were learning. According to Heidi-Course Facilitator/Trainer, “I don't know if there was anything formal in place to measure what was learned.” There was also no formal process in place to let the prospective instructors who were taking the online training course know what was expected of them.

Evaluating the online training course is another area where an informal approach was taken. Andy-Supervisor noted that the evaluation process was not formalized; instead, evaluations were done “more out of curiosity to make sure we got it right, rather than intentionally creating an evaluation plan.” This participant continued by reporting that a formalized process of getting feedback on the course itself had not been set up, that they relied instead on the feedback that they got informally from the instructors who taught the courses.

The process of determining when the objectives of the course were met was also done informally. Matt-Reviser One said there is not a good measure in place to assess the impact the online training course has on those who take the course. This participant further noted that “other than it's an anecdotal sort of qualitative feedback that we get back from the trainees that they enjoy it; we do get positive feedback from them but

quantitatively it's really tough to measure." In summary, there was not a formal plan in place on how to develop the online training course. Informal feedback through emails, phone calls, and relying upon personal experience and feelings were used in place of a formal plan.

Based on the responses, it could also be determined that there was not a formalized process of collecting and processing data for the purpose of making decisions about the online training course. Any efforts made to collect data were done on an informal basis, such as asking questions. According to Andy-Supervisor, "we haven't really formalized on an evaluation process, but it would be a great idea to do that."

Determining which lessons to include in the online training course was also an informal process. For example, Andy-Supervisor stated "we didn't establish the criteria upfront." Andy-Supervisor also mentioned that they used a concept map to select the lessons to be used in the online training course, stating "it was a matter of looking at the lessons side by side in a concept map saying this lines up really well with our goal, this one doesn't so much." Andy-Supervisor continued, stating, "When you saw them side by side it was pretty clear which ones were more important and which ones were not. So, that was probably the technique we used, which was just comparing them next to each other." Many of the participants suggested that the lessons were chosen by a variety of informal strategies such as seeing what others in the field were doing, and relying upon their own experience.

There was also no framework in place for revising, refining and producing materials and activities for the online course, all of which are part of the design and development phases of ADDIE. Many of the participants noted that there was no

formalized process, stating that they would just always ask themselves what they could do better. Matt-Reviser One commented that there was nothing really formal in place; instead they sought feedback from others as needed. This participant continued, stating “we didn’t have any kind of a survey or data collection.” According to Heidi-Course Facilitator/Trainer, revising, refining, and producing materials and activities was done more out of pure necessity, stating “there was a need and we would say this isn't meeting the need so then we have to change it and adapt it.”

Considerations given to the characteristics of the learners in the online training course were another area that was approached by the designers in an informal way. As stated by Andy-Supervisor, if any considerations were given to the trainees in the online training course it was done in an informal way.

When I asked the participants if they used an instructional design model to inform them in the process of developing an online training course, several responses were given. The most informative answer to this question came from Andy-Supervisor who stated:

It was taking bits and pieces of many models. We didn't formally follow a particular model for that, you know, where we said for example, “here's Gagne's 9 events of instruction” or, “here's the pebble in the pond theory;” we didn't pick the model and then build around it; we said, here's some aspects of this that are useful, here's some aspects of ADDIE. We incorporated all the aspects of ADDIE, but probably not as systematically as we could have; we incorporated different aspects of active learning theory, but it wasn't really a conscious choice, like, ‘oh,

I'm going to go pull from this theory and this theory and this theory and this model, this model, this model. It was more ad hoc and not really intentionally'.

Participants Four and Five stated they did not know if those involved in the early development of the online training course followed an instructional design model or not. These two participants joined the team later to assist with revising the online training course. Jan-Designer One reported that they worked backwards, and that if an instructional design model was followed in the process, it wasn't done consciously.

The participant most involved in making revisions to the course, Matt-Reviser One, stated: "we did do some revisions based on just good instructional design principles, such as ADDIE; kind of the most common process that someone might go through to design a course."

All five participants said that there was no pilot testing done with the online training course prior to launching it. According to Jan-Designer One "I don't recall testing it on anyone else apart from just sharing it with those in our immediate group." Matt-Reviser One stated that "I'm not aware that they ever did even pilot it." This participant further noted that they didn't really have time, or the ability to offer any sort of pilot, so most of it was just tweaks in between live sessions.

Based on the responses, the first offering of the online training course was seen by the participants as the pilot test. This was explained by Andy-Supervisor who stated "the pilot and the actual were the same thing. Because it was small by itself, we didn't have to carve out a pilot." This participant further reported that "because it started small we didn't have that many instructors in it. It's not like we went from draft mode to teaching twenty

or fifty instructors at once.” This same participant also stated, “hey let's figure this out, we have three instructors who need training, let's try it out with them.”

Research Question Three: “How would the instructional design team change their design process if they were to design a similar course today?” The theme that most accurately addresses this question is Theme Two, *“Instructional design team adjusted their procedures based upon their experience and the constraints of the task.”*

The design team determined what knowledge, skills, and values they wanted their trainees to learn as a result of their own experiences. As stated by Jan-Designer One, “I drew a lot from experience, and so I knew from my own experience what an instructor would need to know.” Heidi-Course Facilitator/Trainer also added, “Some of it had to do just with my understanding of instructional design, from my own education and experience.”

Description of the categories informing theme two. The response categories that inform this theme are inter-related, and they justify how the design team adjusted their procedures based on their own experience and task constraints. For example, Jan-Designer One stated:

I’m a teacher, so I think I approached the development of the online training course like I would a college course by looking at what the outcomes were; who our students would be; what their needs might be; and what we needed them to understand and experience.

The team also incorporated the university’s existing learning management system, which was Blackboard at the time. It was not only convenient for the team to use the LMS they were already familiar. It also prevented additional expenses to the university.

There were other constraints that the design team faced in the beginning. For example, Heidi-Course Facilitator/Trainer stated “when the course was first built there were no curriculum developers, they worked with what they had and who was there. We didn’t have those resources at this university.”

Jan-Designer One reported that topics chosen for the online training course were based off of their own experiences, as well as existing resources that were available at the time. Jan-Designer One further noted that “it was more just sitting down and figuring out, these are the things we will need them to be able to do and the things they will need to know.” The process of choosing which lessons to use in the online training course were also done based on participant’s experience. Heidi-Course Facilitator/Trainer stated “the course was built upon our own teaching experience, having built online courses and having taught online.”

Experience has been a powerful teacher to those involved in revising the online training course. Matt-Reviser One, the one most involved in the process of revising the online training course, and having no role in the initial development of it stated, “Today as we make the revisions we approach it with a formalized course map structure; we have conversations about what specifically the prospective instructors need to know.” Matt-Reviser One continued stating:

In those early days of designing the course it was probably an informal process based on today's standards. Now we have a complete curriculum development department, we have course maps; we have very formal structured ways that we look at putting a course together where you actually lay it out and design it before you do it.

This participant continued, stating if the opportunity presented itself to develop the same course today, a more formalized curriculum development process would be used.

Jan-Designer One added, “I drew a lot from experience and so I knew, from my own experience what an instructor would need to know and understand.” This participant also stated, “I knew from my own experience and then I did other research, but I knew what the key was to a really good online instructor, the key skills that an instructor would need.”

Another category that emerged numerous times throughout the course of interviewing the participants was that the online training course was designed using limited resources available from the university at the time. According to Jan-Designer One, “We were starting with what was available through the university and we started with that and then worked from there.” This participant was able to determine the needed resources for the online training course mainly from what was already available through the university.

Jan-Designer One also added, “We didn't have individual team members at the time. I would set up a task list and then assign myself to it. Honestly, we didn't have a team working on the material the first time through.” Heidi-Course Facilitator/Trainer stated “I don't think there was a lot of assigning out, because there weren't a lot of people to assign out to; I really think Jan-Designer One did most of it themselves.”

Another frequently discussed category that comprises this theme was that the purpose, goals, and objectives for the online training course were also limited by their available resources. Jan-Designer One commented “you work with what you have so that

puts certain limits, sometimes you have to be creative, in creating the experiences you want for your instructors but within those guidelines, we had a playing field.” This participant also added “We started out very small and had a really tight timeline to create training and to get it up and running; we just didn't have the resources or the people.”

The one resource the university did have in place while the online training course was being developed was the learning model. This model was developed by University administrators and served as the foundation for all courses of instruction, both online and traditional classroom. As stated by Matt-Reviser One, “our resources were determined by looking at the essential skills and components found within the learning model system that the prospective instructors would use when they finished the course.”

The learning model is based on three key steps: Prepare, Teach One Another, and Ponder and Prove. This model suggests that the learners should come to each class prepared to learn by studying assigned readings, completing required homework, and participating in online discussions and pre-class study groups. Through instructor-led discussions in class, trainees teach each other what they've learned; honing and refining their own understanding in the process. Later, learners will internalize their learning through review, reflection, and application.

This model's proactive, engaged approach to education is a defining aspect of the university; therefore, using the model as a resource for the online training course was expected. Andy-Supervisor stated that they used the learning model as a guide while developing goals and objectives because it emphasized “engaging online instructor trainees in the teaching process, and the principle of teaching one another.”

Another existing resource available through the university that the participants used in the development of the online training course was Blackboard. Blackboard was the Learning Management System (LMS) used by the university, and was the only delivery method for the online training course. Since the participants had minimal funding, this resource was convenient. In regards to funding, Andy-Supervisor stated “we didn't have any funding to do anything other than what we already had, so we used our existing resources.”

Another benefit of using blackboard as their LMS was that those taking the online training course would be trained using the same system they would use when they began teaching an online course. Nearly every participant commented that it was important to train the prospective instructors using the same technology that they would be using while teaching once they completed the course. According to Jan-Designer One, “We wanted them to have the experience, both as a student and also as an instructor, using the LMS they would use to facilitate their courses.” Heidi-Course Facilitator/Trainer added “Because it is the system they are going to teach in and they need to know it, you deliver the course in the format they are going to teach in.”

Although resources available to the design team in the beginning were scarce, they have improved since then. Matt-Reviser One said, “Resources are better now than when the course was first designed; there are more people, and more thought going into it.” Heidi-Course Facilitator/Trainer added, “It seemed like the initial training course was developed not so much around principles, like we kind of move more toward principles now, but it seemed more kind of task oriented.”

Summary

This chapter began by introducing the five participants who took part in this study. I next discussed the coding process, as well as a description of the data bits that emerged and the concepts and categories that were combined to develop the three final themes. Through my analysis, 244 data bits surfaced, of which 31 Concepts were created and eventually merged into nine Categories. The analysis of data described the process used by an instructional design team to develop an online training course and determined to what extent practicing instructional designers followed a formal instructional design process. Chapter Five discusses the conclusions and recommendations resulting from this research.

Chapter 5

CONCLUSIONS AND RECOMMENDATIONS

A directive was given from the president of the university to increase the number of online courses offered in order to serve more students, decrease their educational costs, and improve the overall quality of their learning experience (Clark, 2008). Consequently, an online training course was developed at this university by individuals with previous experience in creating and teaching online courses for the English department but without formal training in instructional design. The purpose of this case study was to describe the process used by an instructional design team to develop an online training course for adjunct faculty at a medium sized institution of higher education in the Intermountain West, in order to determine to what extent practicing instructional designers followed a formal instructional design process.

I have used the term “team” several times to describe the group of participants who took part in the development of the OTC. I refer to this term only in the context that each of the five individual participants who were involved in the development of the OTC assisted with the development of the OTC at different intervals. Some of the participants joined the team after others had already left, and therefore never actually worked together.

I anticipated that the participants in this study would have unique qualifications and varying levels of instructional design expertise. A common thread that emerged among all participants was that each of them had at least some exposure to, and experience in, designing online courses. Designing this Online Training Course (OTC) was not their first experience. In addition, information was collected about their years of experience in the field of instructional design, their gender, and the type of college degree they possessed. However, members of the design team did not hold the expected expertise, even though they had some previous experience designing online courses.

The questions addressed were: 1) What describes the process used by an instructional design team to develop an online training course at a medium size institution of higher education in the Intermountain West?; 2) To what extent was the process used by an instructional design team during the creation of an online training course informed by an instructional design model?; and, 3) How would the instructional design team change their design process if they were to design a similar course today?

Data were collected through observing the OTC, personal interviews with the research participants, and note taking during the interviews. These interviews were then transcribed and coded using many of the procedures recommended by Merriam's 1998 case study method. Three themes emerged that describe the process used to develop the online training course.

In this chapter, I begin by examining each theme while returning to the literature on the use of instructional design models in developing online instruction. I also discuss what this case study offers to the existing body of literature. Next, I discuss the conclusions from this study, followed by the implications for instructional designers.

Returning to the Literature

A review of the literature suggests that the approach the developers took during the development of the OTC generally aligns with what instructional designers actually do. For example, according to Kenny, Zhang, Schwier, and Campbell, (2005), instructional designers do not firmly adhere to instructional design models in a rigid manner; they do not spend the majority of their time working with ID models. Instead they engage in many other tasks that are not reflected in formal models, such as communicating effectively with clients and subject matter experts.

According to Passerini and Barreau (2000), it is not uncommon for instructional designers to modify and adjust instructional materials to meet the needs of students. Morrison, Ross, and Kemp (2010) asserted that designers often do not complete all the steps of an instructional design model either because of external constraints or because it is not necessary to complete a step. Mergel (1998) suggested that a more practical approach to selecting an instructional design model is to just find whatever works and use it.

Three themes emerged from the analysis: 1) While a formal instructional design process was not followed, the OTC designers and revisers applied components of instructional design models as a matter of practicality rather than intentionality; 2) The OTC designers adjusted their procedures based upon their own experience and the constraints of the task; and 3) Since the development of the OTC in 2008, the incentive to make revisions to the course was driven by the University's increased focus on online learning, combined with the feedback provided by students and instructors of the OTC. In the following sections, I compare these findings with the current literature.

Theme One: *While a formal instructional design process was not followed, the OTC designers and revisers applied components of instructional design models as a matter of practicality rather than intentionality.*

The design team in this study was informal in their approach to developing the OTC, and they did not adhere to a specific formal design process; however, they did implement some steps that can be found in formal design models. Though the OTC designers intentionally utilized some steps found in formal instructional design models, no models were intentionally followed. Instead, they completed steps based on their own knowledge and previous experiences. The OTC was designed based upon what the designers already knew. Jan-Designer One developed the OTC, using the knowledge and skills she obtained from her experience as an online course designer for the English department, and she did not have any training in instructional design. The other member of the design team was Andy-Supervisor. However, Andy-Supervisor's role was not to design the OTC, but to oversee Jan-Designer One as she developed the course.



















The designers did not use any specific blueprints to guide the development process, and no explicit instructional design model was intentionally used to inform the process. Instead, the approach the design team used was to just build the course as they went along. While the design team did use parts and pieces of many models, such as developing goals and objectives and creating lesson plans, it was not a conscious choice; instead it was not really intentional.

While it has been established that the designers did not follow steps from any one particular formal design model, they did seek feedback and advice from online teachers at other universities on how they could improve the OTC. This type of formative evaluation

is a function of many formal instructional design models. According to Sarmento and Durao (2009), a formal step of soliciting feedback from potential users is found in the Development phase of the ADDIE model. The participants in this study all mentioned that there was always a feedback option to be able to see what was working and what was not. The Dick and Carey instructional design model also includes feedback as an important step (Cowell et al., 2006).

Once the OTC had been developed and revised many times, the OTC designers and revisers determined that if they had been more intentional regarding the overall design process, they may have reduced the need for extra work. The design team was forced to re-invent the wheel each time new team members joined the team. Table 11 summarizes the formal and informal steps the designers and revisers of the OTC followed in comparison to the Kemp (2010) instructional model. Following the table is a discussion that summarizes the comparisons made.

Table 11
Comparison of the Kemp ID model and the development of the OTC

Kemp ID Model	Description	Original OTC	Revised OTC
Instructional problems	Identify the instructional problems and determine the goals for the program you will be designing (Morrison et al., 2010).		
Learners characteristics	Explore the characteristics and needs of learners, and identify the characteristics that will influence and guide the planning process (Morrison et al., 2010).		
Task analysis	Use this stage to understand what knowledge and procedures you need to include in the instruction to help the learner master the learning objectives (Morrison et al., 2010).		
Instructional objectives	Identify the instructional and learning objectives. Specify exactly what the learner must learn and master. The objectives offer a sort of map for designing the instruction (Morrison et al., 2010).		
Content sequencing	Arrange content in a logical order for effective learning. The order in which the information is presented plays an important role in helping the learner understand and learn the information (Morrison et al., 2010).		
Instructional strategies	This is considered the creative step. This stage involves designing creative and innovative strategies to present the information, and help learners reach the stated learning objectives (Morrison et al., 2010).		
Designing the message	Plan and design the instructional message and decide how it is to be conveyed. The message is the pattern of words and pictures used to communicate with learners, and the process is the act of arranging the words and pictures (Morrison, et al., 2010).		
Instructional delivery	Design and/or select resources and materials to support instructional activities (Morrison et al., 2010).		
Evaluation instruments	Develop evaluation instruments that will be used to assess and evaluate learner's mastery of the learning objectives (both summative and formative) (Morrison, et al., 2010).		

Note. Red dots indicate informal steps taken by the design team corresponding with the Kemp model; green dots specify formal steps taken; and the "X" suggests no steps were taken.

Table 11 indicates that the OTC design team, either during the original stages of development or during revisions, addressed various instructional design tasks as outlined by the Kemp ID Model. The information in column one of the above table are based on the information I received during my interviews with the participants. The information in column two came from my personal observations and interviews. Some tasks were completed formally through deliberate choices and actions, and other tasks were completed informally despite the designers' lack of knowledge of instructional models. The green dots that appear in Table 11 denote steps the design team deliberately included while designing the OTC. The red dots indicate steps the designers completed that were not planned out and completed intentionally; instead they were improvised. The "X" in Table 11 designates those steps from the Kemp ID model that were not completed either formally or informally by the original designers or by those who did revisions to the OTC.

As shown in Table 11, Step 1 of the Kemp instructional design model is "identifying instructional problems and determining goals for the program that is being designed." Identifying instructional problems and goals for the OTC was accomplished informally during the initial development of the OTC. As Jan-Designer One stated, "A handful of us just sat down and talked about what we wanted. I think we were quite careful in identifying our goals to start with." However, during revisions, Kay-Course Facilitator/Reviser Two took a more formal approach to identifying instructional problems and goals, stating, "The plan we have now is a specific, articulated plan of the course map and the desired outcomes, that we have built on as we have revised and tried to make things fit our ideals now."

Another example from Table 11 is Step 2 of the Kemp Model: "Explore learner characteristics that should receive attention during planning." Some aspects of learner characteristics were identified during the original development and later revision of the OTC. However, the characteristics and needs of the learners were not obtained through direct contact with the learners; instead they were gathered from other sources. For example, according to Andy-Supervisor, "We collected information from current instructors of the OTC, and then we used that information for the course when we laid it out to the new students." After the OTC was in place and the learners were enrolled in the course, some information was informally obtained from the learners in the course. According to Jan-Designer One, "We asked them to introduce themselves, provide a picture and background information, and asked them how much experience they've had and where they are coming from professionally." Although some attempts were made to explore the needs and characteristics of the learners, a learner analysis was not completed either formally or informally.

A third example from Table 11 is Kemp's stage of performing a task analysis to understand the knowledge and procedures needed in the instruction to help the learner achieve the objectives of the course. Jan-Designer One performed some informal tasks in order to determine what to include in the OTC. For example, she approached the design of the course much like she would a regular college course; she thought about what she would like the outcomes of the course to be; she imagined who her students would be; she thought about what their needs might be; and, she put some thought into what she wanted them to understand and experience. However, according to Jan-Designer One, "As far as analysis, I did not go out and do any surveys; I started from scratch." The

approach taken by Matt-Reviser One in understanding the knowledge and procedures needed in the OTC to help the learners master the objectives parallels the efforts of Jan-Designer One. According to Matt-Reviser One, “We didn’t collect information from the students prior to making revisions, but we did talk to the instructors of the course.”

Identifying instructional and learning objectives is the fourth step in Kemp’s Model, as shown in Table 11. Jan-Designer One developed objectives for the lessons in the OTC: “We had clear objectives and criteria set up for every unit in terms of what we were going to do, and what the student should be able to do by the end of each unit.” However, according to Andy-Supervisor, “We didn’t establish the criteria upfront.” The approach taken by those who were responsible for making revisions to the OTC were slightly more deliberate in identifying instructional and learning objectives. As stated by Kay-Course Facilitator/Reviser Two, “Today we focus on understanding what the students need to know as we outline the objectives, the lesson material, and what media will be used.”

The fifth step of Kemp’s Model involves content sequencing, which is the arranging of content into a logical order to create effective learning. Neither the original designers nor the revisers accomplished this in a formal manner. For example, during the original development of the OTC, Jan-Designer One used her own experience as an online instructor to inform her decisions regarding content sequencing. According to Matt-Reviser One, “We just always asked ourselves what skills an instructor would need to have, at minimum a bare bones sort of capacity, to start on day one and be able to survive and keep up.”

The next three steps of Kemp's Model is designing creative strategies to help learners reach their learning objectives, designing the message, and designing the instructional delivery. In accomplishing each of these tasks, an informal approach was taken by the original designers. According to Jan-Designer One, "I knew what types of online activities worked well with students so I designed my lessons and how I would offer them around that." Those doing revisions to the OTC were more deliberate and purposeful in their approach to revisions, creating specific plans, collaborating as a team, and using course maps.

Developing summative and formative evaluation instruments to assess the learner's mastery of the learning objectives is the final step in Kemp's Model. Although some attempts were made to evaluate the OTC, neither a summative nor a formative evaluation was formally completed. According to Andy-Supervisor, there was "perpetual formative evaluation throughout the entire course, but there was no formal process in place for evaluating the OTC, other than informal feedback from others." Matt-Reviser One added that "I know they didn't have a formal way to evaluate the OTC in the beginning, and I don't think what we have right now is that good either."

As seen in Table 11, instructional design models such as Kemp's Model, encompass certain practical steps of designing. However, not all designers follow all the steps as outlined by formal instructional design models. The specific steps outlined in Kemp serve as a guideline that designers may follow; however, according to Kemp (2010), it is not always necessary to complete every step. Although following suggested steps from design models may be considered best practice, it does not necessarily mean that all designers follow all the steps included in the models.

Theme Two: *The OTC designers adjusted their procedures based upon their own experience and the constraints of the task.* The participants perceived that there was insufficient time to do a full formative assessment of the OTC before it was used the first time. The work load was above and beyond what Jan-Designer One could manage on her own in the beginning. She was the sole designer of the OTC, and she was limited by the time constraints of getting the task finished. She did not follow a formal design model since she was not familiar with them. The literature supports the actions taken by the developers of the OTC. For example, Honebein, (n. d) noted that “different types of learning environments obligate the designer to conceive of different instructional methods and strategies to bring the pedagogical goals alive” (p. 23). When instructors are flexible and consider the possibility of using different instructional methods and strategies, the educational experience for the students can be more successful (Honebein, n.d).

The developers of the OTC had a high degree of freedom during the development process, with very little top down involvement from university administrators. As a result, the development team built the course, and it grew organically over time. This was done informally in the beginning when Jan-Designer One, and Andy-Supervisor were the only ones considered to be part of the design team. Jan-Designer One completed the work while Andy – Supervisor oversaw her progress. When Jan-Designer One left the team in 2010, tasks were then divided up among the other members, which included Heidi-Course Facilitator/Trainer and Kay-Course Facilitator/Reviser Two. The design team’s previous knowledge and experience were the guiding force behind the development of the online training course.

Theme Three: *With increased resources, collaboration, and direction, the OTC students are better prepared to teach online.* The design team determined that if they had been more intentional in regards to the overall design process, they would have prevented the need for extra work. The design team did not create a protocol for how they would develop and revise the OTC; instead, they made changes as they went along, and as the OTC grew, the design team decided they should establish a more formal process. If the design team were given the chance to design a course today, they would be more structured in their approach; they would be more intentional about it.

In the early days of designing the OTC, the design team considered it to be an informal process. Today they have a complete curriculum development department with a very formal structured way of organizing and revising the course. The design team continues to improve the way they structure the course, using formalized course maps, and determining the needs before making revisions. The participants in this study all agreed that the OTC in its original form is very different from how it looks today and that the students are being trained differently. In fact, the design team received a lot of feedback from the facilitators of the OTC, stating they felt like their new students were better prepared now than they have ever been, giving partial credit to some of the changes that Kay-Course Facilitator/Reviser Two and Matt-Reviser One had made recently to the training.

Perhaps one reason the course is so different today is that in the beginning the design team had limited resources and a limited amount of time to develop the OTC, whereas today a more formal and structured approach to designing is used now that resources and attention to the OTC have increased. Presently, the OTC is made up of a

managing director; a director of online instruction; two online instruction managers; ten assistant online instruction managers; five trainers who are responsible for all the training of online instructors; two online community coordinators; 1000 remote online instructors; and one office assistant.

Collaboration among facilitators, perspective instructors, and those responsible for revisions appears to be a key factor in the overall improvement of the OTC. For example, Kay-Course Facilitator/Reviser Two mentioned that through feedback from the students and instructors, they were able to determine what was working and what was not. She said that they took that information into account and that the course facilitators were helpful because they would ask a lot of questions about particular issues that got them to think about what things needed to be fixed with the course and ways they could improve the content. Many of the revisions were made based on the questions that were being asked. If the designers got a lot of questions on a particular topic, they made revisions so that it worked better.

Matt-Reviser One explained that when he was hired, he was unable to get any satisfactory answers regarding what had been done with the OTC or where it needed to go in the future. Matt-Reviser One was uncertain if that meant that they did not do anything or if they just did not record what they had done. There was not anyone still there who could answer Matt-Reviser One's questions. Therefore, the revisers relied upon observations of the OTC itself and things that they felt could be done better. The revisers would brainstorm to determine how to address their needs more effectively. As mentioned earlier, the revisers had access to better resources. One of the main resources that exists today is the development of fully staffed department of curriculum designers

and developers. At the present time three original members of the design team, including Andy – Supervisor (who is now the managing director of online instruction), Heidi-Course Facilitator/Trainer, and Kay-Course Facilitator/Reviser Two still in the department.

All five of the designers feel that the OTC has improved over time. These designers attribute the improvement of the OTC to their experience with knowing what instructors really need and what they do not need. Another thing that has recently helped the designers is the upgrade to some of the software they use. The designers are currently using an e-learning software package that is more engaging for the students. There are interactive pieces to the new software that incorporates multi-media elements, such as videos. The current OTC models the level of student engagement and instructor interaction that the OTC students may find in their own courses when they begin to teach.

Discussion

The design team used steps from formal design models as part of an informal process. Themes One and Two led to this conclusion. For example, Theme One suggested that the instructional design team used an informal process rather than strict adherence to a formal design model. The design team did not use instructional design models. Instead, the designers relied primarily upon previous experience and the available resources from the university. While it has been established that the designers did not follow steps from any one particular formal design model, seeking feedback, among others, was used.

Also, Jan-Designer One was the only person assigned in the beginning to develop the OTC, and she was unfamiliar with formal steps of instructional design models. As a

result, the overall design process was approached informally. Since Jan-Designer One was the sole developer of the online training course, she completed all the development tasks on her own. Other than Andy-Supervisor, there were no others with whom she could communicate and share ideas with. In the beginning, Jan-Designer One would set up a task list and then make assignments to herself. The informal process that was used to develop the online training course was influenced by not having a team of designers whom to assign tasks and whom to collaborate.

Since Jan-Designer One had previous experience as an online instructor, she was more familiar with sequencing instruction. Theme Two also suggests that the designers' approach reflected their professional academic experience and the constraints of the task. It was helpful that Jan-Designer One had already spent time designing courses. Because of her experience, she knew some of the basics of designing courses and what resources were available to her. Also, because Jan-Designer One had teaching experience, she was familiar with what types of online activities worked well with students. She was familiar with what types of activities they would need to facilitate the OTC in the future.

Although Jan-Designer One did not have formal instructional design training, the process she used to develop the OTC was patterned after how she had previously developed traditional and online college courses for the English department.

Despite the drawbacks that contributed to only an informal design process, the end result was that Jan-Designer One developed an online training course that worked. It may not have been perfect in its early stages, and it may have required extra work and continuous revisions later on, but in the end it achieved the goal of providing a course that trained potential online instructors.

A breakdown in communication was another disadvantage of using an informal approach to designing the online training course. This became apparent after Jan-Designer One left and the others who joined the team later were not aware of what had been done. The only other person who had some overlap with Jan-Designer One was Heidi-Course Facilitator/Trainer, arriving only a few months before Jan-Designer One left.

Jan-Designer One worked diligently to complete her assigned task of developing the online training course within the allotted time constraints. However, Jan-Designer One did not keep a detailed account of the work she had performed while developing the OTC. She did not have time to document each of the steps she was performing. For that reason, this information was unavailable for future design team members. Access to formal documents and artifacts may have been beneficial for others to read in order to become familiar with prior decisions. Since the design of the online training course was a one-person project, the result was an informal design process. Therefore, design artifacts that a team using a formal model would have produced were not produced in this case.

While the project may have been completed in a timely manner, without detailed notes documenting the design process, it did not make it easy for future members of the OTC design team to make revisions to the course. Keeping a record of a formal design process is something an instructional design team would have done. Swiftly launching the OTC also had some drawbacks for the university. For example, the designers felt they did not have enough time to do quality editing before offering it to the trainees. Given a limited amount of time to develop the OTC, the design team did not have adequate time to provide quality editing. Instead, they revised and edited on the go. Realizing the need

to provide training to perspective online adjunct faculty on schedule, the design team did what they could with what time they had.

Matt-Reviser One provided a description of what it was like for him to come into a situation where he was unfamiliar with the history and development of the OTC. Matt-Reviser One asked a lot of questions about what they were doing, what the objectives of the OTC were, and whether there was any documentation he could review prior to doing revisions. Based on the absence of answers, he then decided to move forward in the direction he felt he needed to go. There were no formal artifacts or other records to direct him.

If formal documentation and artifacts are preserved and made available for others to read, team members may not have to re-learn lessons. According to Zhang, Schwier, and Campbell (2005), instructional designers should be able to communicate effectively with clients, subject matter experts, and other team members both verbally and in writing.

A final drawback for Jan-Designer One was that although she was given some freedom in designing the online training course, there were still restrictions on what resources she had. Also, she had no formal instructional design training to inform her decisions. She also relied on the feedback she received from her supervisor, and her own past experiences of designing online courses for the English department.

Andy-Supervisor stated they would have saved a lot of time if they had followed a specific instructional design model. As a result, those responsible for revising the OTC have made some advancements in this direction, although they have not yet formalized all aspects of their design and revisions. While many tasks the designers performed were not done intentionally and resources were limited, there were also some advantages.

While some discussion has been offered emphasizing the disadvantages of how the OTC was developed, there were also advantages. For example, using an informal design process to develop the online training course allowed Jan-Designer One to provide the university with trained adjunct instructors within the time period she was allotted. By spending less time in development, the online training course was offered much sooner. Fall semester of 2008 was the projected starting date for the OTC. This meant that the course work for the OTC needed to be developed and online instructors needed to be trained within a five-month period (May – September 2008).

The university was in need of online instructors. Therefore, having access to trained online instructors who were prepared and available to teach online classes immediately was a benefit. Kay-Course Facilitator/Reviser Two, described how there was an urgency to get individuals trained and ready to teach online classes. During the first year that the OTC was being offered, the university was hiring ten to twenty instructors per semester. Within a few years, the university was hiring 200 online adjunct instructors. It was clear to the design team early on that the OTC was going to become a large program. In fact, in the beginning there were several sections of the same course being offered simultaneously per semester. The number of courses being offered depended on how many instructors' were available at the university.

Using an informal approach to designing the online training course was a benefit to Jan-Designer One because she was given *carte blanche* by the university (within the university's limits) to design however she wanted. This can also be seen as an advantage to the university. Because Jan-Designer One worked within the existing resources,

expenditures were low, and the OTC was able to be delivered within the desired time frame.

Jan-Designer One had to be resourceful in creating the experiences she wanted for the instructors while staying within the university's Learning Model she relied on her own discretion while designing the OTC, sought input from other online instructors around the university, and read current books and articles to find out what others were doing. She surveyed the field and asked others what they would include in an OTC, and from there she invented her own standards based on what she had done while creating online courses for the English department.

Implications and Recommendations for Instructional Designers

A recommendation for designers to consider is to approach the task of designing a project with a preplanned idea about which design steps will be used and a comprehensive understanding of instructional design steps and techniques. Designers who are not trained and knowledgeable about instructional design methods may not perform some of the significant steps from formal design models correctly or may inadvertently omit steps during the design process. In the case study presented here, some steps were omitted, (e.g., exploring the characteristics of the learners), which – had they been included – might have saved time in the long run. According to Wilson, et al. (1993), instructional design models typically serve as mental outlines for designers. The design team in this study used intuitive steps drawn from one individual's experience in designing courses, not formal instructional design training or awareness of instructional design models. According to Nelson, et al (1988), "As designers become more experienced in applying knowledge and skills in a systematic way, the specific details of

the design process become less important" (p. 34). While the previous quotation is nearly 30 years old, Liu et al., (2002) confirmed that expert instructional designers do not follow typically follow instructional design models in a rigid fashion.

In theory, professional instructional designers with formal training are familiar with formal design models and are consciously aware of each formal design step they are using. Because of their expertise and thorough understanding of formal design steps, they are able to determine which steps can be omitted and which ones cannot be skipped. When a formal design step is omitted, professional instructional designers can use their expertise and experience to justify their decisions (Liu et al., 2002). While instructional designers do use the techniques outlined by traditional models, they do not spend the majority of their time working with them, nor do they follow them in a rigid fashion (e.g., Liu et al., 2002; Tessmer & Wedman, 1990; Wedman & Tessmer, 1993; Winer & Vásquez-Abad, 1995).

An implication for those who design a product but lack instructional design expertise is the possibility of omitting crucial steps during the design process, thus potentially affecting the end product. A recommendation for instructional designers is to become familiar with the formal steps of instructional design models in order to make a more informed decision as to which steps should be used.

Another recommendation for designers who may be asked to revise a course they did not help create is to not assume that everything that should have been done and that everything that was done was needed. It may be beneficial for those assigned to do revisions of a course to seek out what was already done and to determine what tasks should have been included that were not. Jan-Designer One did many things well while

designing the online training course. However, because she was not trained in instructional design, and because of time constraints, she did not record what she did, leaving the revisers with nothing to go on. Documentation is critical to the success of a project.

Another recommendation for instructional designers is to discuss with administrators what a reasonable timeframe might be for a new project. Taking into consideration that designing within ideal time frames will not always be possible, designers must have time to allow for unexpected design problems. The designers of the OTC were required to develop the course under challenging time constraints. The designers handled each crisis as it appeared. Because of this, the designers were unable to take the necessary time to perform thorough documentation, assessments and editing protocols. Because things were changing at such a rapid pace, the OTC designers were just trying to figure things out the best they knew how. They were operating in crisis mode which leads to errors.

When designers have sufficient time, they have time to edit the product prior to launching it. The designers would also have time to perform a pilot study, increasing the chances of detecting design flaws of the product prior to launching it. When flaws are detected, they can be corrected, thus reducing the need for time consuming and costly revisions in the future. However, because of time constraints, the designers did not have the time to offer a pilot testing of the OTC.

Another recommendation for designers is to keep accurate notes and records of the steps and decisions that were performed during the design process. The documentation should then be shared regularly with each member of the design team

even after original developers have left the project. When information fails to be communicated to all members of the design team, they may become isolated from one another.

When designers do share information with one another, the chances of tasks being repeated, or failing to be completed, may be reduced. If possible, efforts should be made to establish continuous and effective communication protocols so that each team member is informed about every aspect of the design process. Because the design team started out small and since there was a tight timeline, it was easier for Jan-Designer One to design the OTC. There were neither the resources nor the manpower at the time to delegate responsibilities.

A final recommendation for instructional designers is to consider being more purposeful and decisive in the approach to the instructional design steps. When designers establish a protocol in advance about which steps they will use when designing a project, they may bring more formality to the process. However, designers should also keep in mind that although design models may inform instructional design practice, few, if any, designers actually use them to confine their practice. According to Kenny, et al (2005), models of instructional design are conceptual frameworks for practice. Therefore, while being more decisive about the approach to designing a product can be helpful, not all designers use them to inform their practice.

Recommendations for Future Research

A suggestion for future research that may add to the richness of the literature is to identify and compare with other design teams that may have experienced design issues similar to those described in this study. By comparing the different approaches designers

take while designing a product, researchers may gain insights into what instructional designers actually do. It may also provide insight about how designers resolve design issues.

A second suggestion may be to consider developing the interview instrument first, conducting the participant interviews second, and then observing the OTC last.

Observing a course that is the target of the study prior to creating an interview instrument could potentially interfere with a researcher's ability to maintain objectivity and may influence the types of questions that are included on the interview instrument. Another potential downside of observing the OTC first is that the notes and observations I made of the OTC were from the students' perspective and less from the designers' perspective. As a result, the data I gathered from my observations were not as helpful as I had hoped because they did not contribute to answering my research questions. However, a benefit of observing the online training course before writing the interview instrument is that a researcher may be able to gain insight into the final product by seeing how the online training course was being used and may then be able to work backwards to determine the process that led to the end product.

A third recommendation to consider would be to analyze the data sequentially, in the order they are collected. Merriam (1998) stated that "without ongoing analysis, the data can be unfocused, repetitious, and overwhelming in the sheer volume of material that needs to be processed" (p. 162). The data I collected in this study were analyzed simultaneously (all at once). However, I did not analyze the data during the collection process; instead, I analyzed it sequentially (in the order I collected it) after I had obtained the data from all three sources. This sequence created some confusion and inefficiency

for me during the analysis stage because of the amount of data I needed to process. If I had followed Merriam's (1998) recommendation to analyze my data while I was collecting them, the analysis would not have been so overwhelming.

A fourth recommendation that may contribute to a researcher's success in the analysis of data is to be descriptive and detailed while taking notes during interviews and personal observations. Merriam (1998) asserted that "the more complete the recording, the easier it is to analyze the data" (p. 104). Observing the OTC and recording my observations in descriptive detail proved to be challenging. One reason it was difficult was because some of my observations were about the students in an online format; I had never met them and had no personal interaction with them. Although I had access to all the written comments and feedback from the students and the instructor, I experienced some difficulty focusing and concentrating on the written words because I did not have face-to-face interactions.

However, not all of my observations were as challenging. For example, I gathered data through my observations of the OTC as they were being delivered to the students. Each time I observed the OTC, I recorded my impressions in a journal; there were many times through my observations of the OTC where the data I collected were relevant to the design process. I made efforts to keep my journal entries consistent, but some days my observations of the OTC concluded with some entries containing richer descriptions than others. This was expected, however, since I was observing different aspects of the OTC from day to day. The data bits I obtained from my observations were included in my final analysis of the data.

By observing the OTC, I was able to gain a greater appreciation for the process the designers went through to develop the course. My awareness of what was missing in the course, and what was not, was also expanded. As I began my observations of the OTC, I was unaware of how my observations would benefit me. However, I soon realized that the knowledge and experience I was receiving from observing the final product would contribute to my overall understanding as I progressed further in my study.

Recommendations for future studies

The recommendations for future studies directly follow the research which has been done for this study. Future research could be done which explores the effectiveness of the OTC in delivering the knowledge, skills, and values for which this course had intended. This would require an instrument that measures both knowledge and skills.

Another recommendation for future study could be to determine if there are any differences in performance evaluations of those who took the OTC course, in comparison to those who did not. In order to accomplish this, the researcher would need to develop an assessment tool which compared evaluation criteria between both groups.

A third recommendation for future studies could be done to determine how taking the OTC has impacted current practice as online instructors. A case study method similar to the one done in this study would be effective in determining the participant's views and would provide greater insight and understanding.

Summary

This study described the informal process that one design team used in developing an online training course. The design team implemented some steps of many instructional design models while omitting others. For example, the design team did not perform a

needs analysis; the design phase was done informally and lacked organization and detail; the development phase was rushed; the online training course was not piloted; steps done by design team members were not communicated well with others; and, evaluations were done irregularly and informally.

However, there were several steps used by the design team during their development of the OTC that are found in formal instructional models. For example, the team relied heavily on feedback, made several revisions, and created some informal goals and objectives for the OTC. The team also developed informal lessons, assessed the program, focused on being interactive and engaging with students, and did formative evaluations.

This study documented the informal process one design team went through to develop an online training course at a university in southeastern Idaho. The actions completed by the designers during the development of the OTC were performed out of necessity and perceived need, with limited available resources, and within time constraints imposed by the university. However, it appears from the literature that this case is representative of real-world constraints and outcomes.

This case study has significance for several reasons. First, there is an increasing number of online courses being developed in higher education, and this study specifically addresses the extent in which instructional design professionals use instructional design models and techniques in the development of online courses. Second, the research in this study benefits the institution from which this research was conducted because as this university continues to serve more students, more revenue is brought in which can be used to improve resources on campus for both faculty and student.

Third, the OTC was designed to offer training to individuals who wish to be online adjunct instructors. While this becomes important for this institution, it also benefits other institutions considering a similar initiative, knowing if the design team's development of the online training course aligns with an instructional design model. Knowledge of whether practicing instructional designers use the models they were taught in their instructional design program will provide feedback to colleges and universities on the usefulness of their programs.

Finally, the other potentially significant aspect of this study is the interview protocol which I developed for the design team interviews. This instrument can be used by researchers to evaluate the process of online course development in other cases. This interview protocol's availability may encourage more research into the online course development process.

References

- Airasian, P. W., & Gullickson, A. (1997). Teacher self-evaluation. In J. Stronge (Ed.), *Evaluating teaching: A guide to current thinking and best practice*, (pp. 215-249). Thousand Oaks, CA: Corwin.
- Allen, C. W. (2006). Overview and evolution of the ADDIE training system. *Advances in Developing Human Resources*, 8(4), 430-441. doi: 10.1177/1523422306292942.
- Allen, I.E., & Seaman, J. (2007). Online nation: Five years of growth in online learning. Needham, MA: Sloan Consortium.
- Allen, I.E., & Seaman, J. (2010). Learning on demand: Online education in the United States. Needham, MA: Sloan Consortium.
- Alvarez, K., Salas, E., & Garofano, C. M. (2004). An integrated model of training evaluation and effectiveness. *Human Resource Development Review*, 3(4), 385-416. doi:10.1177/1534484304270820.
- Anderson, T., & Elloumi, F. (2004). *Theory and practice of online learning*. Athabasca, AB: Athabasca University. Retrieved from http://cde.athabascau.ca/online_book/.
- Andrews, D. H., & Goodson, L. A. (1980). A comparative analysis of models of instructional design. *Journal of Instructional Development*, 3(4), 2-16. Retrieved from <http://www.jstor.org/stable/30220623>.
- Baek, E., Cagiltay, K., Boling, E., & Frick, T. (2007). User-centered design and development. In J. M. Spector, M. D. Merrill, J. VanMerrienboer, & M. P. Driscoll (Eds.), (3rd ed.). *Handbook of Research on Educational Communications and Technology* (pp. 659-670.). New York, NY: Routledge.
- Bauer, J. F., & Anderson, R. S. (2000). Evaluating students' written performance in the online classroom. *New Directions for Teaching and Learning*, 2000,(84), 65-71.
- Benbunan-Fich, R., & Hiltz, S. R. (1999). Impacts of asynchronous learning networks on individual and group problem solving: A field experiment. *Group Decision and Negotiation*, 8(5), 409-426.

- Benigno, V., & Trentin, G. (2000). The evaluation of online courses. *Journal of Computer Assisted Learning*, 16(3), 259-270.
- Bennett, S., Priest, A. M., & Macpherson, C. (1999). Learning about online learning: An approach to staff development for university teachers. *Australian Journal of Educational Technology*, 15(3), 207-221.
- Boettcher, J. V. (1997, October). Communicating in the tower of WWWeb-ble. *Syllabus*, 11(3), 44-61.
- Bogdan, R. C., & Biklen, S. K. (1982). *Qualitative research for education: An introduction to theory and methods*. Boston: Allyn and Bacon, Inc.
- Bourdeau, J., & Bates, A. (1996). Instructional design for distance learning. *Journal of Science Education and Technology*, 5(4), 267-283. doi:10.1007/BF01677124
- Breen, R., & Lindsay, R. (2002). Different disciplines require different motivation for student success. *Research in Higher Education*, 43(6), 693-725.
- Brown, J. (2005, October 1). Characteristics of sound qualitative research. *SHIKEN-JALT Testing & Evaluation SIG Newsletter*, 9(2), 31-33.
- Centra, J. A. (1975). Colleagues as raters of classroom instruction. *The Journal of Higher Education*, 46(3), 327-337.
- Chan, C. H., & Robbins, L. I. (2006). E-learning systems: Promises and pitfalls. *Academic Psychiatry*, 30(6), 491-497. Retrieved from <http://ap.psychiatryonline.org>
- Chen, C. J., & Toh, S. C. (2005). A feasible constructivist instructional development model for virtual reality (VR)-based learning environments: Its efficacy in the novice car driver instruction of Malaysia. *Educational Technology Research and Development*, 53(1), 111-123.
- Chou, C. (2002, January). *A comparative content analysis of student interaction in synchronous and asynchronous learning networks*. Paper presented at the 35th Annual Hawaii International Conference on System Sciences, Big Island, HI.
- Clark, K. B., (2008). BYU-Idaho's mission statement and related quotes. Retrieved from <http://www.byui.edu/about/our-mission>
- Cohen, P. A., & McKeachie, W. J. (1980). The role of colleagues in the evaluation of college. *Improving College and University Teaching*, 28(4), 147-154.
- Cooze, M., & Barbour, M. (2007). Learning styles: A focus upon e-learning practices and their implications for successful instructional design. *Journal of Applied*

Educational Technology, 4(1), 7-20.

Costin, F., Greenough, W. T., & Menges, R. J. (1971). *Review of Educational Research*, 41(5), 511-535.

Cowell, C., Hopkins, P. C., McWhorter, R., & Jorden, D. L. (2006). Alternative training models. *Advances in Developing Human Resources*, 8(4), 460-475.
doi:10.1177/1523422306292945

Crais, E. R. (2011). Testing and beyond: Strategies and tools for evaluating and assessing infants and toddlers. *Language, Speech, and Hearing Services in Schools*, 42, 341–364. doi:10.1044/0161-1461(2010/09-0061)

Crawford, C. (2004). Non-linear instructional design model: Eternal, synergistic design and development. *British Journal of Educational Technology*, 35(4), 413–420.

Creswell, J. W. (1998). *Research design: Qualitative, quantitative, and mixed methods approaches* (2nd ed.). Thousand Oaks, CA: Sage.

Creswell, J. W. (2003). *Research design: Qualitative, quantitative, and mixed methods approaches* (2nd ed.). Thousand Oaks, CA: Sage.

Creswell, J. W. (2007). *Qualitative inquiry and research design: Choosing among five approaches* (2nd ed.). Thousand Oaks, CA: Sage.

Creswell, J. W., & Miller, D. L. (2000). Determining validity in qualitative inquiry. *Theory into Practice: Getting Good Qualitative Data to Improve Educational Practice*, 39(3), 124-130.

Curran VR, Fleet LA. A review of evaluation outcomes of web-based continuing medical education. *Med Educ* 2005;39:561-567.

Danielson, C. (2001). New trends in teacher evaluation. *Evaluating Educators*, 58(5), 12-15.

Darling-Hammond, L. (2007). *Evaluating No Child Left Behind*. Retrieved from <http://www.thenation.com/doc/20070521/darling-hammond/>

Darling-Hammond, L., Wise, A. E., & Pease, S. R. (1983). Teacher evaluation in the organizational context: A review of the literature. *Review of Educational Research*, 53(3), 285-328. Doi:10.3102/00346543053003285

Dennen, V. P. (2005). From message posting to learning dialogues: Factors affecting learner participation in asynchronous discussion. *Distance Education*, 26(1), 127-148. doi:10.1080/01587910500081376

- De Wever, B., Schellens, T., Valcke, M., & Van Keer, H. (2006). Content analysis schemes to analyze transcripts of online asynchronous discussion groups: A review. *Computers and Education*, 46(1), 6-28.
- Dick, W. (1996). The Dick and Carey model: Will it survive the decade? *Educational Technology Research and Development*, 44(3), 55-63. Retrieved from <http://www.jstor.org/stable/30221035>
- Dick, W., & Carey, L. M. (1977). Needs assessment and instructional design. *Educational Technology*, 17(11), 53-59.
- Dick, W., & Carey, L. M. (1996). *The systematic design of instruction* (4th ed.). New York, NY: HarperCollins.
- Dodge, L., & Kendall, M. E. (2004). Learning communities. *College Teaching*, 52(4), 150-155.
- Dorsey, L.T., Goodrum, D. A., & Schwen, T. M. (1997). Rapid collaborative prototyping as an instructional development paradigm. In C.R. Dills & A.J. Romiszowski (Eds.), *Instructional development paradigms* (pp. 445-465). Englewood Cliffs, NJ: Educational Testing Publications.
- Driscoll, M. (1999). Web-based training in the workplace. *Adult Learning*, 10(4), 21-25.
- Dye, J. F., Schatz, I. M., Rosenberg, B. A., & Coleman, S. T. (2000, January). Constant comparison method: A kaleido-scope of data. *The Qualitative Report*, 4(1/2). Retrieved from <http://www.nova.edu/ssss/QR/QR4-1/dye.html>
- Edmonds, G. S., Branch, R. C., & Mukherjee, P. (1994). A conceptual framework for comparing instructional design models. *Educational Technology Research and Development*, 42(4), 55-72. Retrieved from <http://www.jstor.org/stable/30220096>
- Eisenhardt, K. M. (1989). Building theories from case study research. *Academy of Management Review*, 14: 532-550.
- Erez, A., Lepine, J. A., & Elms, H. (2002). Effects of rotated leadership and peer evaluation on the functioning and effectiveness of self-managed teams: A quasi-experiment. *Personnel Psychology*, 55(4), 929-948. doi:10.1111/j.1744-6570.2002.tb00135.x
- Fardoun, H., Montero F., & Jaquero, V. L. (2009). Towards a model-based approach for the development of e-learning systems considering quality. *Advances in Engineering Software*, 40(12), 1297–1305. doi:10.1016/j.advengsoft.2009.01.019

- Feinstein, A. H. (2004). A model for evaluating online instruction. *Developments in Business Simulation and Experiential Learning*, 31, 32-39.
- Feldman, K. A. (1997). Identifying exemplary teachers and teaching: Evidence from student ratings. In R. P. Perry & J. C. Smart (Eds.), *Effective Teaching in Higher Education: Research and Practice* (pp. 368-395). New York, NY: Agathon Press.
- Fengfeng, K., & Hoadley, C. (2009). Evaluating online learning communities. *Education Tech Research Development*, 57(4), 487-510. doi:10.1007/s11423-009-9120-2
- Filipczak, B. (1995). Putting the learning into distance learning. *Training*, 32(10), 111-118.
- Finkelstein, E. A., Wittenborn, J. S., & Farris, R. P. (2004). Evaluation of public health demonstration programs: The effectiveness and cost-effectiveness of Wise woman. *Journal of Women's Health*, 13(5), 625-633.
- Flanagan, J. C., Gosnell, D., & Fivars, G. (1963). Evaluating student performance. *The American Journal of Nursing*, 63(11), 96-99.
- Foshay, R. & Bergeron, C. (2000). Web-based education: A reality check. *Tech Trends*, 44(5), 16-19.
- Fraser, A. B., (1999, August 8). Colleges should tap the pedagogical potential of the World Wide Web. *The Chronicle of Higher Education*, 48(8), B8. Retrieved from <http://fraser.cc/Talks/Chronicle.html>
- Gagne, R. M., Briggs, L. J., & Wagner, W. W. (1992). *Principles of instructional design* (4th ed.). New York, NY: Harcourt Brace Jovanovich College.
- Gagne, R. M., Wager, W. W., Gola, K. C., & Keller, J. M. (2005). *Principles of instructional design*. Belmont, CA: Wadsworth/Thompson Learning.
- Gall, M. D., Gall, J. P., & Borg, W. R. (2003). *Educational research: An introduction* (7th ed.). Boston, MA: Pearson Education.
- Galbraith, M., Sisco, B., & Guglielmino, L. (1997). *Administering successful programs for adults: Promoting excellence in adult, community, and continuing education*. Malabar, FL: Krieger.
- Gerlach, V. S., & Ely, D. P. (1980). *Teaching and media: A systematic approach*. Englewood Cliffs, NJ: Prentice-Hall.
- Goe, L., Bell, C., & Little, O. (2008). *Approaches to evaluating teacher effectiveness*:

A research synthesis. Washington, DC: National Comprehensive Center for Teacher Quality.

- Griffith, K. G., & Hamza, M. K. (2006). You can lead a horse to water, but can you make him think? Human cognition's impact on how well our administrators can juggle the management of human performance in today's schools. *National Forum of Educational Administration and Supervision Journal*, 23(4), 1-14.
- Gustafson, K. L. (1991). *Survey of instructional development models* (2nd ed.). Syracuse, NY: Information Resource Publications.
- Gustafson, K. L., & Branch, R. M. (1997). Revisioning models of instructional development. *Educational Technology Research and Development*, 45(3), 73-89.
- Gustafson, K. L., & Branch, R. M. (2002a). What is instructional design? In R. A. Reiser & J. V. Dempsey (Eds.), *Trends and Issues in Instructional Design and Technology*. Columbus, OH: Merrill/Prentice Hall.
- Gustafson, K. L., & Branch, R. M. (2002b). *Survey of instructional development models*. Syracuse, NY: ERIC Clearinghouse on Information Technology.
- Hampel, R. (2006). Rethinking task design for the digital age: A framework for language teaching and learning in a synchronous online environment. *ReCALL*, 18(1), 105–121.
- Hiltz, S. R. (1997). Impacts of college-level courses via asynchronous learning networks: Some preliminary results. *Journal of Asynchronous Learning Networks*, 1(2), 1-19.
- Ho, C. H., & Swan, K. (2007). Evaluating online conversation in an asynchronous learning environment: An application of Grice's Cooperative Principle. *Internet and Higher Education*, 10(1), 3-14.
- Holmberg, B. (1986). *Growth and structure of distance education*. London, England: Croom Helm.
- Honebein, P. C. (n.d.). *Seven goals for the design of constructivist learning environments*. Retrieved from <http://studentcenteredlearning.pbworks.com/f/DesignConstructivistHonebein.pdf>
- Hosiea, P., Schibecib, R., & Backhaus, A. (2005). A framework and checklists for evaluating online learning in higher education. *Assessment and Evaluation in Higher Education*, 5(30), 539–553.

- Iwanicki, E.F. (2001) Focusing teacher evaluations on student learning, *Educational Leadership*, 58(5), pp. 57-59.
- Jacob, S.A., & Ferguson, S.P. (2012). Writing interview protocols and conducting interviews: Tips for students new to the field of qualitative research. *The Qualitative Report*, 17(6), 1-10.
- Jarvela, S., & Hakkinen, P. (2002). Web-based cases in teaching and learning: The quality of discussions and a stage of perspective taking in asynchronous communication. *Interactive Learning Environments*, 10(1), 1-22.
- Jeroen, J. G. V., & Martens. R. (2002). Computer-based tools for instructional design: An introduction to the special issue. *Educational Technology Research and Development*, 50(4), 5-9.
- Johnson, R. (1997). Examining the validity structure of qualitative research. *Education*, 118(2), 282-292.
- Johnson, S. D., Aragon, S. R., Shaik, N., & Palma-Rivas, N. (2000). Comparative analysis of learner satisfaction and learning outcomes in online and face-to-face learning environments. *Journal of Interactive Learning Research*, 11(1), 29-49.
- Johnson, V. E. (1997). An alternative to traditional GPA for evaluating student performance. *Statistical Science*, 12(4), 251-269.
- Jonassen, D., Davidson, M., Collins, M., Campbell, J., & Banaan-Haag, B. (1995). Constructivism and computer mediated communication in distance education. *American Journal of Distance Education*, 9(2), 7-26.
- Jones, T. S., & Richey, R. C. (2000). Rapid prototyping methodology in action: A developmental study. *Educational Technology Research and Development*, 48(2), 63-80.
- Kariya, S. (2003). Online education expands and evolves. *IEEE Spectrum*, 40(5), 49-51.
- Kemp, J. (1987). Providing for quality in teaching. *College Teaching*, 35(4), 152-155.
- Kemp, J. E., Morrison, G. R., & Ross, S. M. (1998). *Designing effective instruction* (2nd ed.). Upper Saddle River, NJ: Prentice-Hall.
- Kenny, R. F., Zhang, Z., Schwier, R. A., & Campbell, K. (2005). A review of what instructional designers do: Questions answered and questions not asked. *Canadian Journal of Learning and Technology*, 31(1). Retrieved from <http://cjlt.csj.ualberta.ca/index.php/cjlt/article/view/147/140>

- Khine, M.S., Yeap, L.L., & Tan, C.L. (2003). The quality of message ideas, thinking and interaction in an asynchronous CMC environment. *Educational Media International*, 40(1-2), 115-125.
- Kim, K. J., & Bonk, C. J. (2006). The future of online teaching and learning in higher education: The survey says. *Educause Quarterly*, 29(4), 22-30.
- Kirkpatrick, D. L. (1978). Evaluating in-house training programs. *Training and Development Journal*, 32(9), 6-9.
- Kirkpatrick, D. L., & Kirkpatrick, J. D. (2009). *Evaluating training programs: The four levels* (3rd ed.). San Francisco, CA: Berrett-Koehler Publishers. Retrieved from http://www.bkconnection.com/static/Evaluating_Training_Programs_EXCERPT.pdf.
- Klenowski, V. (1995). Student self-evaluation processes in student-centered teaching and learning contexts of Australia and England. *Assessment in Education: Principles, Policy & Practice*, 2(2), 145-163. doi:10.1080/0969594950020203
- Koneru, I. (2010). ADDIE: Designing web-enabled information literacy instructional modules. *DESIDOC Journal of Library & Information Technology*, 30(3), 23-34.
- Kranch, D. A. (2008). Getting it right gradually: An iterative method for online instruction development. *The Quarterly Review of Distance Education*, 9(1), 29-34.
- Lan, W. Y., & Morgan, J. (2003). Videotaping as a means of self-monitoring to improve theater students' performance. *The Journal of Experimental Education*, 71(4), 371-381.
- Larreamendy-Joerns, J., & Leinhardt, G. (2006). Going the distance with online education. *Review of Educational Research*, 76(4), 567-605.
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Newbury Park, CA: Sage Publications.
- Loomis, K. D. (2000). Learning styles and asynchronous learning: Comparing the LASSI model to class performance. *Journal of Asynchronous Learning Networks*, 4(1), 23-32.
- Lowe, V. (2000). Reasons for universities turning to online learning. *Computimes Malaysia*, 1.
- Major, H. T., & Levenburg, N. M. (1997, August). *Designing multiple-technology distance education programs that work*. Proceedings from the Thirteenth Annual

Conference on Distance Teaching and Learning. Madison, WI.

- Marsh, H. W. (1987). Students' evaluations of university teaching: Research findings, methodological issues, and directions for future research. *International Journal of Educational Research*, 11(3), 253–388.
- Mayer, R. E. (2003). The promise of multimedia learning: Using the same instructional design methods across different media. *Learning and Instruction*, 13(2), 125–139.
- Mergel, B. (1998). *Instructional design and learning theory: Learning theories of instructional design*. Retrieved from <http://www.usask.ca/education/coursework/802papers/mergel/brenda.htm>.
- Merriam, S. B. (1998). *Qualitative research and case study applications in education*. San Francisco: Jossey-Bass.
- Meyer, K. A. (2004). Evaluating online discussions: Four different frames of analysis. *Journal of Asynchronous Learning Networks*, 8(2), 101-114.
- Molenda, M. (2003). In search of the elusive ADDIE model. *Performance Improvement*, 42(5), 34-36.
- Moller, L., Foshay, W., & Huett, J. (2008). The evolution of distance education: Implications for instructional design on the potential of the web. *TechTrends*, 52(4), 66–70.
- Moore, D., Bates, A., & Grundling, J. (2002). Instructional design. In A. K. Mishra & J. Bartram (Eds.) *Skills development through distance education* [on-line]. Retrieved from <http://www.col.org/skills/>.
- Moore, G., Winograd, K., & Lange, D. (2001). *You can teach online*. New York, NY: McGraw-Hill Higher Education.
- Moore, M., & Kearsley, G. (1996). *Distance education: A systems view*. Belmont, CA: Wadsworth.
- Morrison, G. R., Ross, S. M., & Kemp, J. E. (2003). *Designing effective instruction* (4th ed.). New York, NY: Wiley.
- Morrison, G., Ross, S., & Kemp, J. (2010). *Designing effective instruction* (6th ed.). Hoboken, NJ: Wiley.
- Morse, J.M. (1995). The significance of saturation. *Qualitative Health Research*, 5, 147–149.

- Morse, K. (2003). Does one size fit all? Exploring asynchronous learning in a multicultural environment. *Journal of Asynchronous Learning Networks*, 7(1), 37-55.
- Motiwalla, L., & Tello, S. (2000). Distance learning on the internet: An exploratory study. *The Internet and Higher Education*, 2(4), 253-264.
- Myers, P. M., Watson, B., & Watson, M. (2008). Effective training programs using instructional systems design and e-learning. *Process Safety Progress*, 27(2), 131-138. doi:10.1002/prs.10245.
- Nelson W. A., Magliaro, S., & Sherman, T. M. (1988). The intellectual content of instructional design. *Journal of Instructional Development*, 11(1), 29-35.
- Newby, T. J., Stepich, D. A., Lehman, J. D., & Russell, J. D. (2000). *Instruction technology for teaching and learning*. Upper Saddle River, NJ: Merrill.
- O'Donoghue, T., Punch K. (2003). *Qualitative educational research in action: Doing and reflecting*. New York, NY: Routledge.
- Oermann, M. H., & Gaberson, K. (1998). *Evaluation and testing in nursing education*. New York, NY: Springer.
- Olgren, C. H. (1998). Improving learning outcomes: The effects of learning strategies and motivation. In C. C. Gibson (Ed.), *Distance Learners in Higher Education* (pp. 77-96). Madison, WI: Atwood.
- Olina, Z., & Sullivan, H. J. (2004). Student self-evaluation, teacher evaluation, and learner performance. *Educational Technology Research and Development*, 3(52), 5-22.
- Orum, A.M., Feagin, J. R., & Sjoberg, G. (1991). *A case for the case study*. Chapel Hill, NC: University of North Carolina Press.
- Park, Y. J., & Bonk, C. J. (2007). Synchronous learning experiences: Distance and residential learners' perspectives in a blended graduate course. *Journal of Interactive Online Learning*, 6(3), 245-264.
- Passerini, K., & Granger, M.J. (2000). A developmental model for distance learning using the Internet. *Computers & Education*, 34(1), 1-15.
- Patton, M .Q. (1986). *Utilisation-focused evaluation* (2nd ed.). Beverly Hills, CA: Sage.
- Patton, M.Q. (1990). *Creative evaluation methods*. (2nd ed.) Thousand Oaks, CA:Sage.

- Pena-Shaff, J. B., & Nicholls, C. (2004). Analyzing student interactions and meaning construction in computer bulletin board discussions. *Computers & Education*, 42(3), 243-265.
- Peterson, C. (2003). Bringing ADDIE to life: Instructional design at its best. *Journal of Educational Multimedia and Hypermedia*, 12(3), 227-241.
- Phipps, R. A., & Merisotis, J. P. (2000). *Quality on the line: Benchmarks for success in internet-based education*. Retrieved from <http://www.ihep.com/Pubs/PDF/Quality.pdf>
- Prislin, M. D., Fitzpatrick, C. F., Lie, D., Giglio, M., Radecki, S., & Lewis, E. (1998). Use of an objective structured clinical examination in evaluating student performance. *Educational Research and Methods*, 30(5), 338-344.
- Reigeluth, C. M. (Ed.). (1983). *Instructional design theories and models: An overview of their current status*. Hillsdale, NJ: Lawrence Erlbaum.
- Reiser, R. A. (2001a). A history of instructional design and technology, part I: A history of instructional media. *Educational Technology, Research and Development*, 49(1), 53.
- Reiser, R. A. (2001b). A history of instructional design and technology, part II: A history of instructional design. *Educational Technology Research and Development*, 49(2), 57-67.
- Richey, R. (1986). *The theoretical and conceptual basis of instructional design*. New York, NY: Nichols.
- Rode, J. C., Arthaud-Day, M. L., Mooney, C. H., Near, J. P., Baldwin, T. T., Bommer, W. H., & Rubin, R. S. (2005). Life satisfaction and student performance. *Academy of Management Learning & Education*, 4(4), 421-433.
- Rossett, A. (1987). *Techniques in training and performance development series: Training needs assessment*. Englewood Cliffs, NJ: Educational Technology Publications.
- Rovai, A. P. (2003). A practical framework for evaluating online distance education programs. *Internet and Higher Education*, 6(2), 109-124.
- Rowland, G. (1993). Designing and instructional design. *Educational Technology Research and Development*, 41(1), 79-91.
- Rubin, E. (2003). Speaking personally with Eugene Robin. *The American Journal of Distance Education*, 17(1), 59-69.

- Sanders, J. R. Case Study Methodology: A Critique. In W. W. Welsh (ed.), *Case Study Methodology in Educational Evaluation*. Proceedings of the 1981 Minnesota Evaluation Conference. Minneapolis: Minnesota Research and Evaluation Center, 1981.
- Sarmiento, M., & Durao, D. (2009). Ethics dimension in e-learning. *Belo Horizonte*, 8(2), 44-53.
- Schmeeckle, J. (2003). Online training: An evaluation of the effectiveness and efficiency of training law enforcement personnel over the internet. *Journal of Science Education and Technology*, 12(3), 205-260.
- Schulte, A. (2004). The development of an asynchronous computer-mediated course: Observations on how to promote interactivity. *College Teaching*, 52(1), 6-10.
- Schunk, D. H. (2003). Self-efficacy for reading and writing: Influence of modeling, goal setting, and self-evaluation. *Reading and Writing Quarterly*, 19(2), 159-172.
- Seels, B., & Glasgow, Z. (1990). *Exercises in instructional design*. Columbus, OH: Merrill.
- Seels, B., & Glasgow, Z. (1998). *Making instructional design decisions* (2nd ed.). Upper Saddle River, NJ: Merrill.
- Shaw, K. E. (1979) Understanding the curriculum: The approach through case studies, in Taylor, P. H. (Ed.) *New Directions in Curriculum Studies* (Lewes, The Falmer Press).
- Shelton, K., & Saltsman, G. (2008). Applying the ADDIE model to online instruction. In Information Resources Management Association (IRMA) (Eds.), *Instructional design: Concepts, methodologies, tools and applications* (pp. 41-54). Hershey, PA: IGI Global.
- Sims, R., Dobbs, G., & Hand, T. (2002). Enhancing quality in online learning: Scaffolding planning and design through proactive evaluation. *Distance Education*, 23(2), 135-148.
- Smith, P. L., & Ragan, T. J. (1999). *Instructional design* (2nd ed.). Upper Saddle River, NJ: Prentice-Hall.
- Sortrakul, T., & Denphaisarn, N. (2009, December 17). *The evolution of instructional system design model*. Paper presented at the Sixth International Conference on eLearning for Knowledge-Based Society, Bangkok, Thailand.
- Spitzer, D. R. (1999). Embracing evaluation. *Training*, 36(6), 42-47.

- Struyk, L. R., & McCoy, L. H. (1993). Pre-service teachers' use of videotape for self-evaluation. *The Clearing House*, 67(1), 31-34.
- Su, B. (2005). Examining instructional design and development of a web-based course. *International Journal of Distance Education Technologies*, 3(4), 62-76.
- Susarla, S., Adcock, A., Van Eck, R., Moreno, K., & Graesser, A. C. (2003). Development and evaluation of a lesson authoring tool for AutoTutor. In V. Alevan, U. Hoppe, J. Kay, R. Mizoguchi, H. Pain, F. Verdejo, & K. Yacef (Eds.), *AIED2003 Supplemental Proceedings* (pp. 378-387). Sydney, Australia: University of Sydney School of Information Technologies
- Tallent-Runnels, M. K., Thomas, J. A., Lan, W. Y., Cooper, S., Ahern, T. C., Shaw, S. M., & Xiaoming, L. (2006). Teaching courses online: A review of the research. *Review of Educational Research*, 76(1), 93-135.
- Taylor, L. (2008). Educational theories and instructional design models: Their place in simulation. *Nursing Education and Research, Southern Health*.
- The Herridge Group Inc. (2004, December). *The use of traditional instructional systems design models for elearning*. Retrieved from <http://learner.royalroads.ca/moodle/mod/resource/view.php?id=164582>
- United States Department of Education, Office of Innovation and Improvement. (2008). *Evaluating online learning: Challenges and strategies for success*. Retrieved from <http://www.ed.gov/admins/lead/academic/evalonline>.
- United States Distance Learning Association, (2010). *United States distance learning facts and figures*. Retrieved from <http://www.usdla.org/facts-and-figures/>.
- Van Der Vegt, G. S., & Bunderson, J. S. (2005). Learning and performance in multidisciplinary teams: The importance of collective team identification. *The Academy of Management Journal*, 48(3), 532-547.
- Verduin, J. R., & Clark, T. A. (1991). *Distance education: The foundations of effective practice*. San Francisco, CA: Jossey-Bass.
- Wang, H. (2007). Performing a course material enhancement process with asynchronous interactive online system. *Computers & Education*, 48(4), 567-581. Doi:10.1016/j.compedu.2005.03.007
- Wang, G. G., & Wilcox, D. (2006). Training evaluation: Knowing more than is practiced. *Advances in Developing Human Resources*, 8(4), 528-539. doi: 10.1177/1523422306293007

- Wang, S. K. & Hsu, H. Y. (2009). Using the ADDIE model to design second life activities for online learners. *TechTrends*, 53(6), 76-81.
- Wang, S. K., & Reeves, T. C. (2006). The effects of a web-based learning environment on student motivation in a high school earth science course. *Educational Technology Research and Development*, 54(6), 597-621.
- Wedman, J., & Tessmer, M. (1993). Instructional designers' decisions and priorities: A survey of design practices. *Performance & Instruction*, 6(2), 43-57.
- Winer, L.R., & Vásquez-Abad, J. (1995). The present and future of ID practice. *Performance Improvement Quarterly*, 8(3), 55-67.
- Weston, C., Gandell, T., McAlpine, L., & Finkelstein, A. (1999). Designing instruction for the context of online learning. *The Internet and Higher Education*, 2(1), 35-44.
- Willis, B. (1993). *Instructional development for distance education*. Syracuse, NY: Syracuse University.
- Willis, J. (1995). A recursive, reflective instructional design model based on constructivist-interpretivist theory. *Educational Technology*, 35(6), 5-23.
- Willis, J., & Wright, K. E. (2000). A general set of procedures for constructivist instructional design. *Educational Technology*, 40(2), 5-20.
- Wilson, B. G., Jonassen, D. H., & Cole, P. (1993). Cognitive approaches to instructional design. In G. M. Piskurich (Ed.), *The ASTD Handbook of Instructional Technology* (pp. 21.1-21.22). New York, NY: McGraw-Hill.
- Wise, A. E., Darling-Hammond, L., McLaughlin, M. W., & Bernstein, H. T. (1985). Teacher evaluation: A study of effective practices. *The Elementary School Journal, Special Issue: The Master Teacher*, 86(1), 60-121.
- Wolfer, T. A., & Johnson, M. M. (2003). Re-evaluating student evaluation of teaching: The teaching evaluation form. *Journal of Social Work Education*, 39(1), 111-121.
- Wright, P. S., Horn, S. P., & Sanders, W. L. (1997). Teacher and classroom context effects on student achievement: Implications for teacher evaluation. *Journal of Personnel Evaluation in Education*, 11(1), 57-67.
- Zimmerman, B. J. (1998). Academic studying and the development of personal skill: A self-regulatory perspective. *Educational Psychologist*, 33(2-3), 73-86.

Appendix A
Recruitment Email

February 15, 2014

Dear Colleagues:

My name is Grover Wray. I would like to conduct a study to determine to what extent practicing instructional designers followed a formal instructional design process in the development of an online training course. My intentions for completing this study are twofold: First, this would be a partial fulfillment of the requirements for my Ph.D. in instructional design from Idaho State University; second, the data gathered from this study will add to the existing knowledge base in instructional design; and, third, it will provide the university with insight about how the online training course was developed.

You are receiving this email because of your involvement in either developing, facilitating, or revising the online training course for potential online instructors desiring to teach online courses for [REDACTED]. If you would be willing to assist by allowing me to interview you, please respond to this email and I will send you an informed consent form, along with a detailed description of my proposed study. I will also include a comprehensive description of what will be expected from you as a participant in this study. Thank you in advance for your willingness to allow me to conduct this study. I look forward to hearing from you soon.

Best Wishes.

Grover Wray
Social Work Faculty
[REDACTED]

Appendix B

Interview Protocol

1. What information did the team seek before you started planning the course?
 - a) What analysis was done to determine the need for the online training course prior to developing the course?
 - b) Who told you there was a need for an online training?
 - c) Did you collect any information on the students prior to the course?
 - d) How did you determine the knowledge, skills, and values to be learned?
 - e) What level of importance did you place on determining the needs of your students?
 - f) How were the purpose, goals, and objectives of the online training course determined?
2. What process did you and the team go through to plan how you would do this project?
3. How did you take the broad plan and turn it into tasks to be assigned to individual team members?
 - a. Did you use an instructional design model as a guide in designing the online training course?
 - b. Did you use Story boards or flow charts during the planning stages of this project?
 - c. How did you determine what resources you needed?
 - d. How were the topics of instruction, media, and type of delivery system for the online training course chosen?

4. Tell me about your involvement in the actual building of the units and topics for instruction for the online training course.

- a) What management system did you develop and use to measure what the students learned in the online training course?

5. Was there an explicit implementation plan for the online training?

- a. What were the planned procedures for implementation?

6. Was there anything special done when you pilot tested the training?

- a. How did you let the students know what was expected of them?
- b. Was there a plan for how to monitor the online course content?

7. What plans did you have in place to access the online training course?

- a) How did you obtain feedback data about the effectiveness of your course?
- b) Did you develop a format for evaluating the course?
- c) How did you know if the course met its goals?
- d) How were you able to determine when the objectives of the course were met?
- e) In what ways would you, as part of the design team, change the design process if you were to design a similar course today?
- f) What process did you use to collect and process data for the purpose of making decisions about the online training course?
- g) As you were developing the online training course, how did you determine which lessons to include?

8. Are there any other parts of the design process that you can tell me about?

Appendix C

Relationship between Research Questions and Interview Protocol

Interview Protocol Questions	RQ1	RQ2	RQ3
1. What information did the team seek before you started planning the course?	X	X	
a. What analysis was done to determine the need for the online training course prior to developing the course?	X	X	
b. Who told you there was a need for an online training?	X	X	
c. Did you collect any information on the students prior to the course?	X	X	
d. How did you determine the knowledge, skills, and values to be learned?	X	X	
e. What level of importance did you place on determining the needs of your students?	X	X	
f. How were the purpose, goals, and objectives of the online training course determined?	X	X	
2. What process did you and the team go through to plan how you would do this project?	X	X	
3. How did you take the broad plan and turn it into tasks to be assigned to individual team members?	X	X	

a) Did you use an instructional design model as a guide in designing the online training course?	X	X	
b) Did you use Story boards or flow charts during the planning stages of this project?	X	X	
c) How did you determine what resources you needed?	X	X	
d) How were the topics of instruction, media, and type of delivery system for the online training course chosen?	X	X	
4. Tell me about your involvement in the actual building of the units and topics for instruction for the online training course.	X	X	X
a) What management system did you develop and use to measure what the students learned in the online training course?	X	X	
5. Was there an explicit implementation plan for the online training?	X	X	
a) What were the planned procedures for implementation?	X	X	
6. Was there anything special done when you pilot tested the training?	X	X	
a) How did you let the students know what was expected of them?	X	X	
b) Was there a plan for how to monitor the online course content?	X	X	
7. What plans did you have in place to access the online training course?	X	X	
a. How did you obtain feedback data about the effectiveness of your course?	X	X	

b. Did you develop a format for evaluating the course?	X	X	
c. How did you know if the course met its goals?	X	X	
d. How were you able to determine when the objectives of the course were met?	X	X	
e. In what ways would you, as part of the design team, change the design process if you were to design a similar course today?	X	X	X
f. What process did you use to collect and process data for the purpose of making	X	X	
g. As you were developing the online training course, how did you determine which lessons to include?	X	X	
8. Are there any other parts of the design process that you can tell me about?	X	X	

Appendix D

Original Data Bits

- This seems like a work in progress
- Feedback from students are what drove the revisions
- Facilitator's collected information on participants through phone conversations and email
- The learning model at the university seems to be present in this course; for example, the students quite often teach one another the material, and they are required to be prepared and to demonstrate their efforts
- From what I could observe, there was never a measurement tool developed that could assess the impact of the training course
- The training course itself did not appear to be tailored to assess individual need; seemed very general; however, the facilitators did a great job of meeting student needs
- Students in the online training course expected to help each other
- Students knew they were done once they had successfully completed all assignments and received feedback from course facilitator that everything has been completed
- Facilitators sent an Email sent to the student telling them they were done; email used frequently
- Much of what went into the design of the course was based on a hunch
- There was no actual plan in place prior to beginning

- There did not appear to be a formal process in place that anyone can come up with
- Participants appeared to have their own vision about what an online training course should look like
- They used a concept map that they developed, but they no longer have it to show me
- Participant stated they should have tied into known practices to guide the development of the online training course
- There did not appear to be any kind of a planned process of developing the course as far as I can tell
- She is unfamiliar with instructional design models
- Informal process used
- We just wanted to keep it simple
- There were no data collection methods in place prior to launching the online training course
- There was nothing in place to determine the impact the training course was having on the students who took it; hard to determine their projected performance
- There did not appear to be any effort made to map out a specific strategy for the online training course
- No format for evaluating the course other than informal feedback from others
- Instructor feedback has and continues to be the current informal process of evaluating the course

- No Assessments were performed prior to developing OTC
- No pilot testing was done prior to launching OTC
- Email was used as a main source of communication
- Participants made guesses and acted on hunches
- Participants decided what was reasonable and went from there
- No formalized evaluation process
- No formal audience analysis done
- No protocol in place for revising, refining and producing materials for OTC
- No formal management system was in place
- No formal analysis done
- Had our own vision
- Personal feelings and observations
- No format developed for evaluating the course
- Sitting down and figuring it out
- This course was being developed on the go, while they were teaching it
- It was one person who developed the online training course
- University philosophy is embedded into the online training course
- Necessity
- Based on Need at First
- No mandate given, the need for training was obvious
- Instead of responding to their crisis, we can prevent the crisis
- Participants relied a lot on one another's experience as well as their own
- Relied on each other's knowledge and experience

- The participants relied on own judgments in making revisions to the online training course
- No particular model was used to guide the development team
- The design team relied on their experience to choose lessons to include in the course
- Relied on each other's knowledge and expertise
- Revised based on own experience
- Initial training created by one person
- Andy and Jan determined the need for the course
- Uncertain if there was a clear plan in the beginning stages of development
- Revisions made based on our own experience and participant feedback
- Facilitator's were using existing resources from the university such as Brain honey; also used existing employee's to develop and teach the online training course
- Participants were required to utilize university resources; their time and resources were limited
- Using the resources that were available to the participants did not seem to be a problem for them
- Vision came from the learning model
- Input from the university
- Asked existing instructors what needed to be in the training
- Mission of the university
- Wanted it to follow learning model

- Based on cost
- Better resources now than when course was developed
- Started as a participant in the training course, then hired to facilitate it, later asked to make revisions to the course
- Learning management system (LMS) influenced what was to be learned
- Gradebook in ILearn
- There was constant feedback from students to facilitator, and from facilitator to the students
- “We were always asking questions”
- Personal observation and feedback was important to the developers
- Feedback was a main staple in the online training course
- Question and answer forums seemed to be very helpful; facilitators were knowledgeable
- The work turned in by the students in the course are reviewed by the facilitator and feedback is given within days; good turn around, sometimes the same day!
- Instructor Feedback
- Gathering feedback for revisions
- Feedback from previous course participants
- Through participant surveys and feedback
- Revision, refining, and producing materials motivated by feedback
- Revised to a week training rather than a three week training as a result of feedback

- Revisions made to the training course based on training instructor's feedback
- Feedback from the course facilitator
- Revisions made through informal feedback from participants and facilitators
- Sought feedback from participants and facilitators before revising
- Feedback from supervisor
- Participant feedback
- Elements of ID such as feedback, assessing student needs and asking questions were in place in the training
- Parameters of course design and delivery was being taught today
- Instructional skills were taught, and assignments given to practice and report
- The participants were asked to evaluate the course anonymously, and also to evaluate the facilitators.
- The instructors seem to always be looking for ways to improve
- Revisions to the course are done in between training sessions (occurs right after a course ends, and before the next one begins) Assignments are submitted on a regular basis
- Course facilitators were good at reviewing student feedback and making improvements based on their comments as needed
- Appeared to be concerned with overall satisfaction of the student
- Quizzes were given regularly
- Expectations were provided to the students once they were accepted into the training course

- The participants are put through a week evaluation screening process to determine extent of their ability to be an instructor
- Participants had their own sandbox course to practice in so they could experiment with what it will be like when they have their own course to facilitate
- Looking for a highly interactive environment
- First day of the course the students are given a walk through; students are given a description of the course, expectations, etc.
- The course had tasks for students to complete, and timelines to go by; seemed task oriented
- Discussion boards were used as a way to keep an open flow of communication among the facilitator and students
- Participant evaluations produced a lot of valuable information on the course and facilitator
- Researched other online programs
- Revisions made
- Scoured the field
- Own analysis
- Used bits and pieces of many models in the design
- Concept map
- Evaluate
- Types of information collected on participants
- Looked at student performance

- Consult supervisor
- Formative evaluations
- Objectives were set up for every unit
- Assessments were done at the end of the course
- Flow charts were used during revision stages
- Goals and objectives came about as training course grew
- Very little media in the beginning, only a podcast of Jan as the instructor
- Design team sought out best online practices by doing some research
- Assessed what was working and what was not before revising
- There were structured desired outcomes right from the beginning
- Course syllabus had specific expectations
- No concrete plan to monitoring the course content

Appendix E

Concepts Combined into Categories

Concepts	Categories
No formal analysis completed Informal feedback No formal evaluations Would be more formal if done over Informal collection and processing of data Made assumptions Based on intuition Bring more formality and intentionality to the design process Collected information on participants informally Make it more of a formalized curriculum No criteria established upfront No good current data collection methods No information collected prior to the development of the course No instructional design method used No planned process	Relied upon own knowledge and experience Unintentionally incorporated formal ID steps

<p>Valued others perspectives</p> <p>OTC values feedback</p> <p>No evaluation format in place</p> <p>Personal observation and feedback</p> <p>No conscious effort to follow ID model</p> <p>Bits and pieces of many models used</p>	
<p>No mandate to develop the OTC</p> <p>OTC started out small at first</p> <p>OTC built out of need</p> <p>Revisions made based on our own experience and participant feedback</p> <p>The OTC was created on the go</p>	<p>Developed the OTC on the go and out of necessity</p> <p>Used available resources</p> <p>Observed other programs and asked questions</p> <p>Relied upon own knowledge and experience</p>
<p>Asked what makes a good online instructor</p> <p>Relying upon own experience and vision</p> <p>Used own knowledge and experience</p> <p>Relied on other's knowledge and expertise</p>	<p>Increase in collaboration improving student experience</p> <p>With increased resources, students better prepared</p> <p>More clear about mission and direction of OTC</p>

Appendix F

Reduction of Data Bits

Data Bits From Observations, Interview Notes, Transcripts	Concepts	Categories	Theme
<p>This seems like a work in progress</p> <p>Feedback from students are what drove the revisions</p> <p>Facilitator's collected information on participants through phone conversations and email</p> <p>The learning model at the university seems to be present in this course; for example, the students quite often teach one another the material, and they are required to be prepared and to demonstrate their efforts</p> <p>From what I could observe, there was never a measurement tool developed that could</p>	<p>No formal analysis completed</p> <p>Informal feedback</p> <p>No formal evaluations</p> <p>Would be more formal if done over</p> <p>Informal collection and processing of data</p> <p>Made assumptions</p> <p>Based on intuition</p> <p>Bring more formality and intentionality to the design process</p> <p>Collected information on participants informally</p> <p>Make it more of a formalized curriculum</p>	<p>Informal development process</p> <p>Unintentionally incorporated formal ID steps</p>	<p>Theme One: While the design team applied several instructional design components in the development of the online training course, an explicit, formal instructional design model was not intentionally observed.</p>

<p>assess the impact of the training course</p> <p>The training course itself did not appear to be tailored to assess individual need; seemed very general; however, the facilitators did a great job of meeting student needs</p> <p>Students in the online training course expected to help each other</p> <p>Students knew they were done once they had successfully completed all assignments and received feedback from course facilitator that everything has been completed</p> <p>Facilitators sent an Email sent to the student telling them they were done; email used frequently</p> <p>Much of what went into the design of the course was based on a hunch</p> <p>There was no actual plan in place prior to beginning</p>	<p>No criteria established upfront</p> <p>No good current data collection methods</p> <p>No information collected prior to the development of the course</p> <p>No instructional design method used</p> <p>No planned process</p> <p>Valued others perspectives</p> <p>OTC values feedback</p> <p>No evaluation format in place</p> <p>Personal observation and feedback</p> <p>No conscious effort to follow ID model</p> <p>Bits and pieces of many models used</p> <p>No concrete plan, more informal approach to monitoring course content</p>		
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<p>There did not appear to be a formal process in place that anyone can come up with</p> <p>Participants appeared to have their own vision about what an online training course should look like</p> <p>They used a concept map that they developed, but they no longer have it to show me</p> <p>Participant stated the should have tied into known practices to guide the development of the online training course</p> <p>There did not appear to be any kind of a planned process of developing the course as far as I can tell</p> <p>She is unfamiliar with instructional design models</p> <p>Informal process used</p> <p>We just wanted to keep it simple</p> <p>There were no data collection methods</p>			
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<p>in place prior to launching the online training course</p> <p>There was nothing in place to determine the impact the training course was having on the students who took it; hard to determine their projected performance</p> <p>There did not appear to be any effort made to map out a specific strategy for the online training course</p> <p>No format for evaluating the course other than informal feedback from others</p> <p>Instructor feedback has and continues to be the current informal process of evaluating the course</p> <p>No Assessments were performed prior to developing OTC</p> <p>No pilot testing was done prior to launching OTC</p> <p>Email was used as a main source of communication</p>			
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<p>Participants made guesses and acted on hunches</p> <p>Participants decided what was reasonable and went from there</p> <p>No formalized evaluation process</p> <p>No formal audience analysis done</p> <p>No protocol in place for revising, refining and producing materials for OTC</p> <p>No formal management system was in place</p> <p>No formal analysis done</p> <p>Had our own vision</p> <p>Personal feelings and observations</p> <p>No format developed for evaluating the course</p> <p>Sitting down and figuring it out</p>			
<p>This course was being developed on the go, while they were teaching it</p>	<p>No mandate to develop the OTC</p> <p>OTC started out small at first</p>	<p>Developed the OTC on the go and out of necessity</p> <p>Used available resources</p>	<p>Theme Two: The Instructional Design team adjusted their procedures</p>

<p>It was one person who developed the online training course</p> <p>University philosophy is embedded into the online training course</p> <p>Necessity</p> <p>Based on Need at First</p> <p>No mandate given, the need for training was obvious</p> <p>Instead of responding to their crisis, we can prevent the crisis</p> <p>Initial training created by one person</p> <p>Andy and Jan determined the need for the course</p> <p>Uncertain if there was a clear plan in the beginning stages of development</p>	<p>OTC built out of need</p> <p>Revisions made based on our own experience and participant feedback</p> <p>The OTC was created on the go</p>	<p>Observed other programs and asked questions</p> <p>Relied upon own knowledge and experience</p>	<p>based upon their own experience and the constraints of the task.</p>
<p>Participants relied a lot on one another's experience as well as their own</p> <p>Relied on each other's knowledge and experience</p>	<p>Asked what makes a good online instructor</p> <p>Relying upon own experience and vision</p>	<p>Increase in collaboration improving student experience</p> <p>With increased resources, students better prepared</p>	<p>Theme Three: With increased resources, collaboration, and direction, the OTC students are better prepared to teach online</p>

<p>The participants relied on own judgments in making revisions to the online training course</p> <p>No particular model was used to guide the development team</p> <p>The design team relied on their experience to choose lessons to include in the course</p> <p>Relied on each other's knowledge and expertise</p> <p>Revised based on own experience</p> <p>Revisions made based on our own experience and participant feedback</p>	<p>Used own knowledge and experience</p> <p>Relied on other's knowledge and expertise</p>	<p>More clear about mission and direction of OTC</p>	
<p>Facilitator's were using existing resources from the university such as Brain honey; also used existing employee's to develop and teach the online training course</p> <p>Participants were required to utilize university resources; their time and resources were limited</p>	<p>Relied upon existing technology and available resources</p> <p>Black board was learning management system used</p> <p>The OTC monitored through gradebook</p> <p>Looked at what worked in other programs</p>		

<p>Using the resources that were available to the participants did not seem to be a problem for them</p> <p>Vision came from the learning model</p> <p>Input from the university</p> <p>Asked existing instructors what needed to be in the training</p> <p>Mission of the university Wanted it to follow learning model</p> <p>Based on cost</p> <p>Better resources now than when course was developed</p> <p>Started as a participant in the training course, then hired to facilitate it, later asked to make revisions to the course</p> <p>Learning management system (LMS) influenced what was to be learned</p> <p>Gradebook in ILearn</p>			
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<p>There was constant feedback from students to facilitator, and from facilitator to the students</p> <p>We were always asking questions</p> <p>Personal observation and feedback was important to the developers</p> <p>Feedback was a main staple in the online training course</p> <p>Question and answer forums seemed to be very helpful; facilitators were knowledgeable</p> <p>The work turned in by the students in the course are reviewed by the facilitator and feedback is given within days; good turn around, sometimes the same day!</p> <p>Instructor Feedback</p> <p>Gathering feedback for revisions</p> <p>Feedback from previous course participants</p>	<p>Did some research</p> <p>Researched other universities</p> <p>Relied upon feedback</p> <p>Sought feedback</p> <p>Feedback used to monitor OTC</p> <p>Student feedback taken into account</p> <p>Student feedback shaped objectives</p>		
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<p>Through participant surveys and feedback</p> <p>Revision, refining, and producing materials motivated by feedback</p> <p>Revised to a week training rather than a three week training as a result of feedback</p> <p>Revisions made to the training course based on training instructor's feedback</p> <p>Feedback from the course facilitator</p> <p>Revisions made through informal feedback from participants and facilitators</p> <p>Sought feedback from participants and facilitators before revising</p> <p>Feedback from supervisor</p> <p>Participant feedback</p>			
<p>Elements of ID such as feedback, assessing student needs and asking questions were in place in the training</p>	<p>Student needs of high importance</p> <p>Sought feedback from others</p>		

<p>Parameters of course design and delivery was being taught today</p> <p>Instructional skills were taught, and assignments given to practice and report</p> <p>The participants were asked to evaluate the course anonymously, and also to evaluate the facilitators.</p> <p>The instructors seem to always be looking for ways to improve</p> <p>Revisions to the course are done in between training sessions (occurs right after a course ends, and before the next one begins) Assignments are submitted on a regular basis</p> <p>Course facilitators were good at reviewing student feedback and making improvements based on their comments as needed</p> <p>Appeared to be concerned with overall satisfaction of the student</p>	<p>Assessments done at end of OTC</p>		
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<p>Quizzes were given regularly</p> <p>Expectations were provided to the students once they were accepted into the training course</p> <p>The participants are put through a week evaluation screening process to determine extent of their ability to be an instructor</p> <p>Participants had their own sandbox course to practice in so they could experiment with what it will be like when they have their own course to facilitate</p> <p>Looking for a highly interactive environment</p> <p>First day of the course the students are given a walk through; students are given a description of the course, expectations, etc.</p> <p>The course had tasks for students to complete, and timelines to go by; seemed task oriented</p> <p>Discussion boards were used as a way</p>			
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<p>to keep an open flow of communication among the facilitator and students</p> <p>Participant evaluations produced a lot of valuable information on the course and facilitator</p> <p>Researched other online programs</p> <p>Revisions made</p> <p>Scoured the field</p> <p>Own analysis</p> <p>Used bits and pieces of many models in the design</p> <p>Concept map</p> <p>Evaluate</p> <p>Types of information collected on participants</p> <p>Looked at student performance</p> <p>Consult supervisor</p> <p>Formative evaluations</p> <p>Objectives were set up for every unit</p>			
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<p>Assessments were done at the end of the course</p> <p>Flow charts were used during revision stages</p> <p>Goals and objectives came about as training course grew</p> <p>Very little media in the beginning, only a podcast of Jan as the instructor</p> <p>Design team sought out best online practices by doing some research</p> <p>Assessed what was working and what was not before revising</p> <p>There were structured desired outcomes right from the beginning</p> <p>Course syllabus had specific expectations</p>			
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