The Reaction Evaluation of Blue Drive Online Tutorial at University of Wisconsin-Stout
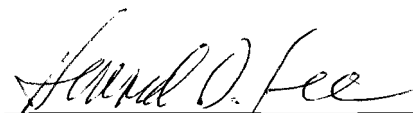
by

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ABSTRACT

The students at UW-Stout were surveyed to determine the effectiveness of the

Blue Drive online tutorial by evaluating the level of students' reaction towards the

tutorial. Since this tutorial was first initiated in Spring 2008, it is essential to identify

whether or not the students are satisfied and engaged in learning to use Blue Drive more

effectively. Therefore, Level 1, reaction Kirkpatrick evaluation is used in this study in

order to improve the tutorial for better training delivery and design.

The online survey was conducted to a target population of 171 UW-Stout students

including 73 students in a fall 2007 pilot and 98 students in spring 2008. The questions

collected background information and were sought by Likert-scale to measure the

students' perception towards tutorial concerning content, process and overall. An open-

ended question was also included for the students to provide additional information for

tutorial future improvement. The result of the study was only 38 responses which were a

small number to analyze. The students' perception towards the tutorial was undecided

due to the lack of the use of the Blue Drive tutorial. It was also undecided if the students

were satisfied towards the tutorial and could not determine if the tutorial was effective.

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Chapter One: Introduction

Overview

The University of Wisconsin-Stout is one of 13 four-year campuses in the University of Wisconsin system. UW-Stout is located in Menomonie, WI, a city of 14,000. The total enrollment of UW-Stout in the fall of 2007 was 8,477 students, which included 7,553 undergraduate and 924 graduate students. Of these, there are 5,822 Wisconsin residents, 2,520 non-resident students from 37 states and 135 international students from 24 nations. Academic programs include 30 undergraduate majors and 17 graduate majors (UW-Stout, 2007a). UW-Stout became the first polytechnic university in Wisconsin in March 2007. Polytechnic universities still share the common educational philosophy of active and applied learning but with an emphasis on lab based learning and internship experiences (Sorensen, 2007). Furthermore, the UW-Stout strategic plan envisions:

UW-Stout, a respected innovator in higher education, educates students to be lifelong learners and responsible citizens in a diverse and changing world through experiences inside and outside the classroom that join the general and the specialized the theoretical and the practical, in applied programs leading to successful careers in industry, commerce, education and human service (UW-Stout, 2007b, para.2).

UW-Stout has always been an innovator in the technology learning environment, which is driven by the e-Scholar program. This e-Scholar program is defined as "the digital learning environment at UW-Stout which offers students a variety of opportunities to be successful in achieving their academic goals" (UW-Stout, 2007c, para. 2). According to UW-Stout history, the laptop initiative began in 1998 and implemented the pilot program during the 2000-2001 academic year. The goal of the e-Scholar program is to utilize technology in a digital

environment therefore enhancing students' active learning. The e-Scholar program provides laptops with software, portal and course management systems, technical support known as ASK 5000, training, and other sources for students. Moreover, students obtain 24 hour access to the campus network for their convenience to enable them to effectively accomplish learning goals. This learning technology support is continuously developing. In the fall 2007, the e-Scholar Program set another strategic plan to increase student learning success, and thus the Blue Drive Project began.

Blue Drive is a web-based tool for student storage, from the Xythos Company, to help students at UW-Stout with learning management. The UW-Stout information technology (IT) staff determined "[t]he old network storage was really difficult to share information; and this is where Blue Drive shines" (Olson, 2007, p. 3). Students can safely store, publish, collaborate and organize files in order to accomplish their objectives. The Blue Drive system provides a 1 gigabyte (GB) space to more adequately accommodate the students' data in four academic years. Furthermore, Blue Drive, also known as a digital locker, allows users to utilize their files anywhere, at any time, with the internet access ("Blue Drive," n.d.a). Based on many institutions where Xythos has been utilized, it appears that Blue Drive can be a significant tool to encourage students' active learning. According to an article about utilizing network storage, Northeastern University reported:

> Xythos is a key part of Northeastern On Demand, enabling the Northeastern community to securely access their files over the web with version control and their basic library services. Our users can better work and collaborate, and ultimately be more effective (Mickool, Weir, & Hitch, 2006, p. 4).

To implement the program, the students are connected to two links: Blue Drive and the

Blue Drive online tutorial. Figure 1 demonstrates how to access Blue Drive. The students will

enter their UW-Stout username and password into the internet browser

https://bluedrive.uwstout.edu:

Figure 1. Blue Drive Log In

Source: Blue Drive, n. d.a.

The student will next go to Blue Drive network storage as illustrated in Figure 2.
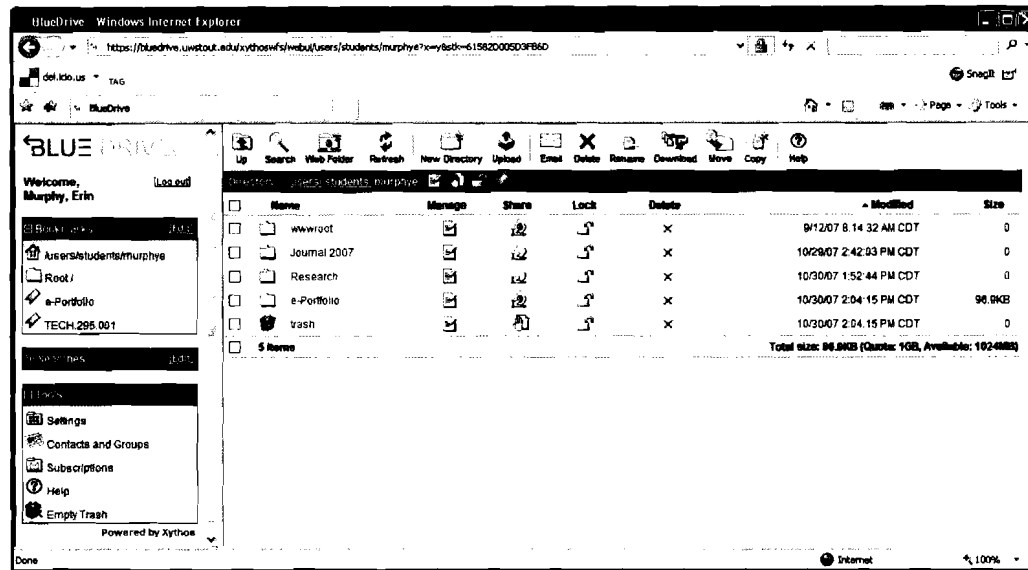
Figure 2. Blue Drive network storage screen

Source: Blue Drive, n. d.b.

Blue Drive is supported and used by the UW-Stout stakeholders as listed below:

1. Jane Henderson, the e-scholar program coordinator

2. Doug Wahl, the Chief Information Officer (CIO)

3. Michael Dodor, the network manager

4. Daniel Dunbar, the network specialist

5. Jean Haefner, Technology-Based Curriculum Designer

6. Korawan Muangmode, Graduate Assistant in the Blue Drive Project

7. Undergraduate and graduate students-participants

The e-Scholar program provides students with the Blue Drive Online Tutorial to assist in utilizing Blue Drive more effectively. The Blue Drive tutorial was initiated January 2008. It started first with analyzing the training given by the Blue Drive team to pilot student classes in

the use of Blue Drive. There were four pilot test classes: NANO 401, APSC 201, APSC 401 and TECH 295 with a total of 73 students. The purpose of this pilot training presentation was to see how well the students could learn to operate Blue Drive. Students' feedback after the training was helpful in making changes in the design. Dunbar added, "We wanted to find glitches in the program before it is opened to all Stout students, and how we could design it to be as easy for the students to use as possible" (Olson, 2007, p. 3). The online training tool was developed by using the resource supporting the Blue Drive project from Media. Art Juchno and Bill Wikrent, the multimedia specialists, were the officers assisting with the use of Camtasia and SnagIt Software to conduct online tutorials. Margy Ingram is the narrator. The online tutorial is located on the front page of the Blue Drive website. The content of the training is designed to quickly assess individual needs. There are 19 elements of content of Blue Drive training, which include an overview of Blue Drive, bookmarks, copy, delete, download, e-mail, empty trash, home page, lock, new directories, move, rename, root, search, share, up, upload, web folder (XP) and web folder (MAC). Camtasia is used to create video in the computer screen, including motion and narration (Camtasia Studio, n. d.). SnagIt is software that allows users to capture, edit and share things on a computer screen (SnagIt Screen Capture and Image Editor, 2007). These tools provide easy access to different styles of learning. They enable the learners to see how they can operate the Blue Drive system options utilizing such as the arrow and highlighting. Moreover, this software offers an audio option, so they can listen to the narrator explain and read the script. Figure 3 is an example of the Blue Drive Online tutorial.
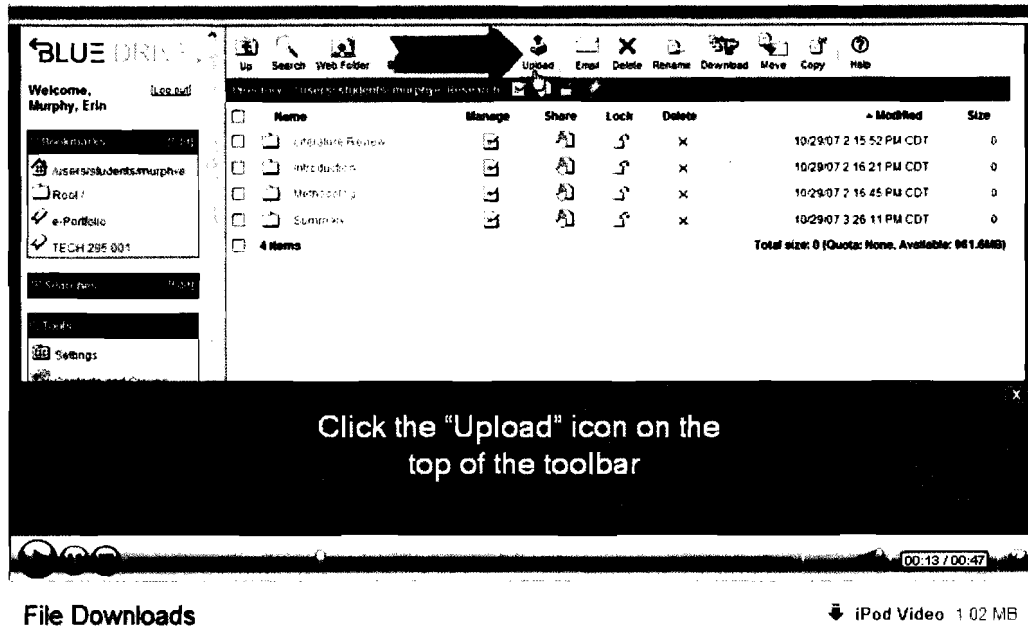
Figure 3. Blue Drive online tutorial demonstrating how to upload files into network storage.

Source: Blue Drive, n. d.c.

The online training will be available anywhere there is internet access at any time. The contract with Blue Drive is five years with periodic interface updates. The implementation process is evaluation to measure the effectiveness of the online training. Since this is a new program that has just been implemented, the evaluation program noted some needed improvements to ensure the quality of the Blue Drive online tutorial. Kirkpatrick's four levels of evaluation are used in this study. According to Lawson, it is the most widely used model for training evaluation and was generated by Donald L. Kirkpatrick in 1959. The measurements are divided into four levels: reaction, learning, behavior and results (Lawson, 2006). In this study, reaction is the focus because it can be measured when online training is first implemented, whereas learning, behavior and results need to wait a period of time to let the knowledge apply to

and impact their learning achievement. At the first level, reaction will measure student's perception towards the Blue Drive online tutorial.

Statement of the Problem

The Blue Drive online tutorial was first offered in spring 2008 to assist students in utilizing Blue Drive more effectively. Therefore, this study is concerning the effectiveness of the Blue Drive online tutorial using Kirkpatrick's Level 1 evaluation, reaction, to determine the level of student satisfaction towards tutorial.

Purpose of the Study

The purpose of this study will be to examine the Blue Drive online tutorial's effectiveness. The level of effectiveness will be measured in one of Kirkpatrick's four levels of evaluation, reaction. The first level, reaction, will study students' perception of the Blue Drive online tutorial. It will help identify whether or not the students are engaged and if they will utilize the system when needed. The result of the study will help the Blue Drive team to improve Blue Drive online training. It can be useful to refine the program for better training delivery and course design.

Research Objectives

The research objectives of this study are:

1. Determine students in perception based on content, process and overall quality of training delivery.

2. Determine students' satisfaction of the Blue Drive tutorial.

Significance of the Study

This research is significant because of the following:

1. Data from this study can help revise the Blue Drive tutorial. Information gathered can validate the content of tutorial for better use to increase students' learning. For example, to ensure the accuracy and adequacy of the content particularly, if the tutorial has answered the questions concerning use of Blue Drive. Moreover, the result can help in improving the training delivery such as the length of the training, the delivery tool and the way the training is presented.

2. Feedback from students can be used to learn students' perception. It can help improve the design of the training so as to engage students in the use of the Blue Drive program. For example if the training helps the students build their confidence to perform the task after the training and if they are able to apply it to meet their needs. This input can measure their overall satisfaction towards the tutorial.

3. This study can provide data to the e-Scholar program for further project. This online tutorial was first implanted as there was a need for extensive data to help in developing a better tutorial in Fall 2008 plan. The students' input can help improve the training delivery and the content of the tutorial to meet their needs.

Limitations of the Study

There are three primary limitations of this study:

1. The Blue Drive online tutorial is optional, so it may not reach the entire desired audience. Also, the students are able to pick and choose only certain parts of the program rather than having to participate in the entire training.

2. This online tutorial is at its early and experimental stages, so it lacks extensive data. It was first initiated in Spring 2008 with no data to help in conducting an effective tutorial. Examples of the data needed are the background of the Blue Drive online tutorial, the

effective tool of web based training, the perception of students toward web based training and how to evaluate the effectiveness of the tutorial. This data can help the study be more effective.

3. Reliability of this study can be compromised by having a novice evaluator. The evaluator of this study lacks experience in program evaluation. Even though the evaluator has knowledge about evaluation, hands on experience is necessary for better accuracy. Collecting and analyzing the data require knowledge and skills for consistency of the result.

Assumptions of the Study

The study will explore the students' satisfaction with the Blue Drive online tutorial and how well they learn to use Blue Drive effectively. There are 171 undergraduate students and graduate students in different classes who will be surveyed. Different classes can also address the influences of learning style and knowledge background on the success of this tutorial.

Definition of Terms

The following terms are defined in order to simplify the context of this study:

Blue Drive. A name of the web based training facilitating student storage by storing, maintaining and sharing their documents and files at UW- Stout. Blue represents the color of Stout and Drive represents the student storage. It derives from the Xythos Software Company (Blue Drive, n.d.a).

e-Scholar Program. A program for students and faculty in UW-Stout providing technology to support their active learning goals. This program offers a variety of opportunities such as distributing laptops and computing resources (UW-Stout, 2007b). The e-scholar program also includes software, wireless connectivity on campus, portal and course management systems,

service and support, training, network storage, email, web page space and multimedia classrooms.

Level 1, Reaction - Kirkpatrick's Four Levels of Evaluation: "It is an important first step in determining the success of a training program." (Lawson, 2006, p. 36). This step deals with participants' reaction based on how much they liked the training.

Xythos. The name of the software company which offers storage area networking for business and education. In education, this software provides large scale storage up to 1 GB, which allows students to manage a large number of documents throughout their college years (Xythos, n.d.). This helps accelerate the connection of faculty and students to their content anywhere at any time. It is widely used in K-12 schools, colleges and universities which need to safely store, publish and collaborate with their leaning management. Some even utilize it as an e -portfolio tool to help students achieve their learning goals.

Further discussion concerning the Blue Drive online tutorial evaluation will be addressed in the next four chapters. Chapter II will more completely explore the evaluation of web based training, particularly measuring the first of Kirkpatrick's four levels of evaluation, reaction. Chapter III will cover the methodology of the study followed by Chapter IV which will show the analysis and the result of the study. The last chapter will summarize the study and make recommendations for the Blue Drive online tutorial.

Chapter II: Literature Review

This purpose of this study was to evaluate the effectiveness of the Blue Drive online

tutorial used at the UW-Stout. Level 1 of Kirkpatrick evaluation was used to determine students'

perception by measuring the level of satisfaction towards the tutorial. This study is very

important because there is a need for further improvement since this online tutorial was first

initiated in Spring 2008. In order for the program to be successful it is imperative that it be

effective and efficient in order to meet the training needs. The following is a review of literature

which was conducted to establish the knowledge and understanding about e-learning, web based

training, indication that web-based training is appropriate, principles of adult learning in

conducting effective web-based training, ways to evaluate it by using Kirkpatrick evaluation, and

methods of Level 1 data collection.

E-Learning

Today's e-learning advanced technology has helped create different types of learning to

enhance the improvement of performance. Technology-based learning initiatives have been

increasing in the past decade (Paradise, 2007). In 1998, Driscoll stated that technology had

streamlined the increasing demand of learning for the greater demands of the global work force.

It even challenges the Information Age to generate innovative learning methods to develop new

knowledge, skills and abilities for effective performance. As a result, Paradise (2007) noted that

e-learning has become a popular form of education in which to invest learning and development.

According to Mitchell (2006), electronic learning, or e-learning, is:

A term covering a wide set of applications and processes such as web-based learning,

computer-based learning, virtual classrooms, and digital collaboration. Delivery of

content may be via the Internet, intranet/extranet (LAN/WAN), audio and videotape, satellite broadcast, interactive TV, CD-ROM, and more (p. 24).

E-learning helps many organizations foster more sufficient content reuse, flexibility operation, efficient delivery and cost effectiveness. Paradise (2007) noted that, "findings from the '2007 State of the Industry Report' confirm that sustained investment in e-learning has dramatically shaped workplace learning and performance (WLP) in the past decade" (p. 60). In 2007, Paradise compared the number of full-time employees per organization between the years of 2006 and 2004 showing that the e-learning delivery method is increasing and becoming a trend as shown in Figure 4.
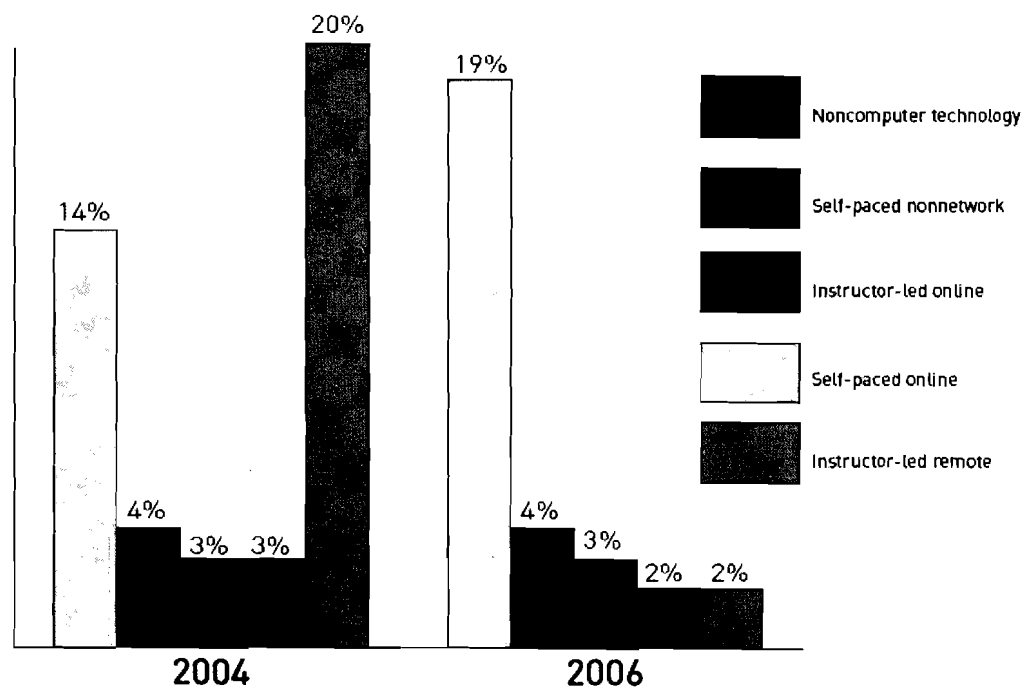

Figure 4. E-learning Delivery Methods (All Responses)

Source: Paradise, 2007

Even though e-learning has become a popular training method at present, there is always an ongoing debate regarding whether or not e-learning is better than classroom-based training. Laff (2007) insisted that "instructor-led training still remains the preferred method for information-technology training" (p. 68). Laff also added that e-learning is not suitable for all learning fields. Many complex tasks in the IT field still prefer classroom training where the learners have more time to generate knowledge and have hands on experiences to articulate their knowledge, skills and abilities. However, Laff believed that either method would be suitable and practical, depending on the purpose and objective of the training. Laff's concern is that the delivery method accommodates effective learning instead of considering current trends. Bates and Poole (2003) stated:

> There is no law that says new technologies will automatically be better for teaching than old ones. Judgment about new technologies should be made on educational and operational ground, not by date stamp. Many of the lessons learned from the application of older technologies will still apply to any newer technology. (p. 253)

The e-Scholar program at UW-Stout considered the significance of e-learning, particularly web-based training, as a potential tool in training students to learn how to utilize Blue Drive, the new network student storage. The Blue Drive online tutorial as a web-based training will be initially implemented in spring 2008 for all users who are UW-Stout students. It is essential to learn more about the practicality and benefits of web-based training in using Blue Drive. Moreover, in order to determine the effectiveness of this training method at the beginning of the program, it is critical to evaluate the students' reaction to level one of the Blue Drive online tutorials. The result of the study will help the e-Scholar program predict the success of the training and need for further improvement.

Two main topics are addressed in this chapter: Web-based training relating to the Blue Drive online tutorial and Level 1 reaction evaluation to measure students' satisfaction in using Blue Drive online tutorial.

Web-based Training

The Web-Based Training Information Center (WBTIC; 2007) defines that:

Web-based training (WBT) is an innovative approach to distance learning in which computer based training (CBT) is transformed by the technologies and methodologies of the World Wide Web, the Internet, and intranets. Web-based training presents *live* content…WBT is media-rich training fully capable of evaluation, adaptation, and remediation, all independent of computer platform (para. 1).

Web-based training is one of the new trends in training that is just-in-time knowledge. It allows the users to acquire new attitudes, skills or knowledge at any time, whereas sequential learning experiences and massive training delivery plans are now outdated since they require too much time and do not always fulfill the learning needs of the students (Laff, 2007).

There are four main characteristics of web-based training (Driscoll, 1998). First, it is self-paced so that it allows the learners to control their own learning path, both the time and location, at their convenience. Second, the learner is able to master his own individual learning module to meet his different needs, allowing more time for practicing and repetition. Third, it is highly structured so that the developer can define the topic clearly with right and wrong answers. Finally, discrete units of instruction allow the developer to divide the contents into lessons and modules. Besides, it allows the developer to utilize multimedia, for example, text, sound and vision (Bray, 2006).

Web-based training has several advantages. Lamont (1999) noted that web based training is cost effective which helps the organization lower its training budget. Brown (2000) also added that "travel expenses, instructor fees, facility costs, materials, and office equipment costs, in addition to the cost of lost time on the job when employees are in training represent some of the savings that are realized through web-based training" (para. 2). Moreover, web-based training easily reaches learners everywhere around the globe. Lamont stated that it increases flexibility for the trainees who are located at different sites across the globe and have little time to devote to the training (Lamont, 1999). However, there are some disadvantages to using web-based training. It requires bandwidth to access web-based training which is more expensive and difficult to develop learning materials. Trainees also need to be self-directed and comfortable in using web-based training where more distractions in learning may not be as effective as face-to-face instruction. (Boyle, n.d.).

Indication that Web-Based Training Is Appropriate

According to Driscoll (1998), there are indications that web-based training is appropriate. First, there is a gap in learners' skills and knowledge. Phillips and Stone (2002) also added that training is needed to fill the gap between the present performance and the future performance in order to reach the desired outcome. As a consequence, the Blue Drive online tutorial is a potential solution for performance improvement because there is a gap between knowledge and skills. Second, the need for cognitive skills requires solving problems and applying skills. These skills are ideal for teaching via web-based training, whereas psychomotor and attitude skills are difficult to design and develop in web-based training because they require a physical environment in order to reinforce the learning.

UW-Stout students need to acquire knowledge of the basic procedures in using Blue Drive. They are expected to benefit from the Blue Drive online tutorial which is concise, therefore allowing them to focus on the basic steps to meet their goals. However, for more in depth detail they can learn from the help icon provided by the Xythos company. Third, for web-based training to be appropriate, the learners must have adequate computer skills such as basic computer use, browser and internet knowledge. Both undergraduate and graduate students are considered to have computer skills, and using web-based training would be helpful to them using Blue Drive. The e-Scholar program ensures that undergraduate students receive laptop deployment, so they can use it and enhance their success in achieving their academic goals (UW-Stout, 2007b). Lastly, the organization must have the capacity to deliver. UW-Stout provides adequate modern technology and computer support for life long learning on campus. Sorensen (2007), the Chancellor of UW-Stout, used the digital environment to welcome students to UW-Stout:

> Many students come because they want to learn in a digital environment. When an undergraduate steps on campus, he or she is handed a laptop computer, which will be replaced after two years. The laptop will become a key tool in their educational experience. UW-Stout has wireless access all over campus, and our professors integrate technology in the way they teach. UW-Stout's classrooms have the most modern technology and media capabilities (para. 4).

The e-Scholar program tries to meet the computing needs including hardware and software. As a result, graduate students can always find easy access for their own laptop in the wireless laptop campus, including in the library (UW-Stout, 2007b).

Principles of Adult Learning in conducting effective Web-Based Training

It is essential to understand how adults learn in order to conduct effective web-based

training, (Lieb, 1991) because "designing effective web-based training requires knowledge of the

unique characteristics of adult learners and an understanding of the facilitator's role" (Driscoll,

1998, p. 13). Knowles identified the characteristics of adult learners:

- Adults are autonomous and self-directed.

- Adults have accumulated a foundation of life experiences and knowledge that

  may include work-related activities, family responsibilities, and previous

  education.

- Adults are goal-oriented.

- Adults are practical, focusing on the aspects of a lesson most useful to them in

  their work.

- As do all learners, adults need to be shown respect. Instructors must acknowledge

  the wealth of experiences that adult participants bring to the classroom. (Lieb,

  1991, p. 1)

The adaptation of adult learning can establish a well designed web-based training. There

are two main factors that can help create effective training: accessibility and personalization.

Accessibility is the philosophy for designing a web-based training program for adults (Driscoll,

1998). Bray (2006) emphasized that "[c]learly the more you can design 'accessibility' into your

courses or programs the less opportunity the trainer has to dilute your good work" (p. 34). It is

essential that today's training accommodate a variety of learners' needs and differences. Lawson

(2006) noted that there are six perceptual modalities of learning styles. They are visual, print,

oral, interactive, tactile, and kinesthetic. Most adults are visual learners, but multi-sensory

learning does increase learning opportunities. For instance, Bray (2006) clarified that the learners who are visually impaired can be helped by providing a voice with the narrator which can enable blind people to understand more easily. Moreover, he added that the learners who have hearing difficulties can use captions or subtitles to help them access the content more easily.

Another factor in increasing the value of web-based training is personalization. Hartley and West (2007) define it as including focusing of information that is most relevant for the learners. The content can be based on the learner's role, language, culture, learning style, and personal performance. When the content is personalized, it will help the learners' performance improve. Personalization also helps the learners prevent cognitive overload. Lawson (2006) noted that it minimizes the use of lecture, creates chunks of content, and designs easy-to-follow learning. Hartley and West (2007) also noted that "just as a company personalizes its pitch to make advertising sales relevant to its customers, trainers must personalize training to maximize content retention, and increase productivity during the training sessions" (p. 23).

Kirkpatrick's Four Levels of Evaluation

It is essential to measure whether or not the programs have intended outcomes, especially to see the first implemented program's feedback, for more improvement and to ensure the effectiveness of the training program. Mitchell (2006) defined that:

> Evaluation of training is a multilevel, systematic method for gathering information about the effectiveness and impact of training programs. Results of the measurements can be used to improve the offering, determine whether the learning objectives have been achieved, and assess the value of the training to the organization (p. 24).

Fitzpatrick, Sanders, and Worthen (2004) differentiated two types of evaluation: formative and summative. Both roles of evaluation contrast different types of actions of

evaluation. Scriven stated that formative evaluation "occurs during the operation of a program or activity. Its purpose is to provide those responsible for the program with ongoing information about whether things are going as planned and whether expected progress is being made. If not, this same information can be used to guide necessary improvements" (as cited in Guskey, 2000, p. 58). It also is used for early warning evaluations to ensure the results are going as intended. Any unexpected flaws can be diagnosed in time for changes to be made. When all revisions are done, the desired outcome can be achieved. On the other hand, Guskey (2000) stated that summative evaluation is done after a program is completed. It determines the success, or the lack of success of a program and how it can be improved. "Summative evaluation describes what was accomplished, what were the consequences (positive and negative), what were the final results (intended and unintended), and, in some cases, whether the benefits justify the costs" (p. 58).

Since Blue Drive was first implemented, the formative concept can be applied in the stage of development for further implication. It is suitable to apply formative evaluation in order to diagnose the unexpected factor for further improvement in the next level. Then it is necessary to apply the summative with Kirkpatrick's four levels of evaluation.

Donald L. Kirkpatrick founded this most widely known model in 1959 (Lawson, 2006). There are three specific reasons why there is a need to evaluate training. The first reason is "to justify the existence of the training department by showing how it contributes to the organization's objectives and goals" (Kirkpatrick, 1998, p. 16). It determines how the training program helps the organization achieve its goals. The second reason is "to decide whether to continue or discontinue training programs" (p. 16). If the return on investment is not cost effective, the program should be modified or terminated. The last reason is "to gain information

on how to improve future training programs" (p. 16). The question is to decide the effectiveness of the program and find ways it can be improved.

The four levels show logical steps to evaluate programs. Each level has its own purpose and value to the next level. The higher the level the more difficult, costly, and time-consuming it is, but it also provides more valuable information (Kirkpatrick, 1998). There are levels of objectives for each level.

Level 1-Reaction (did they like it?) is to determine the level of satisfaction and reaction to the training which can indicate the need for revision in training content, design and delivery (Phillips & Stone, 2002). It is often referred to "smile sheets" which measure the extent to which the learners are pleased with the training and see its potential for application (Lawson, 2006). Phillips and Stone added that "it may also measure another dimension: the participants' planned actions as a result of the training, i.e., how the participants will implement a new requirement, program, or process, or how they will use their new capabilities" (p. 4). Moreover, Level 1 initiative is simple, inexpensive and takes less time to design the instrument and collect data. The methods used for collecting data are survey and interview (Phillips & Stone).

Level 1 cannot measure learning or ability to perform tasks. It also does not measure the change of attitudes or beliefs. Organization impact is also difficult for Level 1 to measure because it only deals with the learner's reaction (Lawson, 2006). Even though Level 1 provides less information compared to other levels, it should not be bypassed. Kirkpatrick emphasized the value of Level 1 by stating "if our customers don't go back to their jobs saying good things about the training, we're in trouble" ("The Long View", 2007 p. 61).

Level 2 – Learning (what knowledge or skills did they retain?) is to identify whether the learners developed knowledge and skills by learning from the course content and achieving

course objectives (Phillips & Stone, 2002). A 1998 Kirkpatrick study indicated, "learning can be defined as the extent to which participants change attitudes, improve knowledge, and/or increase skills as a result of attending the program" (p. 20). Kirkpatrick (1998) also added that it is important in this level because a change in learning can cause intended expectation in behavior at the next level. This level is critical and has been a significant problem in the training and development field. The challenge in training is to ensure the transformation from training to the workplace, which in many situations is not accomplished. There are also issues that prevent many organizations from measuring up in Level 2 including more time and cost to process, validity, reliability, and success determination (Phillips & Stone, 2002). The most frequent methods are tests followed by observation and interviews (Lawson, 2006).

Level 3 – Behavior (how are they performing differently?) is to determine if there is any change in behavior from the training program to the work place. It is measured after the training has been implemented. It addresses what and how the applications intentionally work (Phillips & Stone, 2002). In 1998, Kirkpatrick noted that "no final results can be expected unless a positive change in behavior occurs. Therefore, it is important to see whether the knowledge, skills, and/or attitudes learned in the program transfer to the job" (p.57). In fact, Kirkpatrick (1998) explained that collecting data in this level is more complicated and difficult to answer than the first two levels. First, the learners cannot change their behavior until they have the opportunity. Secondly, it is difficult to predict the time when there will be a change of behavior. Lastly, the learners may plan to continue to use the new behavior, go back to the old behavior, or be unable to continue the new behavior because of the various reasons. The ways to measure at this level include observations, interviews, and surveys.

Level 4 – Results (what is the impact on the bottom line?) is to state the bottom-line results from the implementing of the training with increased production, decreased costs improved quality and higher profits (Phillips & Stone, 2002). Kirkpatrick (1998) noted that it shows how the training has contributed to accomplishing organization goals, and so "it is the most important and perhaps the most difficult of all" (p. 59). It is time and cost consuming to collect data before and after the training and analyze the outcome of the training for improved results (Phillips & Stone, 2002). In the American Society for Training and Development handbook fourth edition, Kirkpatrick (1996) explained that "a difficulty in the evaluation of training is evident at the outset, technically called 'the separation of variables'"; that is, how much of the improvement is due to training as compared to other factors? For this reason, evaluation of results is not always appropriate for all training.

Methods of Level 1 Data Collection

The most common method in collecting data for Level 1, reaction, is the questionnaire. It is a simple cost and time effective procedure that collects quantitative data (Phillips & Stone, 2002). Kirkpatrick (1998) indicated that most trainers use the reaction sheet to measure the learner's satisfaction with the training. Since some are not effective, he demonstrated the guidelines that will help trainers to obtain maximum benefits from the reaction sheet.

First is to determine what the trainers want to find out (Kirkpatrick, 1998). It allows the trainers to decide what they want to measure. This will help the trainer design and create questions to be answered in determining learners' reaction whether or not they like it. The categories include content questions, process questions, and context questions (Guskey, 2000). Content questions allow trainers to know if the learners perceive new knowledge and more understanding about the content. Examples of content questions include the following:

- Were the issues explored relevant to your professional responsibilities?

- Did you have adequate opportunities to explore the theory and supporting research?

- Did the content make sense to you?

- Did this topic address an important need?

- Was the material you reviewed difficult to understand?

- Did the content relate to your situation?

- Was your time well spent?

- Was your understanding of this topic enhanced?

- Will what you learned be useful to you?

- Will you be able to apply what you learned? (Guskey, 2000, p. 95-96).

Process questions deal with "the conduct and organization of the professional development experience" (Guskey, 2000, p. 96). The questions are generally about the structure and format of the activities that make it easier for the participants' learning. Some examples of process questions are as follows:

- Did the materials used enhance your learning?

- Were the activities in which you engaged carefully planned and well organized?

- Were goals and objectives clearly specified when you began?

- Were new practices modeled and thoroughly explained?

- Did you use your time efficiently and effectively?

- Did you have access to all necessary materials and resources?

- Did your experience include a variety of learning activities?

- Were the activities relevant to the topic?

- Was sufficient time provided for the completion of tasks? (Guskey, 2000, p. 96-97).

The last category of questions is the context questions. The questions relate to the environment where the learning takes place (Guskey, 2000). The researcher would not take this category in evaluation since the training occurs via web-based training where the learners can individually learn anywhere at their convenience. Furthermore, Phillips and Stone (2002) stated that Level 1 return on investment (ROI) data collection helps the trainers predict how the learners plan to apply the training and tend to use it in the workplace for improved results. The questions also increase learners' attention on the program outcome and thought beyond the application. Examples of the questions of impact and ROI in Level 1 evaluation are as follows:

- As a result of this program what do you estimate to be the increase in your personal effectiveness, expressed as a percentage?

- Please indicate (specifically) what you will do differently on the job as a result of this program.

- What confidence, expressed as a percentage, can you put in your estimate? (0% = No Confidence; 100% = Certainty) (Phillips & Stone, 2002, p. 79-80).

The second guideline for evaluation reaction is designing a form that will quantify reactions. "The ideal form provides the maximum amount of information and requires the minimum amount of time" (Kirkpatrick, 1998, p. 26). Some formats are highly structured and standardized which include multiple-choice items that "can be optically scanned in order to quickly tally participants' responses" (Guskey, 2000, p. 100). Figure 5 can be quantified and used to establish standards for reaction evaluation.

ASTD INSTITUTE

Leader _____ Subject _____

Date _____

1. Was the subject pertinent to your needs and interests?

 ☐ No   ☐ To some extent   ☐ Very much so

2. How was the ratio of lecture to discussion:

 ☐ Too much lecture   ☐ O.K.   ☐ Too much discussion

3. Rate the leader on the following:

	Excellent	Very good	Good	Fair	Poor
A. Clarifying objectives					
B. Keeping the session alive and interesting					
C. Using audiovisual aids					
D. Maintaining a friendly and helpful manner					
E. Illustrating and clarifying points					
F. Summarizing					

What is your overall rating of the leader?

 ☐ Excellent   ☐ Very good   ☐ Good   ☐ Fair   ☐ Poor

4. What would have made the session more effective?

_____

_____

_____

_____

_____
Signature (optional)

Figure 5. Example Reaction Form to Measure Learner Satisfaction of Training Program

Source: Craig, 1996

Step three is to encourage written comments and suggestions. The trainer can explore more information in depth about his perception toward training. It is very important to gain suggestions on what can be done to improve the training program (Kirkpatrick, 1998). Open-

ended questions can offer learners more flexibility and greater latitude in describing their reactions to the professional development experience (Guskey, 2000, p. 101).

Step four is to get a 100% immediate response. It is important to let the learners complete the evaluation right after they finish the training to get the uppermost value of the reaction sheet. The more time delay for evaluation, the less chance the learner will do it or the return form may not be a good indication of the reaction of the group as a whole (Kirkpatrick, 1998).

Step five is to get an honest response. It has been proven that best way to get an honest response is to make the form anonymous. When the learners know that their feedback is kept confidential and they do not have to reveal their identity, they will be more willing to answer the questions truthfully (Kirkpatrick, 1998).

Step six is to develop acceptable standards. Using the Likert scale rating can establish a standard of acceptable performance. The examples of the response rate on a form are excellent = 5, very good = 4, good = 3, fair = 2, and poor = 1 (Kirkpatrick, 1998). An example of the reactions from 27 participants might be as follows:

10 Excellent	$10 \times 5 = 50$
10 Very good	$10 \times 4 = 40$
5 Good	$5 \times 3 = 15$
1 Fair	$1 \times 2 = 2$
1 Poor	$1 \times 1 = \underline{1}$
27 Total participants	108 Total points

Dividing 108 (total points) by 27 (total participants), we get a rating of 4. Experience in a particular organization can provide data for the establishment of a standard of performance for all instructors (Craig, 1996, p. 296).

Step seven is to measure reactions against standards and take appropriate action. Once the standards are set, it is necessary to compare various aspects of the program against the standards. There are several appropriate actions after the evaluation (Kirkpatrick, 1998, p. 36):

1. Make a change – in leaders, facilities, subject, or something else.

2. Modify the situation. If the instructor does not meet the standard, help by providing advice, new audiovisual aids, or something else.

3. Live with an unsatisfactory situation.

4. Change the standard if conditions change.

The last procedure of the guidelines for evaluating reaction is to communicate reactions as appropriate. The way of communicating should be varied to meet the different needs of stakeholders. Different stakeholders have different interests in the results relevant to their roles in training (Kirkpatrick, 1998).

Summary

The e-Scholar program follows UW-Stout's strategic plan in continuing to improve the excellence of students' learning by "utilizing technology to create a student-centered environment where active learning is the core approach..." (UW-Stout, 2007b, para. 1). Today's technology has been developed with internet and computer help in facilitating the students' learning with a ubiquitous delivery of services. E-learning is a trend of learning which brings potential and effectiveness to many organizations and education. The Blue Drive online tutorial is one of the e-learning tools to assist students on how to utilize Blue Drive, a new network for effective storage of data.

The Blue Drive online tutorial is a web-based training, a just-in-time training using computer and internet to deliver training. Web-based capabilities allow students to direct their

own learning path anywhere and anytime at their convenience. It is considered to be an appropriate method to deliver the Blue Drive training. Furthermore, there are studies in creating effective web-based training which include adult education facilitation, accessibility, and personalization.

One way to identify if the web-based training is effective is to use Kirkpatrick's Four Levels of Evaluation. They are reaction, learning, behavior, and result. Level-1, reaction is an appropriate evaluation to measure students' satisfaction toward the training as the initial implement. The reaction result can be important information for the program to adjust or refine the training content, design, or delivery. There is also a guideline for reaction evaluation to maximize the quality of data collection which will be provided in chapter three.

Chapter III: Methodology

Introduction

The purpose of this study was to determine if the Blue Drive online tutorial was effective based on content, process, and overall quality of training delivery by identifying the level of satisfaction of the UW-Stout students. Since this tutorial was recently implemented and it has not been evaluated, it is essential to measure student's perception towards the tutorial. Therefore, Level 1, reaction Kirkpatrick evaluation is used in this study in order to define the extent to which the students project the positive reaction and influence the expected future result.

The methods and procedures used in this study of the reaction evaluation of the Blue Drive online tutorial are explained in this chapter under the headings of method of study, sample selection, instrumentation, procedures, and method of analysis.

Method of Study

The procedures of this study followed formative evaluation occurred during the program. Its purpose is to early diagnose the flaw and weakness of the program and be able to improve it for the assurance of the expected result (Guskey, 2000). The result this study sought to offer as guidelines were to improve the content, design and delivery of the tutorial. The quantitative data was specifically used to address the problem. The survey was used as a tool in this study to measure the students' perception whether they were satisfied and engaged by the Blue Drive online tutorial. The survey was developed in an online format for easy access since the students are provided with laptops and internet access. Online survey can increase the response rate since students can easily and quickly access and submit the survey. Besides, the researcher could obtain the survey faster and decrease the mailing cost.

Target Population and Sample Selection

There are two groups of respondents with a total number of 171 including the pilot students of Fall 2007 and students in certain class who intended to use Blue Drive in Spring 2008. First is the target population of the pilot students with the total size of 98 who used Blue Drive in Fall 2007 semester. They were involved with face-to-face training in how to utilizing Blue Drive to meet their education goals. There were four pilot test classes: NANO 401, APSC 201, APSC 401 and TECH 295. Even though the students no longer attend these classes, they had learned and were involved with Blue Drive and had more chance of utilizing the Blue Drive online tutorial in Spring semester 2008. The other group is the students in the classes which intend to use Blue Drive and more likely to have a need for Blue Drive online tutorial. The total size of the Spring semester 2008 group was 73. The list of the students was recommended by Blue Drive team stakeholder to ensure the response were from the Blue Drive participants. This can increase the response rate because they are more related to the Blue Drive. The classes included CS 143; CTEM 701, 703, 704, 705, 706, 707; MFGE 352; MFGE 440; PSYC 791; and SUST 730. There was no sample selection in this study because the total size of two study groups is not too big and manageable.

Instrumentation

A survey instrument was designed and administered to a sample group of UW-Stout students to gauge the level of satisfaction towards the Blue Drive online tutorial. Surveys or questionnaires are often used in evaluation to measure attitudes, opinions, behavior, life circumstances (income, family size, housing condition, etc.) or other issues (Fitzpatrick et al, 2004). There are many advantages of using a survey. Alreck and Settle (1995) stated that because of its flexibility and versatility the survey can collect all kinds of information of volume

data to a degree of complexity. Moreover, the survey can provide specialization and efficiency. A well designed and well organized survey can contribute to effective information.

The survey was designed to be completed on-line. Shaefer and Dillman (1998) found that "online surveys result in response rates similar to those achieved with mailed surveys, but provide superior data because people type in more complete answers to open-ended items than they are willing to write on mailed surveys (as sited in Fitzpatrick et al., 2004, p. 346). Preparing the instrument was done with the primary concern of using effective survey question. In 1995, Alreck and Settle noted that survey questions should be specific, as short and brief as possible, simple and clear. The rules for writing survey are as follows:

1. Each question should be meaningful to respondent

2. Use standard English

3. Make questions concrete

4. Avoid biased words and phrases

5. Check your own biases

6. Do not get too personal

7. Each question should have just one thought (Fink & Kosecoff, 1985, p. 30 – 31).

The sources of questions are from different sources. They are from the UW-Stout Stake holders including the e-Scholar program coordinator, the network manager and the network specialist. The source was also from research in the program field such as the web-based training evaluation and how to conduct a survey. Using professional standards, asking expert consultants and evaluator's professional judgment were also used to establish the survey questions. Both close and opened-ended questions were developed (Appendix A). Closed questions were measured through Likert-scale items which rate the response towards online tutorial's

satisfaction from Strongly Agree, Agree, Undecided, Disagree and Strongly Disagree. These

items can reflect an attitude on the construct of interest. It was also used when seeking their

classification and major to identify the level of computer skills. The frequency of using the

tutorial was also indicated to identify the significance of the tutorial in assisting the students and

the rates starts from Always, Occasionally, Seldom and Never. The additional questions were

focused on the level of positive reaction towards the online tutorial. The survey questions are

categorized into three sections to meet the study objectives including tutorial content, process

and overall. For example, whether the content were useful, accurate and adequately; the tutorial

tool was easy and used effectively; and if the students were overall satisfied by the tutorial as it

was helpful in utilizing Blue Drive more effectively as shown in Table1.

Table 1

The Questionnaire that Meets the Research Objectives

Questionnaire	Research Objectives		
	Content's Quality	Effective Training Delivery	Meet Satisfaction
1. What is your classification?	Background Information		
2. What is your class? (Only to current students of Spring 2008)			
3. How often have you used Blue Drive online tutorial?			
Content			
4. The overall content of tutorial makes sense to you	X		
5. The content of tutorial was accurate	X		
6. The content of tutorial was adequate delivered	X		
7. The tutorial has answered your questions concerning use of Blue Drive	X		
Process			
8. The tutorial tool is easy to use		X	
9. The tutorial engaged you in learning		X	
10. The length of each tutorial was used effectively		X	
11. I am satisfied by the audio and visual to help in learning more effectively		X	
Overall			
12. I will be able to apply the tutorial to my coursework and assignment			X
13. I gained more confidence to perform the task after the training			X
14. I am satisfied with what I learned from the tutorial			X
15. How would you rate the overall value of the tutorial?			X
16. What could be done to improve this tutorial?			X

The total number of questions is 15 for the pilot students of Fall 2007 and 16 questions for the current students of Spring 2008. The different question is a question number two which asks about the respondents' classes they attend in Spring 2008. Furthermore, though an opened-ended question can decrease the response rate, it can provide useful additional information and give the respondents an opportunity to voice alternative views (Fink & Kosecoff, 1985). The students were asked for suggestions to any changes for future improvement including content, design and delivery of the tutorial.

The survey questions were reviewed by the Blue Drive team as the UW-Stout stake holders. This helped the researcher to refine the questions to be more meaningful and ensure that the questions were incorporated to serve the program goals. The survey instrument was also piloted with current students who are currently enrolled at UW-Stout and intended to seek help from Blue Drive online tutorial to utilize Blue Drive more effectively. The reviews from both stakeholders and the pilot test helped adjust the questions to be clearer, specific and simple which lead to the increase of the response rate and the more meaningful data.

Procedures

An introduction letter was e-mailed via UW-Stout e-mail addresses to prepare the students for the survey. (Appendix B). It briefly informed the students that they were encouraged to complete the survey so that they would get a more effective tutorial to assist them in utilizing Blue Drive more effectively. The e-mail addresses were obtained from the network specialist who was also recommended for the sampling group. A day after, another letter was sent to the students electronically in order to inform them to complete the survey. (Appendix C). The survey link was directed to the online survey sponsored by UW-Stout. There were two different online survey forms including the Blue Drive Online Tutorial for Pilot Student FA07

(Appendix D) and the Blue Drive Online Tutorial for Spring Student 2008 (Appendix E). The

survey with 16 questions would take about two minutes to complete. Since the surveys followed

the standard format of UW-Stout, the students were more likely to be familiar with the survey,

therefore, increasing the response rate. The last contact was the follow up letter as a friendly

reminder for survey completion. It also thanked the students who had already responded

(Appendix F).

Data Analysis

The data gathered was placed in a spreadsheet in Microsoft Excel for analysis. Some

data was adjusted by removing any incomplete or error answers. The example was when the

respondents answered "Never" to the question of the frequency of using the Blue Drive online

tutorial. It was considered that their answers would not be significant to the study. Accepted

responses were noted. Data was analyzed to percentage, mean and standard deviation. Those

numbers would be compared if there was any similarity or difference between the pilot students

of Fall 2007 and the current students of Spring 2008. The open-ended responses were reported.

Areas of attention were noted and reported in Chapter IV

Limitation of the Study

1. There was bias in selecting the target population which may have affected the result. The

   sample group was formed by the Blue Drive team in order to ensure the respondents have

   experience with the Blue Drive online tutorial since it is optional.

2. The results of this study were specific to the certain group. It may be not generalized to

   all UW-Stout students.

3. Although every effort was made to create a valid and reliable instrument, some of the

   questions could have been open to misinterpretation.

Chapter IV: Results

Introduction

The purpose of this field problem study was to determine the effectiveness of the Blue

Drive online tutorial at UW-Stout. Level 1, reaction, of Kirkpatrick's evaluation was used to

measure the level of students' satisfaction towards the tutorial. An online survey model was

conducted with a population size of 171 including 73 students in a fall 2007 pilot and 98 students

in spring 2008. This target population choice was made because the pilot students were involved

with Blue Drive training and the spring students list was recommended by the Blue Drive team

as they were more likely to utilize Blue Drive for their class project in spring 2008. The online

survey was sent out via Stout email addresses and the response was increased by a follow-up

survey. Twelve responses were received from the pilot students from fall 2007 and 22 responses

were from the spring 2008 students.

This chapter will present the findings of the survey and analyze the data. The results are

divided into two sections: fall 2007 pilot students' responses and spring 2008 students'

responses. Then there will be analysis of these two results to find if there is any significant

difference or similarity of the results.

Results from Spring 2008 and Fall 2007 Pilot Students

Thirty-four responses were received including both the spring students and pilot students

resulting in a response rate of 38%. Twenty two percent of the responses are from the spring

students and 16% are from the pilot students. As shown in Table 2, the number of responses is

low and the results of this study cannot be generalized to the entire student population of UW-

Stout.

Table 2

Number of Responses

Group	Sent out	Number Returned	Return Percent
Spring 2008 Students	98	22	22
Pilot Students	73	12	16
Total	171	34	38

The majority of the responses were undergraduate students. In the spring students group, there were 18 undergraduate students and four graduate students. They were from different classes: Manufacturing Process Engineering II (MFGE 352), Manufacturing System Design and Simulation (MFGE 440), Computer Program for Multimedia 2 (CS 143), and Research for Decision Making (PSYC 491). Responses are shown in Table 3.

Table 3

Respondents from Spring 2008 Group by Course

Group	Number Received	Percent of Total
Manufacturing Process Engineering II (MFGE 352)	7	32
Manufacturing System Design and Simulation (MFGE 440)	2	9
Computer Program for Multimedia 2 (CS 143)	9	41
Research for Decision Making (PSYC 491)	4	18
Total	22	100

In the pilot group, all of the responses were from undergraduate students. There is no class identified because they have completed fall semester and their class could not be matched with the spring students.

Both spring students and pilot students were asked the same questions in an online survey except the class question which only was asked of spring students. Table 3 shows the results of the study by displaying the mean and the p-value of current and pilot.

The data analysis used in this study is t-test. T-test is to assess if there are any statistically differences between the means of two groups (Research Methods Knowledge Base, 2006). T-test generates the p-value which is the result of the comparison between the two samples. P-value is the probability that the assumption of a sample given is a null hypothesis, a refused statement, is true. A p-value of 0.05 demonstrates that only a 5% chance of drawing the sample being tested if the null hypothesis was actually true. (Wikipedia, 2008). P-value in this study shows that there is no significance difference between the responses of the spring students and pilot students. The entire value of p-value in each question shows that it is more than 0.05 which represents an insignificant difference. As a result, conclusions can be made about the spring students and pilot students as a group.

It is noted that the responses of participants who answered that they had never used Blue Drive were not taken into account due to no experience or feed back toward the tutorial. There were only six respondents in the group of spring students and four respondents in the pilot group who had used the tutorial resulting in an actual response group of 10 respondents. The results of their reactions toward the Blue Drive online tutorial are in Table 4 with 1 is low and 5 is high.

Table 4

Results of Study for Each Group and p-value

Question	Mean of Spring	Mean of Pilot	P(T<=t) one-tail
Content			
1. How often have you used the Blue Drive online tutorial?	2.5	2.75	0.3
2. The overall content of tutorial makes sense to you	3.67	3.5	0.37
3. The content of tutorial was accurate	3.5	3.25	0.3
4. The content of tutorial was adequately delivered	3.33	3.5	0.39
5. The tutorial has answered your questions concerning use of Blue Drive	3.5	4	0.22
Tutorial Delivery			
6. The tutorial tool is easy to use	2.83	4	0.09
7. The tutorial engaged you in learning	2.83	3.67	0.15
8. The length of each tutorial was used effectively	3	3.33	0.29
9. I am satisfied by the audio and visual to help in learning more effectively	3.17	4	0.09
Overall Satisfaction			
10. I will be able to apply the tutorial to my coursework and assignment	3.2	3	0.41
11. I gained more confidence to perform the task after the training	3.4	3.5	0.42
12. I am satisfied with what I learned from the tutorial	3.2	3.5	0.34
13. How would you rate the overall value of the tutorial?	2.8	2.5	0.37

Table 4 includes responses from both groups. Question one asked how frequently they had used the Blue Drive online tutorial. The response of both groups was that they used the Blue Drive online tutorial seldom or occasionally. In content section, the respondents were asked if the contents were sufficient. Three questions in this section have the same response that the students have not decided if the content was effective since they did not have much experience with the tutorial which was shown in question one. They could not answer if the content of the tutorial made sense or is accurate or adequate. However, in question five, the respondents assume that the tutorial would assist them to answer the questions they might have for Blue Drive.

The next section is the tutorial delivery. It was conducted to determine if the students thought the tutorial was delivered effectively. There was a minor difference in responses for the question asking if the tutorial is easy to use. The spring students tended to be undecided whereas the pilot students seemed to agree. It is assumed that the pilot had experience with the face to face training from the Blue Drive team before using the online tutorial. As a result, the previous training they obtained may have helped them to understand Blue Drive better than the spring students who had no background on it. In question seven, the respondents' answers ranged from undecided to agree that the tutorial engaged them in learning. For question eight, the average respondent answered that he/she was undecided about whether the length of each tutorial was effective. Based on question one, they rarely used the tutorial. There were several units of the tutorial, as a consequence, they did not explore and did not have any feedback on whether the length of the tutorial was appropriate. The last question in this section asked if they liked the audio and visual in helping them in learning more effectively. The response ranged from undecided to agree.

The last section asked about the overall satisfaction towards the Blue Drive online tutorial. The majority of these answers were undecided. Since they used little of the tutorial, they could not answer if they like the tutorial and if the tutorial would help them in using Blue Drive more effectively. They were not sure if they would be able to apply the tutorial to their coursework and assignment and gain confidence to perform the task. In addition, they concluded that they were not sure if they were satisfied with the tutorial and rated the overall value of the tutorial an average ranging from fair to good.

Comments from Respondents

The last question was an open-ended question to allow the respondents to state their opinion on whether there is anything that could be done to improve the tutorial. Most of the feedback suggested that they have not used the tutorial so they did not have any input. The following is the list of the comments from spring students:

1. I have never been used the tutorial. Where can I find it? Lynda.uwstout.edu?

2. I did not look at the tutorial

3. I never use the tutorial, so therefore I have no benefit from it.

4. I have not used it...

Moreover, it was assumed that Blue Drive is new to many students since it was initiated in fall 2008 and there was no implementation to class yet. As a result, this reaction evaluation was probably done too soon. There was an email response sent to the Blue Drive team to support that why there was a low response on this survey: "I can't speak for other students, but I keep choosing not to fill out the survey because even after I say I've never used the tutorial, the survey continues to demand info about what I thought of it. Maybe this information would be useful to Korawan in that research project." In addition, there was a comment in the open-ended

question that said "Rewrite the program for this survey so that if you say that you have not used the tutorial, it doesn't continue you through the survey." It shows that there were needs to improve the questions to allow the respondents to answer if they had not used Blue Drive.

However, there was one comment which showed that the tutorial was satisfied and useful: "It was very informational and I was able to complete what was needed of me in my class because of it."

Chapter V: Summary, Conclusions, and Recommendations

This chapter includes a summary of the study, conclusions, recommendations, and opportunities for further study.

Summary of the Study

This field problem sought to determine the effectiveness of the Blue Drive online tutorial using Kirkpatrick's level 1, reaction evaluation, to determine the level of UW-Stout students' satisfaction toward the tutorial. The goal was to help identify whether or not the students are engaged and more apt to utilize the system when needed. It is necessary to evaluate this tutorial since it was first initiated in spring 2008 to assist students in utilizing Blue Drive more effectively. The results of the study will help the Blue Drive team to improve the Blue Drive on-line tutorial for better training delivery and course design.

The review of literature provided guidance in creating a survey to measure the students' perception towards web-based training. Two main topics addressed were web-based training relating to the Blue Drive online tutorial and level 1 reaction evaluation to measure students' satisfaction in using the Blue Drive online tutorial.

An online survey was designed and administered to the target population of 171 UW-Stout students. There were two groups in this population including 73 students in a pilot group from fall 2007 and 98 students from spring 2008. The spring students were recruited based on the recommendation from the Blue Drive team that the students intend to use Blue Drive as part of their class project. The procedure involved sending out an invitation via Stout email to the target population to inform them that they were encouraged to complete the survey in order to help the Blue Drive team improve the Blue Drive online tutorial. The email survey was sent with the survey links directed to an online survey sponsored by UW-Stout. The follow-up email was

administered with a letter from Jane Henderson, the e-Scholar program coordinator in order to increase the students' response.

The total response was 38 students. Of all the students 16% were pilot students and 22% were spring students. The results were adjusted for the relevance of the results. If the students responded that they had never used the Blue Drive online tutorial, the rest of their answers were declined since they had no experience to provide feedback. Four responses were from pilot students and 6 responses were from the current students who reported that they had used the tutorial. As a result, this study cannot be generalized to the entire campus' reaction toward the tutorial due to the small population and low response.

Conclusion

The same conclusions can be drawn from both groups because there was no significant difference between their results as indicated by the results of the T-test. In all questions, a value of $p > 0.05$ was noted which indicates an insignificant difference. The majority of the respondents were undergraduate students.

The result of this study can answer the two objectives. The first objective was to determine the students' perception based on content, process and overall quality of training delivered. The finding was that participants were undecided about whether the Blue Drive online tutorial is effective based on Level 1, reaction evaluation. On average, the participants only had a small use for the tutorial ranging from seldom to occasional. This result indicated that there were not much feedbacks towards the tutorial.

The questions were categorized into three sections including the quality of content, training delivery and overall satisfaction towards Blue Drive online tutorial. Regarding content of the tutorial, the respondents could not report if they thought the content was accurate,

adequate, or helpful to them. They had not spent enough time on the tutorial. As a consequence, they answered undecided if the tutorial was helpful to them in using Blue Drive more effectively.

The next section of the questionnaire was to determine if the students thought the tutorial was delivered effectively. The answers were similar to the previous section as they did not have any thoughts on it because of the lack of experience in using the tutorial. They answered undecided about the length of each tutorial and if the audio and visual engaged students in learning the tutorial.

The second objective was to determine the students' satisfaction of the Blue Drive tutorial. The overall satisfaction was the last section in the questionnaire, which can answer the second objective of this study. The respondents reported that it was undecided if they were satisfied by the tutorial and if the tutorial was effective. This is a consequence from the first question which indicated the lack of the experience in using Blue Drive online tutorial.

Limitations of the Study

1. There was a bias in forming the target population. It was recommended by the Blue Drive team to ensure the responses were from the students who would use the Blue Drive online tutorial.

2. The small size of the target population decreased the number of responses. The total population was 171 students and only 34 responses were received. The results from this study could not be generalized to the entire campus because of the small number of responses.

3. Not much response due to the uncertain of using Blue Drive in the class so there may not be a need for using Blue Drive online tutorial. Even though the group of current

students of spring 2008 was recommended by the Blue Drive team, there was no assurance that they would utilize Blue Drive in class or the tutorial.

4. Blue Drive is a new network storage program initiated at UW-Stout since fall 2007 so it was assumed that not many students have utilized it resulting in limited use of the Blue Drive online tutorial as well. Even though Level 1, reaction evaluation, is suitable to determine the program's effectiveness in first stage of program, it was still too soon to measure since Blue Drive had not yet been marketed at UW-Stout.

5. There was a weak point in the questionnaire. The survey did not allow the respondents to discontinue the survey after answering that they had not used the Blue Drive tutorial. This could have decreased the response rate if they became frustrated with the survey.

Recommendations

1. Correct the imperfection in the survey instrument for more effective results. For example, the questionnaire should have asked why the participants had not used Blue Drive. This would allow the researcher learn if there is the barrier in using it. This information can be integrated to their reaction towards the tutorial.

2. The Level 1 reaction evaluation should be implemented after the program has been initiated for a certain period of time. The evaluation can be ineffective when the program has not been fully utilized, resulting in no feedback from it. There should also be an additional study to determine if there are any students and teachers who try to implement Blue Drive in their class or try to ask for help from the ASK5000 help desk. This would show that there are needs in using Blue Drive.

3. Survey data may be used for a needs assessment to determine if there is a need in

using Blue Drive and its tutorial. The needs assessment can provide the Blue Drive team for improvement and better marketing.

4. The Blue Drive team can benefit from the survey results for future planning. It can be used for data to improve the tutorial to better assist students in using Blue Drive. Blue Drive is not only for network storage but can be more utilized in different ways such as e-portfolio and wiki. This study can be more helpful to develop the tutorial to meet their future needs.

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Appendix A: The List of Questions for Online Survey

Information Background

17. What is your classification?

18. What is your class? (Only to current students of Spring 2008)

19. How often have you used Blue Drive online tutorial?

Content

20. The overall content of tutorial makes sense to you

21. The content of tutorial was accurate

22. The content of tutorial was adequate delivered

23. The tutorial has answered your questions concerning use of Blue Drive

Process

24. The tutorial tool is easy to use

25. The tutorial engaged you in learning

26. The length of each tutorial was used effectively

27. I am satisfied by the audio and visual to help in learning more effectively

Overall

28. I will be able to apply the tutorial to my coursework and assignment

29. I gained more confidence to perform the task after the training

30. I am satisfied with what I learned from the tutorial

31. How would you rate the overall value of the tutorial?

32. What could be done to improve this tutorial?

Appendix B: Introduction Survey Email

Blue Drive

February 5, 2008

Dear UW-Stout student,

You will be receiving a brief online survey soon. If you could take few minutes to complete it,

your input will enable Blue Drive team to offer you a more effective tutorial in the future.

Thank you.

Sincerely,

Korawan Muangmode
Graduate Assistant
The e-Scholar: Blue Drive (Xythos) Project
Masters of Science in Training and Development
University of Wisconsin-Stout

Appendix C: Survey Email

Blue Drive

February 6, 2008

Dear UW-stout student,

Blue Drive online tutorials were developed to assist students with using Blue Drive as new

network storage. This reaction survey will assist the Blue Drive team with improving the tutorial

to better assist student in using Blue Drive.

I would appreciate it if you submit this survey electronically by February 15, 2008. Your

response will be confidential and will be used only for data collection.

Thank you very much for your participation.

Please click below to take this short 16 question survey:

http://www2.uwstout.edu/GeneralSurveys/TakeSurvey.asp?SurveyID=60J77mMI67361

Sincerely,

Korawan Muangmode
Graduate Assistant
The e-Scholar Program: Blue Drive (Xythos) Project
Masters of Science in Training and Development
University of Wisconsin-Stout

Appendix D: Blue Drive Online Tutorial for Pilot Student FA07

CreateSurvey™ continued

| Home | New Survey | Surveys | Libraries | Templates | Email Lists | Reports | My Account | Help | Logout |

Modify Survey ⊘

| Launch | Done |

This survey has at least one response. Only limited changes are allowed on a survey with responses. To fully edit this survey, you must first delete all of the responses, which can be done by clicking here.

Blue Drive Online Tutorial for Pilot Students FA07 [edit]

Background Information

[edit page properties | move page]

1. What is your classification?*
   Select at least 1 response and no more than 1 response.

   [ ] Undergraduate

   [ ] Graduate

   [ ] Special (non-degree seeking)

   | edit |
   | move |
   | pipe |

2. How often have you used Blue Drive online tutorial?*
   Select at least 1 response and no more than 1 response.

   [ ] Always

   [ ] Occationally

   [ ] Seldom

   [ ] Never

   | edit |
   | move |
   | pipe |

Content

[edit page properties | insert page conditions | remove page break | move page]

3. The overall content of tutorial makes sense to you*
Select at least 1 response and no more than 1 response.

☐ Strongly Agree

☐ Agree

☐ Undecided

☐ Disagree

☐ Strongly Disagree

edit
move
pipe

4. The content of tutorial was accurate*
Select at least 1 response and no more than 1 response.

☐ Strongly Agree

☐ Agree

☐ Undecided

☐ Disagree

☐ Strongly Disagree

edit
move
pipe

5. The content of tutorial was adequate delivered*
Select at least 1 response and no more than 1 response.

☐ Strongly Agree

☐ Agree

☐ Undecided

☐ Disagree

☐ Strongly Disagree

edit
move
pipe

6. The tutorial has answered your questions concerning use of Blue Drive*
Select at least 1 response and no more than 1 response.

☐ Much

☐ Some

☐ Very little

☐ Almost none

☐ None

edit
move
pipe

Process

7. The tutorial tool is easy to use*
    Select at least 1 response and no more than 1 response.

    ☐   Strongly Agree

    ☐   Agree

    ☐   Undecided

    ☐   Disagree

    ☐   Strongly Disagree

    edit
    move
    pipe

8. The tutorial engaged you in learning*
    Select at least 1 response and no more than 1 response.

    ☐   Strongly Agree

    ☐   Agree

    ☐   Undecided

    ☐   Disagree

    ☐   Strongly Disagree

    edit
    move
    pipe

9. The length of each tutorial was used effectively*
    Select at least 1 response and no more than 1 response.

    ☐   Strongly Agree

    ☐   Agree

    ☐   Undecided

    ☐   Disagree

    ☐   Strongly Disagree

    edit
    move
    pipe

10. I am satisfied by the audio and visual to help in learning more effectively*
    Select at least 1 response and no more than 1 response.

    ☐   Strongly Agree

    edit
    move
    pipe

☐ Agree

☐ Undecided

☐ Disagree

☐ Strongly Disagree

Overall

| edit page properties | insert page conditions | remove page break | move page |

11. I will be able to apply the tutorial to my coursework and assignment*
Select at least 1 response and no more than 1 response.

☐ Strongly Agree

☐ Agree

☐ Undecided

☐ Disagree

☐ Strongly Disagree

`edit` `move` `pipe`

12. I gained more confidence to perform the task after the training*
Select at least 1 response and no more than 1 response.

☐ Much

☐ Some

☐ Very little

☐ Almost none

☐ None

`edit` `move` `pipe`

13. I am satisfied with what I learned from the tutorial*
Select at least 1 response and no more than 1 response.

☐ Strongly Agree

☐ Agree

☐ Undecided

☐ Disagree

`edit` `move` `pipe`

Strongly Disagree

---

14. How would you rate the overall value of the tutorial?*
Select at least 1 response and no more than 1 response.

Excellent

Very good

Good

Fair

Poor

edit
move
pipe

---

15. What could be done to improve this tutorial

edit
move
pipe

Launch   Done

Appendix E: Blue Drive Online Tutorial for Spring Student 2008

| Home | New Survey | Surveys | Libraries | Templates | Email Lists | Reports | My Account | Help | Logout |

Modify Survey ⟡

| Launch | Done |

This survey has at least one response. Only limited changes are allowed on a survey with responses. To fully edit this survey, you must first delete all of the responses, which can be done by clicking here.

Blue Drive Online Tutorial Survey [edit]

Background Information

[edit page properties | move page]

1. What is your classification?*
   Select at least 1 response and no more than 1 response.

   ☐ Undergraduate

   ☐ Graduate

   ☐ Special (non-degree seeking)

   [edit] [move] [pipe]

2. What is your class?*

   [-- Please Select -- ▾]

   [edit] [move] [pipe]

3. How often have you used Blue Drive online tutorial?*
   Select at least 1 response and no more than 1 response.

   ☐ Always

   ☐ Occationally

   ☐ Seldom

   ☐ Never

   [edit] [move] [pipe]

Content

| edit page properties | insert page conditions | remove page break | move page |

4. The overall content of tutorial makes sense to you*
Select at least 1 response and no more than 1 response.

[edit] [move] [pipe]

☐ Strongly Agree

☐ Agree

☐ Undecided

☐ Disagree

☐ Strongly Disagree

---

5. The content of tutorial was accurate*
Select at least 1 response and no more than 1 response.

[edit] [move] [pipe]

☐ Strongly Agree

☐ Agree

☐ Undecided

☐ Disagree

☐ Strongly Disagree

---

6. The content of tutorial was adequate delivered*
Select at least 1 response and no more than 1 response.

[edit] [move] [pipe]

☐ Strongly Agree

☐ Agree

☐ Undecided

☐ Disagree

☐ Strongly Disagree

---

7. The tutorial has answered your questions concerning use of Blue Drive*
Select at least 1 response and no more than 1 response.

[edit] [move] [pipe]

☐ Much

☐ Some

☐ Very little

☐ Almost none

☐ None

Process

8. **The tutorial tool is easy to use***
   Select at least 1 response and no more than 1 response.

   ☐ Strongly Agree

   ☐ Agree

   ☐ Undecided

   ☐ Disagree

   ☐ Strongly Disagree

   `edit` `move` `pipe`

9. **The tutorial engaged you in learning***
   Select at least 1 response and no more than 1 response.

   ☐ Strongly Agree

   ☐ Agree

   ☐ Undecided

   ☐ Disagree

   ☐ Strongly Disagree

   `edit` `move` `pipe`

10. **The length of each tutorial was used effectively***
    Select at least 1 response and no more than 1 response.

    ☐ Strongly Agree

    ☐ Agree

    ☐ Undecided

    ☐ Disagree

    ☐ Strongly Disagree

    `edit` `move` `pipe`

11. **I am satisfied by the audio and visual to help in learning more effectively***
    Select at least 1 response and no more than 1 response.

    `edit` `move`

☐ Strongly Agree

☐ Agree

☐ Undecided

☐ Disagree

☐ Strongly Disagree

Overall

| edit page properties | insert page conditions | remove page break | move page |

12. I will be able to apply the tutorial to my coursework and assignment*
Select at least 1 response and no more than 1 response.

☐ Strongly Agree

☐ Agree

☐ Undecided

☐ Disagree

☐ Strongly Disagree

13. I gained more confidence to perform the task after the training*
Select at least 1 response and no more than 1 response.

☐ Much

☐ Some

☐ Very little

☐ Almost none

☐ None

14. I am satisfied with what I learned from the tutorial*
Select at least 1 response and no more than 1 response.

☐ Strongly Agree

☐ Agree

☐ Undecided

Disagree

Strongly Disagree

15. **How would you rate the overall value of the tutorial?**

Select at least 1 response and no more than 1 response.

edit
move
pipe

Excellent

Very good

Good

Fair

Poor

16. **What could be done to improve this tutorial**

edit
move
pipe

Launch   Done

Appendix F: Follow Up Email

Dear UW-Stout Student,

As the e-Scholar program coordinator, I would greatly appreciate it if you would complete the

survey to support Korawan Muangmode's research project: Blue Drive online tutorial

Evaluation. Your feedback is very important to us and will improve the future blue drive

online tutorial.

This link can directly take you to Blue Drive online tutorial.

https://bluedrive.uwstout.edu/help/

Please click below to take this short 15 question survey:

http://www2.uwstout.edu/GeneralSurveys/TakeSurvey.asp?SurveyID=5J148m4L5lmMG

Thank you very much

Regards,
Jane Henderson
Jane Henderson
University of Wisconsin-Stout
hendersonj@uwstout.edu
715-232-5005
Title III Grant Project: http://www.uwstout.edu/mba/t3project/
e-Scholar Program: http://www.uwstout.edu/es/
Teaching and Learning Center: http://www.uwstout.edu/tlc/