

STUDENTS' ATTITUDE TOWARDS WEB-BASED
LEARNING RESOURCES

A Dissertation
presented to
the Graduate School of
Clemson University

In Partial Fulfillment
of the Requirements for the Degree
Doctor of Education
Career and Technology Education

by
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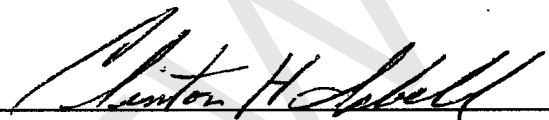
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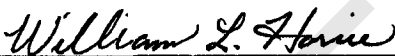
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To the Graduate School:


The dissertation entitled "Students' Attitudes Towards Web-Based Learning Resources" and written by Kageni Njagi is presented to the Graduate School of Clemson University. I recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Education with a major in Career and Technology Education.


Dr. Clint Isbell, Major Advisor

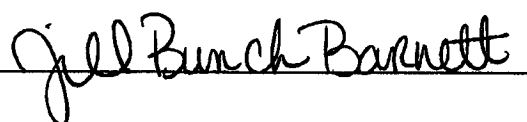
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ABSTRACT

The purpose of this study was to assess students' attitude towards web-based learning resources. Specifically, the study assessed (a) differences in attitude change, towards the Western Civilization class, for students using web-based resources and those using traditional textbooks; (b) differences in attitude change, towards computer technology, for students using web-based resources and those using traditional textbooks; (c) if age, gender, level in college, owning a personal computer, Internet accessibility at home, hours spent on the Internet per day, Internet time used for class work and percentage of project time used on the Internet, were predictors of attitude and (d) if level of computer literacy predicted students' attitudes toward Western Civilization class and computer technology. Participants (N=127) were students enrolled in Western Civilization classes at Clemson University, Massachusetts Maritime Academy, and Bridgewater State College. To assess differences in attitude-change, a pretest- posttest, non-equivalent control group design was used. ANOVA was used to assess differences in attitude-change and regression analysis was used to assess the relationship between demographic variables, computer literacy, and student attitudes. Alpha was set at .05.

Results indicated no significant difference in attitude-change between the groups. However, there was a positive significant relationship between computer literacy and attitude towards computer technology. Among the demographic variables, gender and time students spent on the Internet for class projects were found to predict positive attitude towards computer technology.

DEDICATION

I dedicate this work to my father, Rukenya Kamotho, my mother, Faith Ciatharaka, and my husband, Jackin Njagi Nanua, for the contribution each one of you has made in my life in very special ways.

PREVIEW

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CHAPTER I

NATURE OF PROBLEM

Introduction

The teaching and learning process has been dramatically altered by the convergence of a variety of technological, instructional, and pedagogical developments in recent times (Bonk & King, 1998; Marina, 2001; Smith, 2002). Garmer & Firestone (1996) concur that technology is challenging the boundaries of the educational structures that have traditionally facilitated and supported learning. Recent advances and especially in the area of computer technology have heralded the development and implementation of new and innovative teaching strategies.

Instructional technology is influencing education in many ways. Although education has brought significant contributions to society, it has remained elusive to many people. Instructional technology is bridging this accessibility gap by permeating the walls and opening doors for as many people as wish to participate in learning (Hanna, 1999). According to Hofmann (2002), educational opportunities are now accessible to students who in the past lacked opportunities due to such restraints as geography, time, family and money. Instructional technology is also influencing the way learners make choices on when to learn, how to learn, where to learn (Ling, Arger, Smallwood, Toomey, Kirkpatrick, & Banard, 2001). Additionally, the use of emerging technologies has enhanced distance learning (Bates, 1993; Marina, 2001). Due to these technological advances, McIsaac & Gunawardena, (1996) and Barker (2000) acknowledge the current difficulty in distinguishing between traditional and distance education settings. On-line learning is now considered the backbone of continuing education and is enabling educators to reach populations that would be otherwise inaccessible (McEwen, 2001).

The availability, of instant global communication systems, has also changed the way we view written documents for learning. In the past ten years, the World Wide Web has gained general popularity among the education community because of its low cost and ease of accessibility. The World Wide Web has brought to every one with Internet accessibility, the availability of on-line resources, allowing users to experience real personal interaction. Learning experiences involving more complex interactions between learners, and instructional content can now be designed with the increased multimedia capabilities in computer technology (Reiser, 2001). The increasing number of search engines eases searching the Web. Information can be easily retrieved through simple word searches. Information professionals have also created directories, in nearly all subjects, of what is viewed as the most useful and appropriate in their respective disciplines (Barnard, 1997).

Currently, there is greater possibility of accessing up-to-date content, as updating information on the web can be done faster and more easily than with textbooks. In addition, educators can make choices as to what technologies to integrate into their classroom situations from the large pool of resources available, such as CD-ROMs, DVD-ROMs, application software, multimedia applications, laserdisc, and communications applications (Shelly, Cashman, Gunter, & Gunter, 1999). Those who advocate technology integration in the learning process believe it will improve learning and better prepare students to effectively participate in the 21st century workplace (Butzin, 2000; Hopson, Simms & Knezek, 2002; Reiser, 2001; Marina, 2000).

Rather than asking whether to use technology, today's educators are concerned with how to use technology to enhance and enrich their learning environments (Barker, 2000). Ultimately, an attempt must be made to assist teachers at all levels to develop rich classroom environments that encourage active learning and higher level thinking skills; such as reflection, problem solving, flexible thinking and creativity (Grabinger, 1996; Hopson, Simms & Knezek, 2002). It is not surprising that institutions of higher learning

are forming partnerships and creating virtual universities to foster resource sharing in the learning environment. Some of the resource sharing is realized in course sharing. Course sharing is “using technology to share scarce resources (instructor) among geographically disbursed learners in order to create economic economies of scale” (Jackson, 2001). With necessary systems in place, like organized bodies of knowledge on the Internet, electronic books, web-based libraries, and schools, willing to facilitate the learning process, knowledge can be shared effectively irrespective of distance, locality, and time. (Gladieux & Swail, 1999; Lee, Baek & Spinner, 2002). Technology has no doubt become an integral part of higher education enabling students to access information rapidly and visually (Smith, 2002). Coupled with increased usage of instructional technology, web based instructional resources like electronic textbooks are slowly making their way into the higher education system (Chen, 1999). These resources, like the web-based texts give readers a feeling of engaging in real time, face to face interaction through use of interactive programs (Ahern & El-Hindi, 2000).

It is important to understand how instructional technology and the technologically rich environments are influencing student attitudes to learning. Level of student acceptance and resistance to these resources is a matter of concern, as we aspire to increase students’ participation in high technology computer literacy programs without increasing negative attitudes. Since attitudes are important in the learning process, information on how attitudes might be formed or changed is crucial (Simonson & Maushak, 1996). Additionally, although attitude has not been directly linked to achievement, educators see it as having a possible impact on learning outcomes. Zimbardo & Leippe (1991) attest to the strength of a favorable first impression in an object or situation towards shaping the attitudes of the individual. Moreover, where real world events are used to reinforce the learning, attitude change is likely to be achieved among learners (Simonson, Aegerter, Berry, Klook & Stone, 1987).

In conclusion, the adoption of instructional technology in higher education is influencing teaching and learning as it is being increasingly employed in course design, delivery and content across all academic fields (Chisholm, Carey & Hernandez, 2002). Working on the assumption that students' attitudes affect their process of learning; and that learners are likely to act favorably to mediated situations involving use of instructional technologies (Simonson & Maushak, 1996), then technology must become a significant part of the teaching and learning process.

Problem Statement

It has become increasingly apparent, in instructional technology research, that one of the major, and possibly unique, consequences of instructional situations involving media is the possibility of the development of positive attitudes in students (Simonson & Maushak, 1996). Hovland, Janis & Kelley (1953) underscored the importance of exposing learners to new methods of instruction in order to influence their behavior towards learning. Compeau & Higgins, (1995) maintain the proposition that individuals will use media if they know it will contribute to a positive outcome in learning. In other words, the expected outcome of the behavior will influence an increase in liking or disliking the performance of the behavior.

An important aspect of using instructional technology is the ability to compare the actual and anticipated impact it has on learning (Reiser, 2001; Chickering & Ehrmann, 1996). Instruction is geared towards two major goals: cognitive and attitude change in the learner. Understanding attitudes is crucial in our being able to interpret our surroundings, guide behavior and organize experiences in a meaningful way (Erwin, 2001). Henerson, Morris & Fitz-Gibbon (1978). Erwin (2001) acknowledged the complexity of measuring attitudes but also insists attitude is an important construct and must be measured because of its usefulness in prediction of behavior.

Purpose of Study

The purpose of this study was to compare the attitudes of students, utilizing web-based support material, in a Western Civilization college history class with students using a traditional textbook. The study sought to assess: (a) differences in attitude change, towards the Western Civilization class, for students using web-based resources and those using traditional textbooks; (b) differences in attitude change, towards computer technology, for students using web-based resources and those using traditional textbooks; (c) if age, gender, level in college, owning a personal computer, Internet accessibility at home, hours spent on the Internet per day, Internet time used for class work and percentage of project time used on Internet, were predictors of attitude and (d) if level of computer literacy predicted students' attitudes towards Western Civilization class and computer technology.

A pretest-posttest, non-equivalent control group design was used to answer the questions in this study.

Research Questions

Specifically, the research investigated the following questions:

Research Question 1

Is there a difference in attitude change, towards the Western Civilization class, between students using web-based resources and those using traditional textbooks?

Research Question 2

Is there a difference in attitude change, towards computer technology, between students using web-based resources and those using traditional textbooks?

Research Question 3

Are age, gender, level in college, owning a personal computer, Internet accessibility at home, hours spent on the Internet per day, Internet time used for class work and percentage of project time used on Internet a predictor of attitude towards computer technology?

Research Question 4

Is computer literacy a predictor of attitude towards Western Civilization Class and towards computer technology?

Definition of Terms

Attitude: Attitude is defined as “an evaluative disposition that is based upon cognitions, affective reactions, behavioral intentions, and past behaviors, that can influence cognitions, affective responses and future intentions and behavior” (Aiken, 2002, p. 32).

Textbook: Textbook is defined as “a book, normally in small format, for use as teaching tool within and educational institution, organizing as well as summarizing standard material on a specific topic into a more or less systematic overview of a discipline, or a well-defined part of a discipline” (Jensen, 1998, p. 354).

Electronic Book: “Broadly defined to include any book-like material that is not ink or paper” (Chen, 1998, p. 12).

On-line resources: Information technology applied to the support of teaching and learning on the World Wide Web (Telelearning Network Inc., 1998).

Technology: “Broadly speaking, technology is how people modify the natural world to suit their own purposes. From the Greek word *techne*, meaning art or artifice or craft, technology literally means the act of making or crafting, but more generally it refers to the diverse collection of processes and knowledge that people use to extend human

abilities and to satisfy human needs and wants" (International Technology Education Association (ITEA) 2000, p. 11).

Instructional Technology: Instructional Technology is the theory and practice of design, development, utilization, management, and evaluation of processes and resources for learning (Seels & Richey 1994).

Assumptions

The following assumptions underlie the study: (1) participants responded to the questions on the survey with complete honesty; (2) participants were familiar with the key terms and concepts used in the survey instrument and (3) there was no difference among the subjects before the class started.

Limitations

The following limitations are noted for this research project: (1) subjects were not randomly selected for the study; (2) responses to the survey were limited to the three four-year colleges: Clemson University in South Carolina, and Maritime Academy in Massachusetts; Bridgewater State College in Massachusetts, and (3) it was not possible to control for the variation in instructor difference among the classes surveyed. The findings of this study may not be generalized to other populations other than the population in this study.

Summary

There is a technological revolution in every facet of life. The revolution is affecting how higher education is delivering learning both within the classroom walls and in distance learning. In particular web-based texts give readers a feeling of engaging in real time, face to face interaction through use of interactive programs (Ahern & El-Hindi, 2000). The web-based texts and other technologies represent an unstoppable