

The Effects of Online Multimedia Project Development,
Learning Style, and Prior Computer Experiences on
Teachers' Attitudes Toward the Internet and Hypermedia

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Source

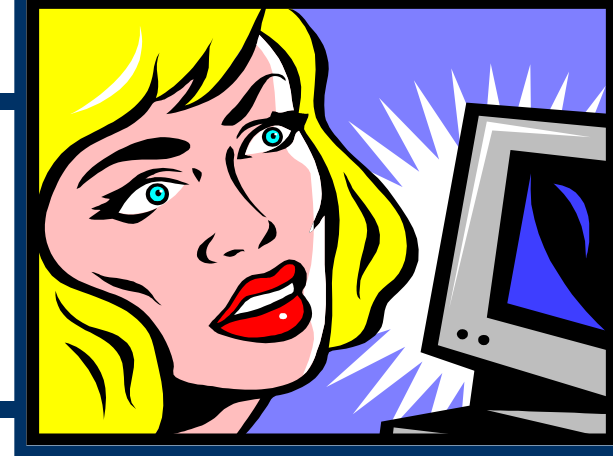
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Abstract



The study was based on the effects of online multimedia project development, learning style, and prior computer experiences on teachers' attitudes toward the Internet and hypermedia. The purpose of the study was to determine if various learning styles and prior computer experience had a significant effect on teachers' attitudes toward the Internet and hypermedia. Thirteen teachers at West Virginia University who were attending a workshop on developing online courses for their classrooms participated in the study. The study revealed that teachers' attitudes toward the Internet changed nominally. Changes in teachers' attitudes toward hypermedia were significant. Learning style did not have a measurable effect on either Internet or hypermedia attitudes.

The Internet and Multimedia

- ◆ Graphical browsers allow users to transfer graphics, sounds, and full-motion video.
- ◆ The Internet provides a nonlinear multimedia environment.
- ◆ Multimedia “hooks” students through the use of sight, sound, and response (Farmer, 1995).
- ◆ Multimedia environment can be very motivating.
- ◆ Educators now understand that learning is no longer a linear process.
- ◆ The greatest constraint to incorporating the Internet into the classroom is time.
- ◆ Multimedia-based instruction appeals to different learning styles.

Learner Characteristics



- ◆ Differences in learning styles are a result of life experiences and present environment (Kolb, 1985).
- ◆ Teachers must address their students preferred learning styles when integrating technology into classroom instruction.
- ◆ The LSI (Learning Style Inventory) instrument is one way of determining learning style.
- ◆ Students score significantly higher on tests when taught with strategies that compliment their learning styles (Brudness & Carpenter, 1990).
- ◆ According to Kolb (1985) there are four learning styles:
 - converger
 - diverger
 - assimilator
 - accommodator

World Wide Web

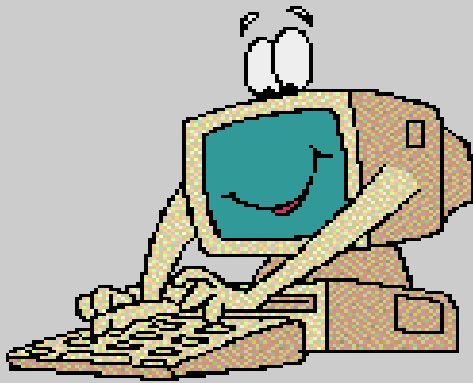
Do not assume that your students' final creation will be paper output (Engst, 1996). Expect your students to create Web-based journals, virtual field trips, and other multimedia productions.



Research Questions



- ◆ Will teachers' attitudes toward the Internet and hypermedia be significantly changed as a result of attending a three-week institute?
- ◆ Does a teachers' prior computer experiences effect their attitudes toward using the Internet and hypermedia?
- ◆ Will the teachers' learning styles influence their decisions to use the Internet and hypermedia?



Design of the Study

◆ Sample

- Thirteen teachers participated in this project sponsored by Bell Atlantic and the College of Human Resources and Education at West Virginia University.

◆ Independent Variables

- Treatment:
 - Training
 - Project development
- Instructors were assigned the task of creating an HTML Web page. Assistance was provided as needed.
- The presentation software used was Adobe Persuasion.
- Instructors received training with QuickCam.
- Instructors received training in the use of storyboarding.

Prior Computer Experiences

- ◆ A demographic instrument was used to determine the instructors' level of computer experience on nine different computer skills: general computer experience, content area software, word processing, databases, spreadsheets, programming, authoring, hypermedia, and the Internet.
- ◆ Analyses of data was only based on experience related to online multimedia development: programming, authoring, hypermedia uses, and Internet use.



Learning Styles

- ◆ The learning styles of the thirteen instructors were categorized using the LSI instrument. The sample included
 - Five convergers
 - Five accommodators
 - Two assimilators
 - One diverger



Procedures

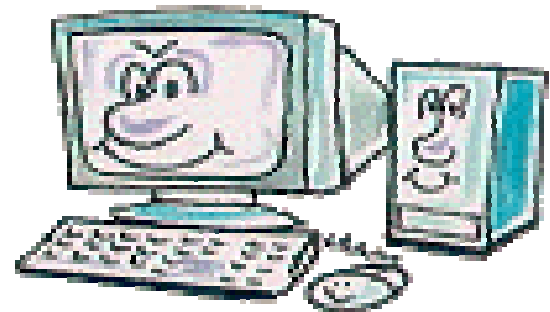
The instructors responded to the Stages of Concern--Internet and the Stages of Concern--hypermedia instruments at the beginning of the institute and again at the end.

I am concerned about how hypermedia will affect me.



Analysis of the Data

- ◆ Paired t-tests were conducted to determine if three days of intense training using online multimedia product development effected the teachers' attitudes toward incorporating the Internet and hypermedia into their classroom instruction.
- ◆ Multiple regressions were conducted to determine what effects prior computer experiences had on the attitudes of the teachers towards using the Internet and hypermedia.



Results



- ◆ The test results showed few significant relationship between internet experience and internet attitudes and no relationships with internet experience and hypermedia attitudes.
- ◆ The dominant predictor of hypermedia attitudes was hypermedia experience.
- ◆ Prior hypermedia experience was the best predictor of Internet and hypermedia attitudes.

Effect of Learning Style on Internet and Hypermedia Attitudes



Learning styles of instructors had no effect on their attitudes toward using the Internet or hypermedia.

Summary

The Internet is becoming more common in schools, and teachers need access to multimedia instructional models. One way to increase the development of multimedia instructional models is to train teachers to develop them. This study provides guidance in designing professional development for teachers. The study defines some of the factors that may affect instructors' attitudes toward the use and creation of online multimedia curriculum.



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