THE INFLUENCE OF DEVELOPING A WEB-BASED COURSE ON UNIVERSITY
PROFESSOR CLASSROOM INSTRUCTIONAL TECHNIQUES AS MEASURED BY
THE MTQ

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ABSTRACT

The purpose of this study was to update the teacher questionnaire used in a national

survey of educators for use on the World Wide Web (Weiss, 1978) and investigate how the

web-based course development process influenced full-time Computer Science (CS) and

Information Systems (IS) instructors' classroom instructional methods. The 12 independent

variables included demographics; tenure status, faculty rank, total years teaching, gender,

teaching within a private or public institution, teaching within a college or university and

teaching within a two year or four year institution. Additionally, independent variables

included experience with web-based courses. These variables were "currently developing",

"have developed", "number of developed", "time since developed first web-based course"

and "willing to develop a web-based course". The study consisted of 17 dependent variables

that described instructional techniques; lecture, discussion, student reports, library work,

students at chalkboard, individual assignments, manipulatives, televised instruction,

computer assisted instruction, tests, simulations, field trips, guest speakers, teacher

demonstrations, amount of time teacher spent with entire class, amount of time teacher spent

with small groups and amount of time teacher spent supervising individuals.

The population in this study included all full-time CS and IS instructors, regardless of

rank, at all 2 year and 4 year, public and independent, higher education degree granting

institutions in Missouri. The entire population (N=413) was surveyed yielding a self-selected sample of 244 subjects, for a 59% rate of return.

The findings confirmed that the Modified Teacher Questionnaire (MTQ) was a reliable instrument for collecting all instructional techniques, excluding lecture and televised instruction. Additionally, MANOVA tests, ANOVA tests, and discriminant analyses were used to determine that the following variables significantly affected instructional techniques; gender, teaching within a college or university, teaching within a two year or four year institution and currently developing a web-based course.

The findings led to the formulation of several conclusions. First, this study substantiated research done by Freiberg and Driscoll (2000) indicating that when looking at CS and IS faculty members, "one to many" instructional paradigms continued to prevail at higher education institutions. Furthermore, faculty members who were male and faculty members who taught at universities were more dependent on these traditional teaching techniques than their female and collegiate faculty member counterparts. Second, even though a large percentage of faculty members had some experience developing web-based courses, few faculty members have a great deal of experience. Third, past web-based course design experience had little influence on classroom instructional methods. Only current web-based course development had any significant effect on instructional techniques. This study illustrated a "return to center" affect on instructional techniques for faculty who develop web-based courses.