Faculty Philosophical Position Towards Distance Education: Competency, Value, and Educational Technology Support

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Abstract

As higher education attempts to meet the growing demand for courses delivered at a distance, identification of potential barriers to faculty acceptance and adoption are needed. The purpose of the study was to describe faculty perceptions with respect to distance education competence, value, and information technology support by philosophical position towards distance education. Of the three constructs, only value was found to be significantly related to the philosophical position towards distance education. Teachers not philosophically opposed had a higher perceived value of distance education. Efficient communication of the increasing value of distance education is needed. This information can help administrators, faculty, and institutions remain competitive and make decisions on strategic plans regarding distance education.

Introduction

The expanding adoption of distance education has led researchers to explore faculty attitudes. Many studies have questioned the educational equivalency of distance courses when compared to the traditional classroom. According to Black (1992) "Distance education is often viewed as second-best to classroom, face-to-face instruction" (p3). According to Miller (2001) faculty philosophically believe that distance courses result in lower levels of cognition. This author, however, found that the level of cognition is equal in both traditional and distance courses. In order to ascertain equivalency a standard of measurement must be agreed upon for effective communication. According to Rogers (1995) communication is essential if innovation is to spread. Changing the philosophical nature of how courses are measured is key to communication.

Currently the Carnegie unit (time based) is used to show the equivalency of traditional courses. Watkins and Schlosser (2000) found this unit of measure to be inappropriate for distance courses. Their research indicated that the Capabilities-Based Educational Equivalency model is a more practical instrument for both traditional and distance courses. This model relies on academic achievement rather than time to measure the class equivalency.

There is also a current view that distance education courses require a greater effort and time commitment. Visser (2000) found that distance education courses can call for up to twice as much time and effort to accomplish the task. However, the findings also support the need for further research in this area to investigate what implications the course content and distance technology used has on the requirements for instructor preparation and delivery of the class. This may also impact philosophical opposition to distance education.

Another challenge facing implementation of distance education is faculty skepticism. Black (1992, p16) found that "the transition from elite to mass higher education, with its tremendous growth in the numbers of both faculty and students from more diverse backgrounds, results in a greater variety of notions about what university education should be and whom it should serve." In order for faculty to support distance education, it must be considered congruent with the beliefs and values already held about university education (Black, 1992; Rogers, 1995). In turn, for universities to remain competitive they must find ways to employ new models of instructional delivery. To accomplish this task the administration has to first persuade faculty to adopt the model.

Theoretical Framework

Research in the field of distance education has recognized the need for a change and modification of the faculty role in teaching at a distance (Wedemeyer, 1981; Beaudoin, 1990; Dillion & Walsh, 1992; Purdy & Wright, 1992). It is not the distance education technology that drives the instruction but rather the primary changes in teaching style, technique, and motivation that must take place for instruction of the present and future to function effectively (Purdy & Wright, 1992). Many studies cite faculty resistance to instructional technology as a primary barrier to the continued growth of distance education programs (Gunawardena, 1990; McNeil, 1990). How faculty perceive and react to these technologies is more important than the structural and technical obstacles in affecting the use of technology in distance education (McNeil, 1990). Murphy (2000) found that student success and satisfaction in distance education courses was substantially and positively correlated to their interaction with instructors.

Dooley & Murphy (2001) found that College of Agriculture faculty lacked experience in teaching learners at a distance, and that they were much more confident in their technical competence than they were in their methodological ability to use modern technologies in their teaching. These authors further found that training and assistance in the use of instructional technologies were less available than equipment and facilities. Further, faculty members who had not participated in distance education perceived the level of support as lower than those who had taught courses at a distance. Faculty generally did not perceive the climate to be supportive of the use of technology. The ability of an organization to adapt to change is influenced by: competence or the knowledge, skills, and abilities of its staff; value or the amount of importance the staff places on the role of these technologies to accomplish teaching and learning; information technology support or the availability of high quality facilities, equipment, technical support, and training (Dooley & Murphy, 2001). Little is known, however, about how these factors affect faculty adoption of distance education.

Lindner, Murphy & Dooley (2001) found that tenure status and academic rank have an effect on the adoption of distance education models. Non-tenured, Assistant Professors had the highest distance education competency scores. This led to the conclusion that newer faculty are being hired with the expectation of using distance education technologies and already possess the self-efficacy and skills to integrate technology. It is further noted that faculty who have the comfort and competence are the ones discouraged from participating in distance education due to current policies for promotion and tenure. The study also found that female faculty had the highest distance education value scores and stated a need for further research in this area.

As Universities consider and adopt distance education models, more information is needed on teachers philosophical positions towards the distance educational model used to deliver instruction. Such information can be useful in determining strategies, procedures, and processes necessary for delivery at a distance.

Purpose and Objectives

The purpose of this study was to describe faculty in the College of Agriculture and Life Sciences at a land grant institution by their philosophical position towards distance education competence, value, and information technology support.

Specifically the objectives of the study were:

1. To describe and examine teaching faculty by philosophical position towards distance education.
2. To examine differences in distance education competency score by philosophical position to distance education.
3. To examine differences in distance education value score by philosophical position towards distance education.
4. To examine differences in distance education information technology and support score by philosophical position towards distance education.

Methods and Procedures

For the purpose of this study distance education is defined as an educational method in which the teacher and student are separated in time or space for the majority of the learning process. The population for this study was all teaching faculty in a College of Agriculture at a land grant institution. A census of the population was surveyed. Department heads were asked to provide a complete listing of faculty members in their department who held teaching appointments. With all departments reporting, Department heads identified a total of 331 faculty members with teaching appointments to be included in the initial sample. There were sixteen of these faculty members who subsequently provided documentation that they did not posses teaching appointments. The population of teaching faculty numbered 315.

Of the 315 survey instruments mailed, 196 were returned within two weeks, for an effective initial response rate of 62.2%. After three weeks, a reminder letter was sent to non-respondents along with a second copy of the survey instrument. A follow up e-mail reminder was sent to non-respondents four weeks after the initial mail out. Those non-responding teaching faculty without valid e-mail addresses were contacted via telephone. All non-respondents were contacted via telephone six weeks after the initial mailing, in some cases at home. In each case, they were encouraged to complete the survey and additional instruments were supplied upon request. In all, 252 survey instruments were returned for a final response rate of 80.0%. Survey and follow-up

procedures were in accordance with those outlined by Dillman (1978). To control for non-response error, late respondents were compared to early respondents or scaled items. No significant differences were found; therefore the results of the study can be generalized to the target population (Miller, & Smith, 1983).

The instrument used to collect data was a two-part questionnaire designed by the

researchers. The instrument was four pages long and designed to be automatically scanned into a digital file by an optical character recognition (OCR) scanner. Part I of the questionnaire was designed to identify the selected personal and professional characteristics of the respondents and describe their philosophical position towards distance education.

Part II consisted of 28 statements designed to measure the distance education constructs of competence, value, and information technology and support. Competence refers to the eleven items on the questionnaire used to measure the perceived level of ability that respondents possessed in the use of electronic technologies often associated with distance education. Specific scale items were:

- I am comfortable creating my own WWW homepage
- I am comfortable creating my own presentation graphics
- I use email for almost all my correspondence
- I send my most important and confidential documents through email
- I am able to scan photographs into digital files
- I am able to manipulate digital images using software
- I am able to record and use digital sound in my presentations
- I am familiar with the teaching methods appropriate for distance learning
- I could confidently deliver my course over the web
- I could confidently deliver my course over interactive videoconferencing
- I am comfortable connecting a computer to various output devices

Value refers to the nine items used to measure value or the importance of the role respondents believed these technologies have or will have to teaching agriculture. Specific scale items include:

- The Internet/WWW are convenient ways to access information
- Participation in listservs, threaded discussion groups, chats and other electronic communications offers great benefits
- Electronic communications and information will drastically alter HOW we teach in the next five years
- Electronic communications and information will drastically alter WHAT we teach in the next five years
- I think most course materials would be improved by incorporating multimedia
- Animated graphics increase student interest and retention
- Students today prefer a more visual learning experience
- Electronic information technologies provide students with instantly available supplemental course and research materials
- It is important that I incorporate electronic information technologies in the course(s) I teach

Information technology and support refers to the eight items used to measure the perceived availability of equipment, facilities, and training to determine the extent to which the campus environment supported the use of technologically mediated instruction on- and off-campus.

Specific scale items consist of:

- The equipment needed to produce and display multimedia course materials is readily available to me
- I am aware of the necessary procedure to secure electronic presentation equipment for classroom use within the university
- I have access to a classroom that is designed to support the use of multimedia teaching aides
- There are ample opportunities to secure faulty development on using multimedia and videoconferencing equipment
- There are enough faculty development workshops regarding videoconferencing
- I have access to technical assistance when teaching at a distance
- The time spent developing course materials is valued by my department
- I am aware of the procedure, office, and personnel responsible for scheduling videoconferencing equipment

A five-point Likert-type response scale was employed. The response choices were: 1 = "Strongly Disagree," 2 = "Disagree," 3 = "Neither Agree nor Disagree," 4 = "Agree," 5 = "Strongly Agree." The researchers considered the possibility that many of the faculty would not hold strong opinions on some statements due to a lack of information about, and or exposure to, these relatively new technologies. Reliability was established by calculating Cronbach's Alpha. The alpha for the 28 items in Part II of the questionnaire was .82. Reliability estimates for competency scale (.81), value scale (.84), and information and technology support scale (.74) were also calculated. A panel of five experts made up of faculty members from the Department of Agricultural Education, the Department of Educational Human Resource Development, and the Center for Distance Learning Research established content validity of the instrument. Selected faculty members from the colleges of Education and Liberal Arts completed a pilot test of the instrument. Minor changes in the instrument were made based upon evaluation of the pilot test and suggestions from the panel of experts.

Findings

The following section presents study findings by objective.

As shown in Table 1, distance education competency, value, and information technology and support scores previously established by Lindner, Murphy & Dooley (2001) were used in the conduct of this study. Overall scale and subscale scores were calculated by summing the appropriate items and their scores used in the analysis (Hair, Anderson, Tatham & Black, 1998). The Competency scores were computed by summing responses to the 11 competencies items described above. Value scores were calculated by summing the responses to the 9 value items explained above. Information technology and support scores were contrived by summing the 8 items illustrated above. The total distance education score was determined by summing responses to all of the 28 items used in part II of the instrument.

Table 1. Total Distance Education Score

Distance Education Scores	M	SD
Distance Education Competency Score	32.0	8.3

Distance Education Value Score	33.2	5.7
Distance Education Information Technology and Support Score	23.4	5.7
Total Distance Education Scores	88.6	

Objective 1

Most teachers (85%) were not philosophically opposed to distance education. Fifteen percent of teachers were philosophically opposed to distance education. Table 2 shows that the Total Distance Education Score was not significantly related to the participants' philosophical position towards distance education, t (250) = 1.59. Faculty members' overall perceived level of competence in the use of distance education electronic technologies, their perceptions with respect to the role these technologies have or will have in teaching agriculture, and their perceptions regarding availability of equipment, facilities, and support were similar regardless of a faculty members philosophical position towards distance education.

Table 2. Overall Distance Education Score

Overall Distance Education Scores	n	M	SD	t
For	217	89.1	14.0	1.59
Opposed	35	85.1	14.5	
Note: *M*= Summated Competency Score + Summated Value Score + Summated Information Technology and Support Score				

Objective 2

The Distance Education Competency Score, as shown in Table 3, was not related to the participants' philosophical position towards distance education, t (250) = 0.52. Therefore Faculty members' perceived level of competence in the use of distance education technologies were the same regardless of their philosophical position towards distance education. Faculty members overall indicated a neutral attitude toward their competence with distance education technology.

Table 3. Distance Education Competency Score

Distance Education Competency Scores	n	M	SD	t
For	217	32.1	8.2	0.52
Opposed	35	31.3	9.2	
Note: *M*= Summated 11 item-5 point Likert-type scale				

Objective 3

As shown in Table 4, the Distance Education Value Score for respondents was significantly related to philosophical position towards distance education, t (250) = 4.31. Teachers not philosophically opposed to distance education had higher distance education value scores. This finding may be key to understanding a faculty member's philosophy towards distance education. Faculty members' who had a positive philosophical position toward distance education tended to "agree" with the statements defining distance education value. Faculty members' who had a negative philosophical position towards distance education tended to "disagree" with the statements defining distance education value.

Table 4. Philosophical position towards distance education by distance education value score

Philosophical Position	n	M	SD	t
For	217	33.8	5.6	4.31*
Opposed	35	29.4	5.1	
Note: *M*= Summated 9 item-5 point Likert-type scale; 1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree; *$p<.05$.				

Objective 4

The Distance Education Information Technology and Support Score was not related to the participants' philosophical position towards distance education, t (250) = -1.05. Faculty members' perception of distance education information technology and support were the same regardless of their philosophical position towards distance education. In general there was a neutral attitude in their perception of distance education information technology and support.

Table 5. Distance Education Information Technology and Support Score

Information Technology and Support Score	n	M	SD	t
For	217	23.3	5.6	-1.05
Opposed	35	24.4	6.3	
Note: *M*= Summated 8 item-5 point Likert-type scale				

Conclusions and Implications

Based on the study objectives, the following conclusions were drawn and implications given.

The majority of educators are not philosophically opposed to distance education. Total Distance Education Score, Distance Education Competency Score and Distance Education Information Technology and Support Score were not significantly related to the philosophical positions

towards distance education of the participants. However, the Distance Education Value Score was directly related to the philosophical position of the respondents. The faculty who had higher distance education value scores had low philosophical opposition scores. This leads to the belief that the increasing value of distance education must be communicated more effectively in order to impact the philosophical positioning of those opposed to distance education.

This supports Black's (1992) findings that in order for faculty to support the distance education model it must be congruent to their current beliefs and values held about university education. Those faculty members who did not believe distance education was the educational equivalent to traditional courses had lower distance education value scores and therefore are philosophically opposed to distance education.

The findings also support Dooley & Murphy's (2001) assertion that the ability of an organization to adapt to these changes is influenced by: competence (knowledge, skills, and abilities of its staff) and value (amount of importance the staff places on the role of these technologies to accomplish teaching and learning).

With more research it may be possible to tie adverse philosophical position to tenure status and academic ranking which could further support Lindner, Murphy, & Dooley (2001) contention that newer faculty already possess the skills and self efficacy to integrate the technology. Which, in turn, could support Dooley & Murphy's (2000) findings that further training and assistance in the use of instructional technologies is needed for the faculty members not as experienced with the distant education model.

Since Lindner, Murphy, & Dooley (2001) found that female faculty scored higher on the distant education value scale, additional research on a sample population with more diverse gender representation needs to be done to find if there is in fact a correlation between philosophical position and gender.

As higher education attempts to meet the growing demand for courses delivered at a distance identification of potential barriers to faculty acceptance and adoption are needed. The research presented in this paper identified the connection between value and philosophical position in respect to faculty acceptance and adoption. This provides new information on why faculty members may or may not choose to engage in distance delivery methods and contributes to the growing body of literature on faculty perceptions with respect to distance education. Such information can be useful to faculty and administrators as institutions of higher education strive to make strategic decisions about their distance education mission, vision, strategies, structures, processes, and systems.

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