

**Why Don't They Use Technology?
A Descriptive Study of Community College Teacher's Attitudes towards
Online Learning**

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Introduction and Brief Review of Literature

With the rapid advent of the World Wide Web and other technologies, the concept of distance learning is gaining more attention in post-secondary educational institutions. The benefits of distance education have been well documented, including a) expanded audience and resources (Dede, 1990); b) accommodating students with different learning styles and emotional needs (Dede, 1990), and c) refocusing educational institutions from teaching to learning and from teacher to student (Owsten, 1997).

In spite of the opportunities that the World Wide Web provides for educators, a large number of college professors do not take advantage of them. It seems that they have not yet “been converted” to the ideals of the instructional strategy. Instructors’ skepticism about distance education has been noted as one of the interlaced factors that pose barriers to utilization of distance learning (Davies, 1995). In a study examining a faculty experience in distance education, Carr-Chellman (2000) recommended the system of distance education further its efforts to engage faculty concerns more substantially.

Lack of institutional support (e.g., compensation, training, incentive structures) was found to be another major barrier to instructor involvement in distance education (Berge & Muilenburg, 2000; Clark, 1993; Olcott & Wright, 1995; Willis, 1994). Clark (1993)’s study revealed faculty’s mixed views on the support they receive in relation to distance education. It seems that community college professors (who do not have to publish papers in order to gain tenure) were more supportive of distance learning than tenure-track university professors. In addition, professors who were department chairs, or tenured were also more accepting of online instruction than non-tenured professors. Lee (2001) further supported this finding by indicating that faculty motivation was much higher in institutions that had a strong level of academic and

professional support for providers of distance education. In addition, distance education is under much tighter scrutiny than classroom-based instruction (Willis, 1994).

As a result, many professors feel that the risk of attempting to implement new and innovative teaching methodology is too great to take. They feel that their efforts would not only go un-rewarded and unrecognized, but may even be reprimanded for their attempts. In a time when budget concerns and decisions are based on public funding, it is dangerous to attempt to implement unorthodox methods of teaching, even if the instructional rewards for the students are potentially significant. In addition, the labor-intensity and technology challenge (e.g., low self-efficacy & self-confidence) in developing a new course thwarted many instructors' attempts.

Research-based interventions are needed to help these professors to overcome these barriers and keep up with technological development. We therefore conducted this study to explore professors' attitudes towards online learning in one community college so as to identify potential causes of the apparent lack of use of technology in this college. In particular, this study examined if there is any relationship between these professors' attitudes and their years of teaching experiences, and technical proficiency. This study would provide valuable information to administration of community colleges in developing their online course offerings.

Research Methods

We conducted a cross-sectional, quantitative descriptive study in order to gain insights into the attitudes of community college professor's attitudes towards online learning. Research participants were selected from the faculty members in departments offering traditional courses at this community college, including Art, Biology, Chemistry, Earth Science, English, History, Mathematics, and Psychology. This college has a total of 136 faculty members, 84 of which teach the above referenced courses. The survey was distributed to all 84 professors in hard

copies and invited their voluntary participation. Using hard copies helped to avoid bias by excluding any potential “technophobes”. The survey was carefully worded so as to not bias the results. There were also no language barriers because all participants spoke fluent English.

The survey included twenty-five items that were scored on a five point Likert scale. Twelve of the items on the survey (approximately half) denoted a negative attitude toward technology (e.g. “People rely too heavily on information technology”) and thirteen denoted a positive attitude. The survey also included open-ended questions in order to obtain any further suggestions or comments from the participants.

Data was analyzed using Microsoft Excel. The analysis of the data included simple descriptive statistics including the mean and standard deviation of each item on the survey, as well as the positively and negatively stated items as a group. The negatively stated items were reverse scored so as to provide a valid comparison with the positively stated items.

Results

Fourteen out of the 84 surveys distributed were returned (approximately 16.7%). Nine of the fourteen respondents (64%) were male, while five (36%) were female. 29% taught English, 21% Math, 14% Psychology, 14% Earth Science, while the remaining subjects of History, Art and Biology made up 7% each. Table 1 tabulates the survey results in detail.

Table 1: Survey Results Ranked by Mean Score (Rated on a 5-point Likert Scale, with negative items reverse-scored) 1=Strongly Disagree, 5=Strongly Agree

Group	Rank	Survey Item	Mean	Standard Deviation
Positively Stated Items	1	Would you use a course web page? (Use A for yes and E for no)	4	1.709701
	2	Advances in information technology provide opportunities for everyone.	3.928571	0.997249
	3	My computer skills/confidence are strong.	3.928571	1.141139
	4	Jobs are being created through advancements in information technology.	3.785714	0.801784
	5	Information technology promotes learning.	3.785714	0.892582
	6	People who do not have access to information technology equipment are at a great disadvantage.	3.714286	1.138729
	7	Information technologies help increase world-wide communication for the average person.	3.714286	1.069045
	8	Access to information technology is within the grasp of most Americans.	3.642857	0.744946
	9	Information technology is appropriate for classes I teach.	3.428571	1.01635
	10	Do you use email to maintain contact with your students (Use A for yes and E for no)	2.5	1.454436
	11	I would like to teach a mixed (on-line and classroom) course.	2.5	1.400549
	12	I would like to teach a fully on-line course.	1.928571	1.206666
	13	Do you have a course web page? (Use A for yes and E for no)	1.571429	1.452546
Total			3.263736	0.834719

Negatively Stated Items	1	Teaching classes using Information technology requires more time than traditional classroom classes.	2.071429	0.916875
	2	Teaching classes using Information technology requires too much design time.	2.714286	1.204388
	3	The internet is not part of my curriculum.	2.857143	1.292412
	4	My classes don't lend themselves to computer presentation or non-classroom delivery.	3.142857	1.292412
	5	The administrative structure doesn't support using distance learning in my classes.	3.285714	0.82542
	6	Advances in information technology cause people to lose jobs.	3.285714	1.069045
	7	Everyone in the US could have access to information technology if they wanted to.	3.5	1.286019
	8	It is difficult for the average person to learn to use new information technology.	3.571429	0.937614
	9	People rely too heavily on information technologies.	3.642857	0.841897
	10	I am afraid of losing control of my class content (intellectual property) if I put it on the web.	3.857143	0.534522
	11	Information technology does not affect my everyday life.	4.428571	0.646206
	12	I don't trust computers.	4.642857	0.633324
Total			3.416667	0.708963

The respondents of the survey seemed to have much more teaching experience than expected (only two of the participants had less than ten years of teaching experience). The mean value in years of teaching experience was 26.4 with a standard deviation of 11.8. Table 1 summarizes the responses of the survey in order of the highest ranked items. The mean scores clearly indicate the items about which the respondents felt most strongly. The survey results

revealed that a) the instructors realize that technology plays a large role in their lives, b) technology has potential to contribute to increased learning, c) that their confidence in their computer skills was high, and d) in spite of the other points, they feel that the increased time it takes to design online courses may not be worth the effort. The respondents commonly felt that the courses they offered do not lend themselves well to distance learning, and thus, they had little interest in teaching an online course. Pearson r test did not show any relationship between the instructors' attitudes (scores on negatively, and positively stated survey items) and their years of teaching experience. The results of the correlation are included in Table 2.

Table 2. Correlation coefficients of years of teaching experience and responses on survey.

Correlation between years of teaching experience and negative score mean	0.291714
Correlation between years of teaching experience and positive score mean	0.201808

Figure 1 graphically shows the relationship of years of teaching experience plotted against the negative score mean. There appears to be a very weak relationship between the two variables.

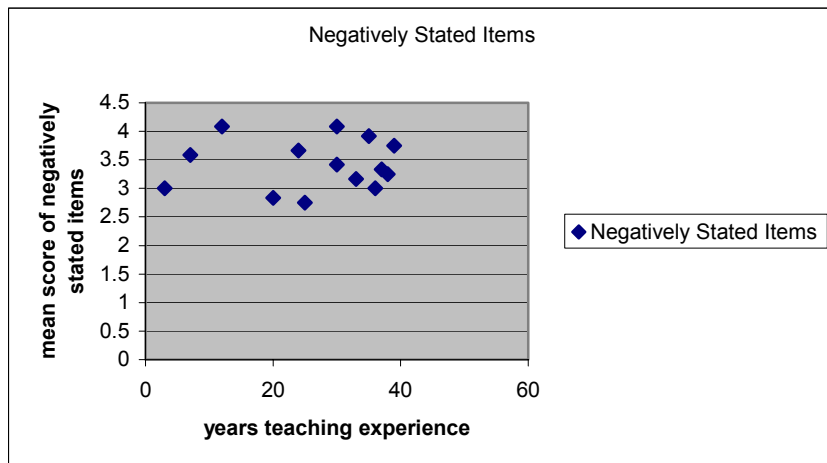


Figure 1: Scatter-plot diagram showing correlation between negatively stated items and years of teaching experience (correlation coefficient .292)

Conclusions

The data gathered provided valuable insights into the attitudes of teachers in relation to distance education. Most of the participants of the survey felt that with adequate training, technology could be a valuable tool in education. The confidence of the respondents in their own computer skills was rather high, although it was apparent that this confidence did not cover the application of their computer skills to the development of online instruction. None of the respondents currently use a course website, and most had little interest in doing so. There was also a strong feeling that there was little support from administration, which made the incentives for providing online instruction low. The survey also raised additional questions such as what type of incentives would be required to make distance education a desirable option for a teacher, or whether they would be interested in receiving training on preparing distance course materials. Further research into possible correlation between the subject matter taught and feelings towards online instruction would be beneficial.

Limitations of the Study

Since the participants of the survey were not mandated to take the survey, those who responded may have had stronger opinions about the subject that motivated them to respond. This problem introduced the potential bias of not including a portion of the intended population (those who do not have a strong opinion on the subject). Additionally, considering the relatively high average amount of teaching experience in the participants of the survey, it is possible that those who had less experience may have been unable to complete the survey due to focusing their efforts on obtaining tenure.

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Note: As referenced in the presentation of this research at the Hawaii International Conference on Education, please also reference *Faculty Philosophical Position Towards Distance Education: Competency, Value, and Educational Technology Support*, by Jones, et al, which can be found at the following address: <http://www.westga.edu/~distance/ojdla/spring51/jones51.html>