

COMPARING QUALITY IN ON-CAMPUS AND OFF-CAMPUS COURSES: PERCEPTIONS OF COLLEGE OF AGRICULTURE FACULTY

*Greg Miller, Associate Professor
Ching-Chun Shih, Graduate Assistant*

Iowa State University

Abstract

The purpose of this study was to compare college of agriculture teaching faculty members' perceptions of the quality of on-campus and off-campus courses. The population included 262 faculty members with teaching responsibilities or with teaching experience in the College of Agriculture at Iowa State University. All members of the population were surveyed and the response rate was 54.2%. Overall, college of agriculture teaching faculty perceived off-campus courses to be of lower quality than their on-campus counterparts. On a positive note, faculty perceived the difference between on- and off-campus courses on user-based and value-based factors to be small. From a Total Quality Management perspective, user-based and value-based factors are most important. Faculty perceived greater disparities between on-campus and off-campus courses on manufacturing- and transcendent-based quality factors. Efforts to enhance off-campus course quality should be focused on the manufacturing factor. Quality is enhanced on all factors by systematic analysis and improvement of work processes (Gilbert et al., 1993). In order to improve the process of delivering instruction off-campus, on-going faculty development programs that provide hands-on experience are needed. Faculty should also have technical support and instructional design support available as they develop courses for off-campus delivery.

Introduction

Traditionally, the quality of academic institutions has been judged from indicators such as entrance standards, famous graduates, reputation rankings, and/or the presence of distinguished faculty (Verduin & Thomas, 1991). However, quality in education is not well defined (Doerfert & Miller, 1995; Verduin & Thomas, 1991). Defining quality is difficult because the needs and expectations of the stakeholders vary (Gilbert, Keck, & Simpson, 1993). According to Schwartz and Peterson (1993), quality is a relative term that reflects individual values, perceptions, and experiences.

Garvin (1984) identified five major approaches to defining quality, which include transcendent, product-based, manufacturing-based, value-based, and user-based. Transcendent quality is "innate

excellence" (p. 25). In the transcendent approach, quality cannot be defined exactly and is only recognized because of experience. Product-based definitions treat quality as a measurable variable. Product quality expresses the presence or absence of measurable product features. Manufacturing-based definitions emphasize the supply side and are mainly concerned with meeting specific process specifications. The value-based approach defines quality as performance at acceptable cost. User-based definitions focus on consumer preferences. In the user-based approach, products that satisfy consumer requirements are of highest quality. Garvin argues that dependence on a single definition for quality often causes conflict. The conflict occurs because stakeholders have multifaceted perspectives on quality.

Garvin's (1984) five approaches to defining quality are widely used and have been applied to

studies (Gilbert et al., 1993; Schwartz & Peterson, 1993; Seymour, 1993) of educational quality. To address issues of quality, Garvin and education scholars alike recognize the need to identify measurable correlates of quality. Without measurable correlates, the meaning of this complex concept can easily be confused. If the meaning of quality is not clear, then our efforts to enhance it will not likely be successful.

Off-campus courses are often perceived to be of lower value than on-campus courses (Murphy, 1997; Olcott, 1991; Olcott and Wright, 1995; Wilson, 1991; Wolcott, 1996). Olcott (1991) emphasized that the quality of off-campus courses is one universal concern among the stakeholders in education. Murphy (1997, p. 7) provided evidence that "distance education can be as instructionally effective as any other well-designed instructional delivery method at providing particular kinds of instruction to particular audiences." Even so, Murphy acknowledged that the current institutional culture is not supportive of off-campus teaching. Dillon and Walsh (1992) cited faculty resistance as a major obstacle to the success of distance education programs. What if any differences do faculty perceive in the quality of on- and off- campus courses? Using this comparison as a benchmark, decision makers may be better able to determine where effort should be focused to enhance the quality of off-campus courses.

Purpose and Objectives

The purpose of this study was to compare college of agriculture teaching faculty members' perceptions of the quality of on-campus and off-campus courses. The objectives of the study were as follows:

1. Compare faculty perceptions of four quality factors as applied to on-campus and off-campus courses.
2. Describe faculty perceptions of selected off-

campus student and course characteristics.

3. Describe college of agriculture teaching faculty qualitative assessments of off-campus courses and students.

Procedures

The population for this study included faculty members with teaching responsibilities or with teaching experience in the College of Agriculture at Iowa State University. The list of faculty members was provided by the Dean's office. Departmental secretaries checked the list for accuracy. Two hundred and sixty-two faculty members were in the target population during the spring semester of 1997. All 262 faculty members were surveyed.

The questionnaire was designed by the researchers and included two Likert-type scales, 11 closed-ended questions, and one open-ended question. Twenty-three statements representing the course quality construct were generated from a review of literature and from input of faculty in agricultural education. Four of Garvin's (1984) five approaches to defining quality provided the framework for developing the course quality statements and were treated as course quality factors. College of agriculture teaching faculty were asked to indicate the extent to which they agreed with each statement for on-campus courses and for off-campus courses by using a five-point Likert-type scale with response options ranging from (1) strongly disagree to (5) strongly agree. In addition, teaching faculty were asked to compare on-campus courses with those delivered through distance education technologies on five characteristics and to compare on-campus and off-campus students on six characteristics. The comparisons were made with a closed-ended question format. Faculty were also asked the following open-ended question: In your opinion, what are the most significant differences between on-campus and off-campus courses? Off-campus

courses in agriculture are delivered through a variety of means at this university. Most involve communications media such as videotape and/or the world wide web. Although less common, some courses are taught in a traditional classroom using traditional teaching methods at a site far removed from the campus. For this study, faculty were not instructed to focus their thoughts about off-campus courses on a specific delivery method or course level (undergraduate or graduate).

Content and face validity for the questionnaire were established by a panel of six faculty in agricultural education. The Likert-type scales were pilot-tested for reliability with a group of 12 agricultural education graduate students. Cronbach's alpha coefficients were .90 and .84 for the on-campus and off-campus course quality scales, respectively. Posthoc reliability analysis for the course quality scales yielded Cronbach's alpha coefficients of .94 for the on-campus scale and .93 for the off-campus scale. Cronbach's alpha coefficients ranged from a low of .69 to a high of .90 for the on-campus course quality subscales and from a low of .70 to a high of .86 for the off-campus course quality subscales. A test-retest procedure was used to determine the coefficients of stability for the 11 closed-ended questions. A group of 10 agricultural education graduate students completed this section of the questionnaire twice at two week intervals. The average percentage agreement between their first and second response was 75% for the five items used to compare on-campus courses with those delivered by distance education technologies and 95% for the six items used to compare on-campus and off-campus students.

The questionnaire and a cover letter describing the study were sent to all members of the college of agriculture teaching faculty by campus mail. Two follow-ups of nonrespondents were conducted. One hundred and thirty-two questionnaires were completed and returned for a response rate of 50.4%. Persons who had not responded 10 days after the final follow-up were

considered nonrespondents. Nonresponse error was controlled by randomly sampling 10% (10) of the nonrespondents and gathering data from them. A t-test was used to determine if respondents and nonrespondents differed significantly in their overall perception of the quality of on-campus and off-campus courses. No significant ($p < .05$) difference was found between respondents and nonrespondents. The chi-square statistic was used to determine whether respondents and nonrespondents provided different results on the eleven closed-ended questions. Significant differences were found on three of the five course characteristic comparisons. The three course characteristics for which differences were found included relevance to students, amount of teacher-student interaction, and amount of student-student interaction. No significant differences were found on the six student characteristic comparisons. This procedure for handling nonresponse was used because it is the most empirically sound procedure available (Miller & Smith, 1983). Results were deemed generalizable to the population with one caveat. The reader is cautioned that findings for three of the five course characteristic comparisons may not accurately represent the perceptions of the population. Respondent and nonrespondent data were pooled, yielding a final response rate of 54.2%.

Analysis of Data

All data were analyzed with the SPSS for Windows personal computer program. Appropriate statistics for description were used including frequencies, percentages, means, and standard deviations. Since data were gathered from the population instead of a sample, inferential statistics were not used for comparisons. Faculty responses to the open-ended question were analyzed for common themes related to off-campus courses and students.

Results

College of agriculture teaching faculty who

participated in the study were predominantly male (93.6%) and were on average 50 years of age. Regarding academic rank, 60.3% were professors, 23.4% were associate professors, 14.9% were assistant professors, and 1.4% were instructors. On average, teaching accounted for 34.2% of the teaching faculty members' assigned responsibilities. The teaching faculty had an average of 17.6 years of teaching experience, taught 2.9 course sections per year, and taught an average of .6 course sections off-campus in the last three years. More than half (52.2%) of the teaching faculty had participated in faculty development opportunities related to distance education.

Teaching faculty provided a higher mean on the course quality scale for on-campus courses. In addition, they provided higher means on each of the four quality factors and on 18 of 23 individual items on the course quality scale (Table 1). On-campus courses were perceived to have a greater advantage for transcendent and manufacturing-based quality factors. Regarding transcendent quality, faculty agreed to a higher level that on-campus courses have a reputation for quality and are accepted by the public as possessing quality. Regarding the manufacturing-based quality factor, faculty agreed to a higher level that on-campus courses provide a high-quality learning environment, that a variety of teaching methods and assessment procedures are used, that instructors are available to students, and that students use instructor support. In addition, faculty agreed to a higher level that courses represent instructors' best efforts and that departments support courses in the on-campus context. On- and off- campus courses were perceived to be more equal on user-based and value-based quality factors. In fact, faculty perceived that courses offered off-campus were more likely to be adjusted to student needs and interests and were more likely to have long-term usefulness to students.

Faculty compared on- and off- campus courses

on five factors (Table 2). A majority of faculty perceived off-campus courses to be equal to on-campus courses in relevance to students and amount of material covered. Faculty were more likely to indicate that off-campus courses were of greater relevance to students and were more likely to indicate that less material was covered in off-campus courses. Faculty perceived that off-campus courses were likely to be better organized than on-campus courses. With regard to interaction, 87% of faculty indicated that there was less teacher-student and student-student interaction in off-campus courses.

Faculty compared students who enroll in off-campus courses with those who enroll in on-campus courses on six characteristics (Table 3). A majority of faculty perceived off-campus and on-campus students to be equal in their level of academic ability, their likelihood of submitting assignments on time, and their likelihood of completing the course on time. Faculty who did not perceive on- and off- campus students to be equal were more apt to indicate that off-campus students were less academically able, were less likely to submit assignments on time, and less likely to complete the course on time. Most faculty perceived off-campus students to have a greater level of relevant work experience, less background in prerequisite courses, and were less likely to use library resources.

Faculty were asked what in their opinion were the most significant differences between on-campus and off-campus courses. Comments were analyzed for themes. Faculty reported that off-campus students were more eager to learn than on-campus students, brought considerable amounts of experience to their courses, and expected to be able to apply the information immediately. On the other hand, faculty reported that off-campus students tended to be very busy with other commitments and generally had poorer academic preparation. As for courses, faculty indicated that they did more preparation for off-campus courses and were better organized. They

suggested that the preparation for off-campus teaching can lead to improved on-campus teaching. Faculty indicated that including a hands

on component in off-campus courses was very difficult. They were also concerned that inter-activity was sacrificed in off-campus courses and

Table 1. Means and standard deviations for faculty perceptions of course quality

Factors and abbreviated items	<u>On-campus</u>		<u>Off-campus</u>	
	Mean ^b	SD	Mean ^a	SD
Manufacturing-Based	3.96	.55	3.69	.55
Instructors know the subject matter well	4.40	.56	4.33	.64
Instructors are available to help students	4.23	.65	3.19	1.02
Courses represent instructors' best efforts	4.12	.78	3.94	.92
Instructors effectively present information	4.07	.74	3.93	.81
Current information is presented	4.08	.75	4.08	.70
The learning environment is of high quality	3.99	.77	3.35	.88
Students assume responsibility for their learning	3.97	.83	4.17	.83
A variety of teaching methods are used	3.94	.78	3.62	.89
High-quality teaching materials are used	3.92	.76	3.89	.77
A variety of assessment procedures are used	3.80	.96	3.50	.97
Students use instructor support	3.49	.98	3.15	.86
Departments support courses	3.48	1.07	3.07	1.13
User-based	3.92	.57	3.89	.62
Students are better off having taken the course	4.26	.67	4.21	.75
Courses are helpful to students' careers	4.21	.63	4.19	.73
Student needs are fulfilled	3.89	.70	3.70	.76
Courses are adjusted to meet student needs	3.74	.92	3.82	.92
Courses are adjusted to student interests	3.50	.94	3.54	.92
Value-based	4.09	.56	4.00	.62
Courses are valuable to students	4.17	.59	4.05	.66
Students receive quality instruction at an acceptable cost	4.10	.73	3.88	.86
What is learned will have long-term usefulness	4.01	.81	4.06	.85
Transcendent	4.08	.55	3.77	.67
Courses project a positive image of the institution	4.12	.70	4.04	.78
Courses have a reputation of high quality	4.10	.62	3.65	.86
Level of course quality is acceptable to the public	4.02	.74	3.65	.85
Overall M	3.99	.52	3.78	.54

^a1 = strongly disagree, 2 = disagree, 3 = undecided, 4 = agree, 5 = strongly agree

Table 2. Comparing courses delivered by distance education technologies to courses taught on-campus

Factor	<u>Less</u>		<u>Equal</u>		<u>Greater</u>	
	<u>f</u>	<u>%</u>	<u>f</u>	<u>%</u>	<u>f</u>	<u>%</u>
Relevance to students	11	8.7	83	65.3	33	26.0
Amount of material covered	54	42.9	64	50.8	8	6.3
Level of organization	10	7.9	60	47.2	57	44.9
Amount of teacher-student interaction	113	87.0	12	9.2	5	3.8
Amount of student-student interaction	114	87.0	13	9.9	4	3.1

Table 3. Comparing students who enroll in off-campus courses with those who study on-campus

Factor	<u>Less</u>		<u>Equal</u>		<u>Greater</u>	
	<u>f</u>	<u>%</u>	<u>f</u>	<u>%</u>	<u>f</u>	<u>%</u>
Level of academic ability	40	30.5	82	62.5	9	6.9
Level of relevant work experience	6	4.6	22	16.8	103	78.6
Level of background in prerequisite courses	87	66.4	40	30.5	4	3.1
Likelihood of completing the course on time	51	39.2	74	56.9	5	3.8
Likelihood of submitting assignments on time	49	38.0	73	56.6	7	5.4
Likelihood of using library resources	114	87.0	15	11.5	2	1.5

were concerned that institutional recognition of off-campus courses was lacking.

Conclusions and/or Recommendations

Overall, college of agriculture teaching faculty perceived off-campus courses to be of lower quality than their on-campus counterparts. On a positive note, faculty perceived the difference between on- and off-campus courses on user-based and value-based factors to be small. From a Total Quality Management (TQM) perspective, user-based and value-based factors are most important. One main element of TQM philosophy is that quality is defined by the customer (Gilbert et al., 1993). Faculty perceived that off-campus courses are more likely to be adjusted to student needs and interests and that learning would be more likely to have long-term usefulness to students. Faculty who teach off-campus courses should be encouraged to design their courses with student needs in mind to capitalize on this central

quality issue. If student needs are not met, it makes little difference whether the process (manufacturing-based definition) of delivering instruction is of high quality.

Faculty perceived greater disparities between on-campus and off-campus courses on manufacturing- and transcendent-based quality factors. Efforts to enhance off-campus course quality should be focused on the manufacturing factor. Quality is enhanced on all factors by systematic analysis and improvement of work processes (Gilbert et al., 1993). Data from this study suggest that emphasis should be placed on making instructors available to students, being sure that courses represent instructors' best efforts, using a variety of teaching methods and assessment procedures, encouraging students to use support structures that are available to them, and finding ways to enhance interaction in off-campus courses.

What can we do to improve the process of

delivering instruction off-campus? Clearly our focus should be on faculty. It is ultimately the faculty who will be responsible for delivering quality off-campus instruction. Faculty cannot be expected to do this successfully without support, however. Murphy and Terry (1995) concluded that agricultural faculty lacked competence and confidence in using distance teaching technologies and methods. Resources must be directed to faculty development programs that give hands-on experience with the technologies and methodologies that will ultimately be used to deliver courses. The support must be ongoing. Faculty need to have support persons they can count on to make sure that the technology works. Faculty cannot be expected to embrace off-campus teaching if the technologies constantly get in the way of their teaching and of their students' learning. Furthermore, faculty should have someone to turn to when advice is needed on designing activities and materials that will help students to achieve the course objectives. Even with adequate support, faculty must work harder to deliver off-campus courses. Faculty who teach off-campus should have their workload adjusted to reflect the additional effort, and their efforts should be recognized through the formal rewards structure of the university.

Faculty are key stakeholders in the educational enterprise, and their concerns about off-campus courses must be addressed if off-campus degree programs are to be of high quality. Further research is needed to determine student perceptions of the quality of off-campus courses, however. Students bring a different perspective to the issue of quality, and their input is critical to the success of off-campus courses and degree programs. According to Garvin (1984), the process of improving quality must start with the identification of characteristics that connote quality to the customer.

References

Dillon, C. L. & Walsh, S. M. (1992). Faculty:

The neglected resource in distance education. The American Journal of Distance Education, 3 (6), 5-21.

Doerfert, D. & Miller, G. (1995). Conceptualizing research in agricultural distance education. Proceedings of the Central Region 49th Annual Research Conference in Agricultural Education, St. Louis, MO, pp. 40-55.

Garvin, D. A. (1984). What does "product quality" really mean? Sloan Management Review, 26, 25-43.

Gilbert, J. P., Keck, K. L. & Simpson, R. D. (1993). Improving the process of education: Total quality management for the college classroom. Innovative Higher Education, 18 (1), 65-85.

Miller, L., & Smith, K. (1983). Handling nonresponse issues. Journal of Extension, 21 (5):45-50.

Murphy, T. H. (1997). Five factors to evaluate distance education programs. NACTA Journal, 42 (3), 6-11.

Murphy, T. H. & Terry, R. (1995). Faculty needs associated with agricultural distance education. Proceedings of the 21st National Agricultural Education Research Meeting, Denver, CO, pp. 13-24.

Olcott, D., Jr. (1991). Bridging the gap: Distance learning and academic policy. Continuing Higher Education Review, 55 (1&2), 49-60.

Olcott, D., Jr. & Wright, S. J. (1995). An institutional support framework for increasing faculty participation in postsecondary distance education. American Journal of Distance Education, 9 (3), 5-7.

Schwartz, S. A. & Peterson, S. L. (1993). Perceptions of quality: Implications for the

retention of students in postsecondary vocational education programs. The Journal for Vocational and Special Needs Education, 15 (3), 3-1 8.

Seymour, D. T. (1993). On 0: Causing quality in higher education. Phoenix, AZ: Oryx Press.

Verduin, J. R., Jr. & Thomas, A. C. (1991). Distance education: The foundations of effective practice. San Francisco, CA: Jossey-Bass.

Wilson, C. (1991). Trends in distance education: A viable alternative for higher education. (ERIC Document Reproduction Service No. 337081).

Wolcott, L. L. (1996). Distant, but not distanced: A learner-centered approach to distance education. Tech Trends, 41 (5), 23-27.

Journal Paper No. J-18066 of the Iowa Agriculture and Home Economics Experiment Station, Ames Iowa. Project No. 3265, and supported by the Hatch Act and State of Iowa funds.