The Effect of Distance Learning on Course Quality: A Cross-Site, Comparative Evaluation of Four Economics and Business Journalism Core Courses in FY98

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Abstract:
Distance Learning has become an important part of EDI's effort at serving more people through the application of new technologies. The basic logic of utilizing these methods is that new learning opportunities can be created beyond those available with traditional face-to-face training. An important part of this assumption is that the quality of these learning opportunities are not affected by the use of Distance Learning methods. This study examined the results of four offerings of the EDI Core Course on "Economics and Business Journalism," to determine the effects of Distance Learning methods on course quality. Three of these courses used traditional face-to-face methods, while the fourth used Distance Learning methods to reach journalists in Kenya. A comparison of the results of these four courses on eight measures of quality shows that Distance Learning methods can be employed without compromising course quality.

Introduction

The use of "distance learning" (DL) as a method of course delivery has become an important part of the Economic Development Institute's (EDI) strategy for improved service and product delivery. Throughout Fiscal Year 1998 (FY98), this method became more established within EDI as an increasing number of activities utilized one or more DL methods in their presentations. The use of DL methods will increase still further in the coming year.

DL offers both a compelling logic and some distinct advantages to course planners and providers. Its basic premise is that through the use of various technologies, more people can be reached and more diverse audiences can be included in learning initiatives. Because it does not require the traveling of instructors or experts to the various sites, it is likely to be more cost efficient than the standard face-to-face method of training. Overall, DL promises the capacity to do more for less.

Despite this perceived advantage to the method, there is some concern about the quality of the training provided when using DL methods. The basis for this concern is the assumption that a video broadcast or some other DL method will not be as effective as having experts available for face-to-face interaction and, consequently, the quality of the training will suffer. Diminished quality would then more than off-set any achievement in greater cost efficiency. However, if the quality of the training is comparable to that
provided using more traditional face-to-face methods, then any reduction in cost due to DL would support its value as a more cost effective method.

This evaluation study examined this issue by reviewing and comparing the outcomes of four Core Course offerings of "Economics and Business Journalism." These were essentially the same basic course. Three of these four course offerings used the traditional face-to-face method of delivery: Ghana, October 6 to October 10, 1997; Austria, November 3 to November 7, 1997; and, Zambia, February 2 to February 6, 1998. The fourth, offered in Kenya from March 31 to May 12, 1998, used a DL method, video conferencing. The study compared results outcomes from the evaluations of these four sessions to test the basic hypothesis that the level of quality for the DL session was lower than the others.

Background

The Economics and Business Journalism Program is part of EDI's civic education program. This program is directed towards a number of groups in society, including educators, NGO's and communication specialists, and it attempts to broaden the understanding of complex economic and social issues involving change within the respective nation. The Economics and Business Journalism course is part of this program and focuses on working journalists, attempting to show how to make economic and business concepts understandable to the broader public. It is taught and managed by experienced journalists along with World Bank staff and partner institutions in the various countries.

Normally, this course is offered using traditional, face-to-face teaching methods. This consists of in-class lectures by subject matter experts during a five consecutive day period, complimented with case-based exercises. However, in order to broaden its delivery scope, the course was offered in Kenya using DL technologies, from March 31 to May 12, 1998. Using facilities from The George Washington University and the African Virtual University, the course was delivered to 35 journalists gathered at Kenyatta University in Nairobi, Kenya. This was the first EDI course fully delivered using DL technologies. It was redesigned to fit within six weekly sessions lasting from 7 - 10 p.m., local time. Weekly satellite presentations were made to participants that consisted of discussions and presentations by resource persons, supplemented with Power Point presentations, printed materials and videos. Participants were able to utilize telephones, e-mail and faxes to ask questions and interact with course organizers. Because the course was offered weekly, participants had an opportunity during the week to analyze and complete assignments, and to apply newly learned skills in their work as journalists.

A key question about this offering was whether the quality of the course was lower given that the DL technology was used in place of a face-to-face presentation. The fact that the course has the potential to reach more people at potentially lower costs would be less compelling if the quality of these DL-based offerings were of lower quality. The answer to this question has important implications for the DL initiative. This study attempts to provide information that may help answer that key question.

Methodology
The objective of the study was to test the null hypothesis that the level of quality in DL course offerings is no different than that obtained in those course offering utilizing the more conventional, face-to-face method. Our null hypothesis is that there is no difference in quality between the two methods, or that DL is equal to the face-to-face method in terms of its quality. The strategy we employed was to attempt to reject the null hypothesis of no difference in favor of the alternative, that the level of quality is lower in DL course offerings.

To test the stated hypothesis, we utilized a comparison group design made up of courses featuring DL and traditional, face-to-face teaching techniques. The group consisted of four offerings of the same course in different locations. Three of these offerings used traditional teaching methods; the fourth used a DL method. While there are some differences among the groups of course participants, the basic course infrastructure in terms of its content, duration and process was highly similar, giving us some control over these features. This allowed us to isolate, to some degree, the effects of the DL method as the principal difference between course offerings. The finding of any difference in quality among these four offerings in the hypothesized direction will suggest that the use of the DL method may have been a factor in lowering the quality of the course. Finding no difference, as stated, is evidence that DL methods can be used while maintaining the quality of this core course.

As a measure of quality, we selected the results from eight questions asked on evaluation questionnaires administered across all four of the course offerings. This common set of questions covered different aspects of the course’s content.
A six-point Likert type scale was used to measure the "degree" to which respondents felt these different aspects of the course were relevant, useful or understood. The eight question topics are as follows:

1. The course has been relevant to my work.
2. Now I better understand the basic concepts.
3. Now I better understand the critical issues.
4. The background materials were useful.
5. The economic presentations were useful.
6. The course discussions were useful.
7. The practical exercises were useful.
8. Overall, the course has been a worthwhile use of my time.

To test the relationship among the four course offerings on the results of these eight common questions, we utilized two analytical methods. First, we developed a descriptive indicator, the arithmetic mean average, for the questions by course offering. This information allowed us to view the differences among the question set and between the different group offerings. Second, we conducted a difference of means tests, the Student’s T-test, to determine if the differences we observed occurred by chance or if there was a statistical probability that these differences were true. The following section reports the results of our findings from the use of these two methods.

Study Findings

Results from these analytical methods are reported in Tables 1 and 2. In Table 1, the average (mean) score is shown for each of the eight common questions across the four course offerings. Course #4 differed from the other offerings in that it was a fully delivered DL course. If the quality of DL course offering, #4, was less than the other modules, we would expect to see a set of average scores noticeably lower for the eight questions and for the overall course, when compared to the other three offerings. This does not appear to be the case. The scores for the DL course offering were 5.41 - 5.96 on a 6-point scale.
This range was higher than that of any of the other course offerings. Similarly, the overall average score was also highest for the DL course offering at 5.61. From these data, it not only appears that the DL course offering was equal in quality, but it may have been higher.

**TABLE 1:**
Comparison of four Economic Journalism Course Offerings on eight Common Questions

<table>
<thead>
<tr>
<th>COMMON QUESTIONS</th>
<th>CORE COURSE OFFERINGS</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Course #1</td>
</tr>
<tr>
<td></td>
<td>Ghana Mean (n)</td>
</tr>
<tr>
<td>1.</td>
<td>5.63 (30)</td>
</tr>
<tr>
<td>2.</td>
<td>5.23 (30)</td>
</tr>
<tr>
<td>3.</td>
<td>5.21 (29)</td>
</tr>
<tr>
<td>4.</td>
<td>5.48 (29)</td>
</tr>
<tr>
<td>5.</td>
<td>5.60 (30)</td>
</tr>
<tr>
<td>6.</td>
<td>5.70 (30)</td>
</tr>
<tr>
<td>7.</td>
<td>5.86 (29)</td>
</tr>
<tr>
<td>8.</td>
<td>5.86 (29)</td>
</tr>
<tr>
<td>Overall Mean</td>
<td>5.57</td>
</tr>
</tbody>
</table>

This key finding, that there is no evidence that the DL offering was lower in quality, is confirmed by the results shown in Table 2. Reported in Table 2 are the results of a one-tailed Student’s T test measuring the difference of means (averages) between the DL offering and each of the other three offerings. The test sought evidence that the quality of the non-DL offerings were greater. As can be seen in these results, there is no evidence that the DL offering is lower in quality. The table shows both the t-scores and the p-values for determining if there is a statistically significant difference between the means of these different offerings. All three p-values fall well above the α = .05 level of significance needed to reject the null hypothesis of no difference in favor of the alternative, that the DL offering was lower in quality. According to these results, since there is no evidence that quality of the DL course offering is lower than the others, we must assume that the quality of the course when using DL methods is at least as high as when using the more traditional face-to-face method.
TABLE 2:
Difference of Means Test (Student’s t) Results Comparing Three Traditional Economic Journalism Course Offerings with 1 DL Course Offering

<table>
<thead>
<tr>
<th>Course Comparisons</th>
<th>t-statistic</th>
<th>p-value*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ghana v. Kenya (DL)</td>
<td>- 0.338</td>
<td>0.37</td>
</tr>
<tr>
<td>Austria v. Kenya (DL)</td>
<td>- 4.731</td>
<td>0.98</td>
</tr>
<tr>
<td>Zambia v. Kenya (DL)</td>
<td>- 0.951</td>
<td>0.18</td>
</tr>
</tbody>
</table>

* indicates statistical significance at the α = 0.05 level or less

Conclusion

The value of the DL method is supported by these findings. Although the comparison is clearly limited, the results do show that the course offered using DL methods is no lower in its quality, as judged by participants. This is important when viewed within the overall logic of DL, that the same quality training product can be delivered to more people, at more remote sites. It will be important to monitor other DL courses for their quality, as well as examine the relative costs of the different methods. Should DL prove to be less costly while reaching more people with comparable quality, an even stronger argument could be made for its use in EDI Core Course offerings.