Tele-Lecture or Traditional Lecture?

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In an attempt to minimize travel and make the best use of time, some Extension personnel have tried tele-lecture, a technique which brings the speaker to the audience via an amplified telephone call. But how does an audience react to such a lecture as compared to one delivered in person? And will a traditional-lecture audience be able to recall more information than will one exposed to information by remote control? To answer these and other questions, a study was made of a tele-lecture audience as compared to a traditional-lecture audience. The authors present the conclusions and discuss the implications for adult educators.

EXTENSION personnel engage in many job-related lecture activities. When long-distance travel is necessary to meet the intended audiences, today's increasing restrictions on time often make such travel inconvenient. In an attempt to reduce this inconvenience, the tele-lecture technique has been introduced. Essentially, this technique brings the speaker to the audience by means of a telephone call. His voice is amplified over loudspeakers, and facilities are usually available which enable members of the audience to talk directly with him.[1]

To the writers' knowledge, no experimental data have been available heretofore to assist individuals in answering the question "Tele-lecture or traditional lecture?" when speaker-audience situations are in the planning stages.

This article reports the findings of an experiment which compared a tele-lecture with a traditional, face-to-face lecture with respect to two factors: (1) recall of information, and (2) audience attitude toward the message medium.

[1] For detailed information on the tele-lecture technique, see *Tele-Lecture* (Bell Telephone System: 1963), 28 pp. (pamphlet).

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COMPARATIVE QUESTIONS

To focus the comparison of the two forms of presentation, we posed two questions:

1. Will a tele-lecture audience differ significantly from a traditional-lecture audience in its ability to recall information presented?
2. Will these audiences differ significantly in their attitudes toward (a) the interest level of the message, (b) the amount of new information in the message, and (c) the amount of new information that could have been acquired had the message been presented through the alternate medium?

PROCEDURES

The first task was construction of an experimental lecture. The specific purpose of this lecture was to inform listeners about selected aspects of Indiana's early history (e.g., the historic Indian settlements, and population movements of white settlers). Because the prime purpose was to inform, the lecture manuscript was purposely kept relatively free of rhetorical interest-catching and entertaining devices. Any expressed interest, then, would inhere in the information presented. Based on information in the lecture, a 35-item, multiple-choice recall test was constructed. Each test item was followed by four response choices.

In July, 1966, 4-H members attending a dairy management meeting in Allen County, Indiana, completed the recall test without hearing the lecture. These subjects served as a control group, providing an estimate of pre-experiment knowledge.

The following month, young people from throughout Indiana, attending a Self-Development Conference at a 4-H leadership camp, comprised the experimental groups. One experimental group (Ex_1) met in an assembly hall in which tele-lecture apparatus and amplification had been installed.[2] The lecturer, who was in a distant building, was introduced as follows:

> You are about to hear a lecture over special telephone hook-up by Dr. Henry L. Ewbank, Indiana's State Leader, Cooperative Extension Personnel Training and Research. The title if Dr. Ewbank's address is: "Hoosierland—In the Beginning." Please do not take any notes during the lecture. After the lecture, you will be asked some questions based on what Dr. Ewbank had to say. At this time, Dr. Ewbank is ready to talk on the other end of the line. . . .

[2] The experimenters are indebted to General Telephone Company of Indiana and Indiana Bell Telephone Company for this technical assistance.

The speaker read his 39-minute lecture from manuscript. At the close of the tele-lecture, he was thanked and he replied, showing the audience the "talk-back" possibilities of the equipment. Immediately after the presentation, Ex_1 members were asked to express their judgments on a three-item questionnaire. By checking the appropriate word, they judged that the tele-lecture was (1) very boring, (2) boring, (3) interesting, or (4) very interesting. Second, they indicated that they learned (1) a great deal, (2) some, (3) little, or (4) very little new information about early Indiana. Finally, they estimated that they would have learned (1) a great deal more, (2) more, (3) approximately the same amount, or (4) less from a "live" speaker.

The other experimental group (Ex_2) heard the same talk by the same person, introduced in a similar way. The primary difference was that the speaker was in the same room as his audience, in a traditional face-to-face lecture. This group then completed the questionnaire described above, the only exception being that the name of the medium in the third question was reversed.

After completing the appropriate questionnaire, each group was given the information recall test.

Results

Standard statistical procedures were used to determine the reliability of the test as a measure of information recall.[3] The test questions had been developed from information presented in the experimental lecture. Thus, it can be fairly stated that the test did, in fact, measure what it purported to measure—namely, the recall of information presented in the lecture.[4]

After estimates of the test's reliability and validity were judged to be satisfactory, the appropriate data were subjected to computerized analysis.[5] This process affirmed that no matter which way the experimental lectures were heard (via tele-lecture or face-to-face), the subjects recalled more information from the lecture than can be accounted for by chance or prior knowledge ($p < .001$). The analysis further showed the answer to our first question: The tele-lecture

[3] The "Pearson r" split-half correlation coefficient was computed to determine internal consistency, followed by the Spearman-Brown determination for the total test ($r = .91$). Standard error of r was ($\pm .03$).

[4] This view of test validity is supported in N. M. Downie, *Fundamentals of Measurement* (New York: Oxford University Press, 1961), p. 84.

[5] Program BMDOIV (Health Sciences Computing Facility: UCLA) was used on the 7094 computer at the Purdue Computer Sciences Center, providing a one-way analysis of variance for nonrepeated measures. Tabular presentation of the main schema is available from the authors on request.

audience *did not* differ significantly from the traditional-lecture audience in its ability to recall information from the message.

The remainder of the data dealing with audience attitudes toward the manner in which it heard the lecture was then analyzed statistically.[6] This yielded an answer to our second question: The tele-lecture audience *did not* differ significantly from the traditional-lecture audience in its expressed attitudes toward the interest level or in the amount of new information in the message. The only significant difference ($p < .05$) between the two audiences concerned their estimation of how much more could have been learned from the other manner of presentation. Members of the tele-lecture audience *thought* they could learn more information from a traditional lecture. Those who heard the traditional lecture did not believe that they would learn more from the tele-lecture presentation. These audiences, then, placed somewhat more faith in the familiar, traditional lecture than in the unfamiliar tele-lecture, though they did not actually gain any more information from it.

Conclusions and Implications

Within the scope and limitations of this preliminary investigation, the following conclusions seem warranted:

1. When the speaker's behavioral objective is to provide new information to an audience, there may be little reason to choose a "live" traditional-lecture presentation in preference to a tele-lecture. Hence, when scheduling "winter school" meetings which are primarily to provide information, an agent might well schedule a tele-lecture as part of his regular program. Or, he could resort to the tele-lecture when a speaker is unable to meet an earlier commitment. The amount of new information understood and retained by the audience should be substantially the same.

2. Regardless of whether an informational medium is traditional lecture or tele-lecture, listeners tend to assign nearly-equal amounts of interest and new information to the message. The agent should not expect great resistance to the idea of a tele-lecture, at least *after* the audience has heard it.

3. Individuals hearing an informational message via tele-lecture perceive themselves as probably learning more new information had the message been presented in a traditional ("live") situation.

[6] Four-point linear attitude scales were scored (lowest point [one] was most unfavorable; highest point [four] was most favorable) and mean values computed. Means for each item were compared by the *t*-test for uncorrelated data. Tabular presentation is available from the authors on request.

The reverse did not prove to be true. Perhaps the physical absence of the speaker in the tele-lecture situation accounts for this. The "talk-back" possibilities of the tele-lecture (which were not really used in this study) might serve to assure audiences that they are in contact with a speaker who is *capable* of presenting additional information if needed.

4. The process of identifying the factors which were to be investigated (in this case, comparing the two forms of presenting the same information) and establishing a basis for comparison (testing a comparable group which had not heard the lecture) provides an adequately controlled experimental framework which is easy to achieve in Extension work because of the large number of existing comparable groups. Data obtained in this manner can then be interpreted through analysis by statistical experts to supply the investigators with tenable answers.

The conclusions of this study should provide the stimulus for carefully-controlled, sophisticated experimentation on the tele-lecture and traditional lecture techniques. For example: How do the two techniques compare when the speaker's behavioral objective is to modify listeners' attitudes or to entertain his audience? How do the techniques compare with respect to behavioral objectives of the audience? ("I came to be informed, persuaded, entertained.") When listeners have personal expectations which point to their perceived desire to hear a "live" speaker, how does tele-lecture presentation meet these expectations? Finally, how does a tape-recorded message compare with the tele-lecture and traditional lecture techniques in relation to such dependent variables as information recall, attitude change, or interest level?

As the demand for Extension to reach more and newer audiences increases, so does the demand for research which investigates these questions and related ones. Practical uses of the tele-lecture should provide opportunities for this research and a better knowledge of its possibilities and limitations.

ANYONE WHO THINKS that he has completed his education upon graduating from high school or university had better feed another punched card into his mental computer. The business and industrial world will not stay where it is when this year's or next year's graduates swarm into it. One must keep learning to keep up.

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