

An Experimental Investigation Of  
The Effects of Group Interaction  
And Dyad Interaction on Performance  
On a Listening Comprehension  
Assessment Test

Richard A. Austin  
University of Maryland

*March 1984 - 5<sup>th</sup> Annual Convention of the ILA  
Scottsdale AZ*

An Experimental Investigation Of  
The Effects of Group Interaction  
And Dyad Interaction on Performance  
On a Listening Comprehension  
Assessment Test

The funny thing about human beings is that we tend to respect the intelligence of, and eventually to like, those who listen attentively to our ideas, even if they continue to disagree with us. (S.I. Hayakawa)  
Man's vanity causes his tongue to be used much more frequently than his ear. (A. Müller)

BACKGROUND

A review of the literature on listening research reveals a great deal of confusion, contradiction and ambiguity. This state of confusion stems from the fact that listening is a cognitive activity which is difficult to monitor and record.

Different studies of listening comprehension (Brown, 1959 & Kelly, 1967) have presented evidence that listening is affected by the anticipatory set, the experimental set and motivation. Kelly (1967) further asserts that the experimental set induced by listening comprehension researchers provides a motivation to perform that is not found in mundane, everyday discourse between people outside the laboratory. He states: "No significant attempts have been made to evaluate the amount of improvement in listening skills

retained by subjects in normal circumstances--circumstances unrelated to special instruction and formal testing" (p. 462).

This assertion by Kelly is supported by a review of research literature on listening, which reveals that listening research falls into two broad categories: (a) listening skills acquisition measurement, and (b) listening behavior observation.

Listening skills acquisition measurement refers to the body of listening research which attempts to measure changes in that complex of cognitive activities referred to as "listening skills." For example, Palmatier and McNinch (1972) examined the effect of note-taking instruction on listening skills, using alternate forms of the Brown-Carlson Listening Comprehension Test as a pre-test and post-test. Palmatier and McNinch found no significant gains in listening skills as a result of the note-taking instruction, and in their conclusion added their support to Kelly's (1965) assertion that the Brown-Carlson Test of Listening Comprehension lacks test-retest reliability.

In another experiment (Rossiter, 1972), the experimenter created a listening skills assessment instrument based on short informative messages about which questions were asked of the subjects. The resulting scores of male and female subjects were compared to determine if there was a difference between males and females in the listening skills purported to be measured by Rossiter's instrument. Rossiter's experiment revealed no significant variation based on the sex of the listener.

The second broad category of listening research, listening behavior observation, is cognitively oriented, and does not seek to measure increases or decreases in listening skills. Rather, listening behavior observation seeks to identify psychomotor manifestations of listening behavior which can be recorded and categorized. For example, Freedman, et. al. (1978) observed the physical actions and recorded the verbal responses of twenty subjects involved in a "communications project," and identified two kinesic strategies, which they labeled "shielding" (p. 173), and "contrasting" (p. 178). These two kinesic strategies appeared to have an effect on the type and quality of responses made by the subjects to the verbal input of an "interlocutor," a member of the experimenters' team.

In the area of listening skills acquisition measurement, there is considerable discussion in the published literature (Kelly, 1967, Palmatier & McNinch, 1972 and Roach, 1981) about the validity of traditional measurement instruments such as the Brown-Carlsen Listening Comprehension Test (Kelly, 1967 and Palmatier & McNinch, 1972) and the Sequential Tests of Educational Progress ([STEP] Kelly, 1967). Overall, the literature reveals a reluctance to rely on traditional measurement instruments. This reluctance is based largely on the argument that traditional measurement instruments do not validly measure listening skills, but rather, measure verbal and analytical skills.

The other limitation that becomes apparent in a review of the literature on listening skills acquisition measurement is the fact that most studies are conducted and assessment instruments administered in a large group setting. Little or no research in the area of listening skills acquisition measurement delves into the measured effects of small group or dyad interactions on listening comprehension.

Part of this limitation stems from the fact that a listening definition is so hard to come by. In a paper presented to the Speech Communication Association Annual Convention, Backlund (1983) reviews definitions and teaching objectives in the few states that have added listening skills to the curriculum, and it is made clear that there is no agreement in either definitions or teaching objectives.

In the other broad category of listening research, listening behavior observation, there is an emphasis on dyad and small group interactions, but in this research we find a lack of generalizability. In Freedman's research (Freedman, et. al., 1978), for example, the subjects were: "...20 female paid volunteer college students..." (p. 161). The sample used was small, was all one sex, and operated under a significant intervening variable, payment for volunteering.

Thus, in reviewing the two broad categories of listening research mentioned above, it becomes apparent that there is a gap in the published literature. No quantitative comparison has been made between the effects of group interactions and dyad interactions on listening comprehension.

There has, however, been considerable scholarly discussion of the importance of learning to listen better. West discusses how

much time we spend listening, the components of listening, and philosophical guidelines for better listening. In a paper presented to the Central States Speech Communication Conference, Daly (1975) discusses the influence of the "perception" of being a good listener on interpersonal relationships.

The apparent gap in published listening research literature was addressed in this investigation by the following research question: What are the effects of large group and dyad interactions on listening behavior?

#### RATIONALE AND HYPOTHESIS

In discussing the rationale, it would be helpful to briefly review some interpersonal theory which has a bearing on the research question mentioned above. In his review of the uses of coorientation measures as dependent variables, Wackman (1973) summarizes coorientation theory. This theory posits that the two members of a dyad, when discussing a subject of mutual interest, working on a project or solving a problem, will become "cooriented," that is, they see themselves as in league, part of a team, working together to their mutual benefit. According to Wackman, depending on what object the dyad is coorienting toward, be it a class project, problem-solving discussion, etc., the feeling of teamwork could become very intense. Coorientation as a motivational aspect would be diluted in a large group situation if, indeed, it could occur at all. This coorientation effect offers implications for the testing situation in this investigation.

This review of coorientation theory and its effects on dyad interaction leads to the following research hypothesis: When measuring listening comprehension, a dyad interaction composed of an administrator and a subject will yield a higher score on a standardized test of listening comprehension than will a group interaction composed of an administrator and a group of subjects.

#### PROCEDURES

This investigation attempted to build upon the body of research in the listening skills acquisition measurement area by exploring a heretofore overlooked area- measuring the effects of a dyad interaction on listening comprehension.

The dependent variable for this investigation was listening comprehension. Listening comprehension was operationally defined as that group of cognitive activities which comprise the ability to receive, attend to, interpret and complete a listening skills assessment. This operational definition of the dependent variable was chosen because a substantial amount of research indicates that listening is not a single skill which can be isolated from all others and improved through rehearsal. The published research indicates that successful listening is based upon many interwoven factors.

The most complete analysis of the many factors involved in listening is given by Lundsteen (1979). She breaks the components of listening into ten steps: (1) hear, (2) hold in memory, (3) attend, (4) form images, (5) search the past store of ideas, (6) compare, (7) test the cues, (8) recode, (9) get meaning, and (10) intellectualize

beyond the listening moment (p. 18). In another example, Brown (1959) demonstrated that a listener's anticipation of a forthcoming message significantly affects the listener's comprehension of that message. Another study (Bostrom & Bryant, 1980) indicates that listener comprehension of the message (that is, the listener's ability to understand the meaning) and the listener's pre-dispositional state can have an effect on listening. The chosen operational definition for the dependent variable takes into account the research demonstrating that listening is a group of cognitive activities, not a single skill.

The independent variable for this investigation was the modes of administration of a listening skills assessment. The independent variable for this investigation was operationally defined as the large group or dyad interaction context in which subjects receive a listening skills assessment. This operational definition for the independent variable was chosen because it confines the experimental set to a consideration of the effects of group and dyad interactions on the dependent variable, listening comprehension.

Subjects for this experiment were 38 male and female community college students, ranging in age from 18 to 29 years. The subjects were drawn from the populations of two different humanities classes; one, an introduction to oral communications course, the other, a 200-level public-speaking course. The samples were randomized for use in group interaction and dyad interaction cells by means of alternately-numbered answer sheets which were distributed blind to the subjects. All subjects with a "two" on their answer sheets were asked to leave the room. The subjects who were asked to leave

the room formed the dyad administration cell. Subjects who remained in the classroom formed the group administration cell. There were two groups of ten who were given a group administration of the immediate recall section of the Brown-Carlson Listening Comprehension Test, Form Am.

Subjects who left the classroom were taken to private rooms where they were each given a dyad administration of the immediate recall section of the Brown-Carlson Listening Comprehension Test, Form Am.

In the group administrations, the administrator of the assessment was the class instructor. The instructor read scripted directions as to how to complete the assessment. The instructor then played an audio recording of the immediate recall section of the Brown-Carlson Listening Test, Form Am.

In the dyad administrations, the administrators were two student volunteers, one male and one female, from each of the two classes from which the samples were drawn for the dyad administration cell. Two administrators were used to process each set of dyad administration subjects for logistical reasons, to expedite the testing process and to disrupt the normal schedule as little as possible. The dyad administrators read scripted directions as to how to complete the assessment. The dyad administrators then played an audio recording of the immediate recall section of the Brown-Carlson Listening Comprehension Test, Form Am.

In both the group and dyad administrations, at the completion of each assessment, the subjects were instructed not to discuss the assessment with anyone, so as not to bias the performance of any of the subjects.

FINDINGS

Raw scores for both cells were tabulated and mean scores of 10.65 for the group administration and 11.61 for the dyad administration were determined. T-test of means showed that the variance in mean scores was not significant ( $T = -1.19$ , degrees of freedom = 36,  $p = .88$ ). The hypothesis of this experiment, that dyad administration scores on a standardized listening assessment would be higher than group administration scores on a standardized listening assessment, was not supported. The results of this experiment failed to reject the null hypothesis.

DISCUSSION

The variation between groups in this experiment was not large enough to be statistically significant. While the hypothesis was not supported in this experiment, other alternatives are not ruled out. According to Campbell & Stanley (1963) all any experimenter can do is expose a hypothesis to disconfirmation, and the experiment can be considered meaningful if the hypothesis fails to be disconfirmed.

The hypothesis put forward in this experiment, that dyad interactions will score higher on a standardized listening assessment than group interactions, has not been clearly disconfirmed and has invited further investigation of the questions raised.

For example, the use of student administrators in the dyad administrations of the assessment was an attempt to create more likely cooriented pairs from the peer group, but the results are too insignificant to indicate that coorientation had any effect. Would the coorientation effect become in a different design?

As another example, this experiment failed to make the leap from the formal testing circumstance cited by Kelly (1967, p. 142) to the normal everyday circumstances in which we all function most of the time. Would another design more successfully incorporate measurement and normal environment?

Finally, there is the continuing discussion of the reliability and validity of standardized listening tests. Palmatier & McNinch (1972) cast considerable doubt on the test-retest reliability of the Brown-Carlson Listening Comprehension Test, thus the one-shot design of this experiment. The validity, however, of using the immediate recall section of the Brown-Carlson Listening Comprehension Test as the assessment instrument for this experiment is supported by Bostrom & Bryant (1980) in their assertion that lecture comprehension testing has obscured important components of the listening process, and that short-term recall may offer a more useful approach for listening research (p. 139).

With so much listening research oriented toward group assessments and lecture comprehension testing, have we yet to successfully probe the correlation between listening comprehension and various listening settings?

#### CONCLUSIONS

The implications of this experiment for future investigations into dyad interactions and listening comprehension are many. The experiment documented here has done little to narrow the gap between listening skills acquisition measurement research and listening behavior observation research. The integration of these two areas in future research will pave the way for a more complete understanding of the listening process.

## References

- Backlund, P. (1983). Problems in assessing listening skills.  
Washington, D.C. Speech Communications Association.
- Bostrom, R. & Bryant, C. (1980). Factors in the retention of  
information presented orally: the role of short-term  
listening. Western Journal of Speech Communication  
44. 137-145.
- Brown, C. (1959). Studies in listening comprehension.  
Speech Monographs. 26. 288-294.
- Campbell, D. & Stanley, J. (1963). Experimental and quasi-experimental  
designs for research. Boston: Houghton-Mifflin.
- Daly, J. (1975). Listening and interpersonal evaluations.  
Kansas City, MO. Central States Speech Communication Conference.
- Freedman, N., Barroso, F., Bucci, W., & Grand, S. (1978).  
The bodily manifestations of listening. Psychoanalysis  
and Contemporary Thought. 1. 157-193.
- Kelly, C. (1965). An investigation of the construct validity of  
two commercially published listening tests. Speech Monographs.  
34. 139-143.
- Kelly, C. (1967). Listening: complex of activities and a unitary  
skill? Speech Monographs. 34. 455-466.
- Lundsteen, S. (1979). Listening: its impact on reading and the other  
language arts. (2nd ed.). Urbana: National Council of Teachers  
of English.

- Palmatier, R. & McNinch, G. (1972). Source of gains in listening skill: experimental or pre-test experience? Journal of Communication. 22. 70-76.
- Roach, D. (1981). State of the art in listening comprehension: a compendium of tests and measures. Denver, CO. International Listening Association.
- Rossiter, C. (1972). Sex of the speaker, sex of the listener, and listening comprehension. Journal of Communication. 22. 64-69.
- Wackman, D. (1973). Interpersonal communication and coorientation. American Behavioral Scientist. 16. 537-550.
- West, B. Recent federal legislation added listening as a determinant of literacy: educators must provide listening instruction. Unpublished paper. University of Tennessee at Chattanooga.