

Listening Fidelity: Seeking Congruence Between Cognitions of the Listener and the Sender

William G. Powers

Department of Speech Communication

Texas Christian University

and

Graham D. Bodie

Research Analyst, GodwinGroup

This project explores the theoretical position, potential value, and measurement challenges of listening fidelity (LF) as a fundamental listening proficiency concept. The notion of listening proficiencies and current listening assessment tools are reviewed relative to the value and evolution of the conceptual definition of LF that uniquely includes aspects of both the source and receiver. Potential areas for expansion and improvement of LF are discussed including the potential to normalize distribution, generate a databank, standardize cognition complexity, and establish additional proficiency predictors.

Keywords: Listening, Measurement, Accuracy, Fidelity

Miscommunication is experienced at every level of human interaction and in every context. In many cases the miscommunication that occurs between individuals is either ignored or goes undetected sometimes simply because the inferences and implications that occur are assumed to be understood (Mortensen, 1997). In addition, many misunderstandings result in only inconsequential problems in our lives. However, the constant presence of even the most minute of misunderstandings can pose serious consequences for both the source and receiver of a message ranging from developing feelings of anxiety and avoiding interpersonal encounters to “mental and physical illness” (Parks, 1994, p. 609). Misunderstandings between parties produce relational and emotional consequences that can be devastating. Minimizing misunderstandings is important and clearly falls within the

realm of demonstrating the value of listening scholarship.

One possible avenue for misunderstanding lies in an individual's ability to accurately communicate an intended message (McCroskey, 1984). In fact "without basic fidelity in communication events socially successful interactions are accidental, if not impossible" (Powers & Lowry, 1984 b, p. 58). However, it is equally plausible that a significant contributor to the number and extent of misunderstandings lies in the accuracy of a listener (Mulanax & Powers, 2002). Mortensen (1997) claims that it is impossible to "create perfect understanding, free of errors, mistakes, and noise" (p. 179). Nevertheless, across the communication continuum, communication scholars often overlook the unique aspects of the symbolization and interpretation processes present in the mind of the receiver. Given that even the most carefully constructed and executed message can be misunderstood, it is necessary to explore communication accuracy as a function of the listener. Thus, this report provides a theoretical overview of Listening Fidelity (LF) relative to the mainstream proficiency concepts and measurement methods.

What Makes a Listener Proficient?

Cooper and Husband (1993) note that listening is an elusive aspect of any productive communication event. In more recent years, a variety of characteristics of effective listeners have been identified (Barker & Watson, 2000). According to the National Communication Association website (NCA, 2002), critical communication competencies involving listening include:

recognizing main ideas, identifying supporting details, recognizing relationships among ideas, recall basic ideas and details, attending with an open mind, perceiving the speaker's purpose and organization of ideas and information, discriminate between statements of act and statements of opinion, distinguish between emotional and logical arguments, detect bias and prejudice, recognize the speaker's attitude, synthesize and evaluate by drawing logical inferences & conclusions, recalling the implications and arguments, recognizing discrepancies between the speaker's verbal and nonverbal messages, employing active listening techniques when appropriate. While identifying key skills is important, one must ultimately be able to measure this knowledge in both speaking (Spitzberg & Cupach, 1989) and listening contexts (Wolvin & Coakley, 1994) in a reliable, valid, and useful manner.

Current Listening Assessment Devices

Four of the most popular listening assessment devices are 1) the Brown-Carlsen Listening Comprehension Test (Brown & Carlsen, 1955), 2) the STEP III Listening Test (Educational Testing Service, 1979), 3) the Kentucky Comprehensive Listening Test (Bostrom & Waldhart, 1983), and 4) the Watson-Barker Listening Test (Watson & Barker, 1988).

Brown-Carlsen and STEP III. Noted as the first mass produced test of listening, the Brown-Carlsen Listening Comprehension Test (Brown & Carlsen, 1955) proposed to examine five components of listening comprehension: immediate recall, following directions, recognizing transitions, recognizing word meaning, and lecture comprehension. The Sequential Tests of Educational Progress (Step III) is a general test of learning ability and recall which has a listening portion that attempts to test a single listening comprehension component. In spite of the popularity of these tools, there are measurement concerns about each method. Correlations were computed for each test between each other and with general tests of mental and reading ability (Kelly, 1965; 1967). Not surprisingly, “they are no more similar to each other than either is to a test of mental ability or to a test of reading ability” (Kelly, 1965, p. 142). A factor analytic study conducted by Fitch-Hauser and Hughes (1987) also disputed the validity of each test concluding, “[no] systematic pattern of loadings appeared in any of the factor analyses that corresponded to the pattern that the test authors had suggested” (p. 143). More recent measures have tried to rectify these deficiencies.

KCLT and WBLT. The Kentucky Comprehensive Listening Test (KCLT; Bostrom & Waldhart, 1983) and the Watson-Barker Listening Test (WBLT; Watson & Barker, 1988) were both designed to measure five dimensions of listening comprehension. The KCLT was structured to test 1) short-term listening, 2) listening with rehearsal, 3) interpretive listening, 4) lecture listening, and 5) overcoming distractions (Bostrom & Waldhart, 1983). The WBLT was structured to test 1) evaluating message content, 2) understanding meaning in conversations, 3) understanding and remembering information in lectures, 4) evaluating emotional meanings in messages, and 5) following instructions and directions (Watson & Barker, 1988). Both measurement instruments have reported acceptable reliability (Bostrom, 1984, 1985; Roberts,

1986) and internal validity (Roberts, 1988; Bostrom, 1990). Additionally, Applegate and Campbell (1985) attempted to correlate the scores of each test. While correlations between scores on each test did exist, results indicated neither test “is exhaustive [nor] all-encompassing” (p. 9). Perhaps the most comprehensive projects addressing of the reliability and validity of these two tests involved executing factorial analysis to statistically determine the validity of the two listening tests (Fitch-Hauser & Hughes, 1987; Villaume & Weaver, 1996).

The Fitch-Hauser and Hughes (1987) study compared each test to a factor structure designed around the components each test reported to measure. Since neither test adhered to this structure, the external validity of the tests was reported as questionable. The authors concluded that the tests are either “testing something in addition to listening [or] the tests are tapping more listening constructs than they claim.” (p. 146).

Villaume and Weaver (1996) took this approach one step further and conducted first and second order factor analyses on both the KCLT and the WBLT. Results showed each of the tests ultimately indicated a lack of external validity, mirroring prior concerns (Roberts, 1988). The tests, as presently designed and implemented, are problematic. Most importantly is the fact that they are failing to account for the level of accuracy between cognitions of the speaker and listener simply because they are “measures of the acquisition of information” (Bostrom, 1990, p. 24). While “[retention] of information is a reasonable goal of listeners,” (Rasmuson, 1987, p.114) the measurement of this goal falls short of tapping into the cognitive realm of the listening process. A more appropriate starting point would attempt to assess how accurately a listener understands a message. This oversight is surprising considering the attention that accuracy has received from the perspective of the sender.

Communicative Accuracy

Communicative Competence has been defined in many ways depending on the scholar, the measurement instrument and the context in which the participants interact. For example, communicative competence is measured and operationalized as what the sender thinks of his or her own competence level (Rubin, 1982) and what

others perceive as a person's competence level (see Parks, 1994, for a comprehensive review). This has led the term "competence" to also be labeled "elusive" since it had been overextended and become almost meaningless (McCroskey, 1984). To combat this, Powers and Lowry (1984 b) attempted to simplify the concept by focusing solely upon the fidelity between individuals' cognitions since "without basic fidelity in communication events socially successful interactions are accidental, if not impossible" (p. 58). Consequently, Basic Communication Fidelity (BCF) was defined as "the degree of congruence between the cognitions (mental images) of two or more individuals following a communication event" (Powers & Lowry, 1984a, p. 57). This concept "most directly [speaks] to the basic issues of communication competence... the ability of students to talk so that others can understand them" (McCroskey, 1984, p. 262). Thus, BCF was considered an appropriate starting point toward building a theoretically sound examination of communicative competence. Furthermore, this concept is used in classrooms across the nation to teach students potential barriers to effective communication (see Gronbeck, German, Ehninger, & Monroe, 1998 for an example of this exercise).

The original body of BCF work focused upon measuring the capabilities of the source of a communication effort while exploring perceptual and conceptual distinctions purely as a function of the skills of the source (Powers & Lowry, 1984a,b; Powers & Love, 1989; Powers & Spitzberg, 1986). An initial concern of BCF measurement was how to identify specific cognitions in the minds of both source and receiver for purposes of measurement and comparison without being confounded by the language skills of the source, receiver, or researcher. Thus, the study elected to provide sources with a cognition stimulus in the form of a set of geometric forms arranged in a sequential pattern as drawn on a sheet of paper. The sources' ability to generate the desired cognition was tested and results were satisfactory. Sources were then asked to orally communicate that cognition to an audience with the intent of having receivers in the audience duplicate the form (these communication events were videotaped for later replay). The receivers created cognitions and represented those cognitions by drawing them on a blank piece of paper. The researcher's access to the cognitions of both the source and the receivers for purposes of comparison and generation of BCF scores were thus not contaminated by the verbal or written

language skills of the source, receiver, or researcher.

Powers and Lowry (1984a) designed a very specific scoring procedure to ascertain the degree of congruency between the cognition of the source and that of each of the receivers. The BCF measurement procedure recognized the significant impact of receiver's listening skills and controlled for that variable by using the average receiver score as the indicant of source skill as BCF. Further investigations with BCF have successfully measured the communication accuracy of one's self-image with a minimal use of language (Kopieczny & Powers, 2002; Powers & Spitzberg, 1986; Powers & Love, 1989). This background provides the foundation that evolved into generating the conceptualization of LF.

Listening Fidelity

Just as the concept of communication competence was (and to some degree still is) indistinct, listening competence is also conceptually confused. This confusion stems from a lack of concern for a measure of accuracy between the cognitions of listener and sender as well as the emphasis placed on the skills involved in listening proficiency. In an effort to simplify and ultimately extend the concept of listening competence, LF has been offered as "the degree of congruence between the cognitions of a listener and the cognitions of a source following a communication event" (Mulanax & Powers, 2001). This approach to the measurement of listening skill is as fundamental to the listening process as a measure of hearing. More importantly, it is a necessary starting point for establishing a theoretically sound measure of competence in listening.

This is partially based on the notion that "any one measure can not purely reflect a single concept" (Fitch-Hauser & Hughes, 1988, p. 81) suggesting that a foundation is needed to establish the theoretical construct to be measured. Accuracy in listening should be the base on which a theory of competence in listening is founded. Moreover, by shifting the focus of accuracy to the listener and diverting attention from the source of the message, the level of accuracy in any given communicative exchange can be more easily identified. The unique contribution of this approach is the ability to establish a numerical measurement plane representing the level of congruity between mental images generated by different listeners in a communication event based

upon symbolizations orally presented by a source. At the same time, this method has the potential to minimize the reliance on listener's language proficiencies, which act as a potential interactive, confusing variable when accessing the listener's cognitions.

Language as a Barrier to Listening Accuracy and Measurement

Meaning is not inherent in words. Rather, meaning is configured in the mind of a receiver based on his or her assessment of the situation, view of the world (Trenholm, S. (1991) and schematic processing (Fitch-Hauser, 1990). Academics and professionals, generally adhere to and teach this basic axiom of human communication. However, the ramifications of a system of knowledge based on arbitrary signs, symbols, and signals are unimaginable simply because we have no other way of understanding the world around us. Consequently, researchers must begin to build a theory of listening and cognition based on substantive thought and potential fidelity between individuals. By doing so the accuracy of cognitions between two parties can lend insight into the mysteries of communication and listening. For instance, what degree of fidelity is possible under what conditions? Where in the exchange of ideas or information is miscommunication most likely to occur? The challenge facing the evaluation of listening theory lies partially in the ability to identify cognitions of a source and a receiver with a minimal amount of interference from the use of language.

This is not necessarily suggesting that any component of listening can be explained or measured without the use of language; merely to eliminate or minimize the potential for operational confusion when accessing internalized cognitions. What is suggested is that the concept and measurement tool presented in this report begins to develop listening proficiency, as it should be, as a measure of listener understanding. While this theoretical model is simplistic in nature and may not necessarily reflect how individuals actually interact, it is a necessary first step in the process. It is a step that will ultimately provide specificity in determining error and remedy options tied to minimizing misunderstandings.

This concept of congruency between cognitions of two individuals taps into the very theoretical deficiency that is lacking in the listening research. Previous research has focused on creating listening

tests and establishing categorization schemes that do nothing but convolute an already misunderstood concept. Therefore, it is necessary to explore listening from a cognitive perspective in which there is a theoretical “perfect match” of cognitions representing a minimal level of misunderstanding between the cognitions of source and receiver. By doing such, the concept of listening will become less elusive and only then can we begin to study the remaining components of listening comprehension.

The Mulanax and Powers (2001) approach to measuring LF, as a component of listening competence, is an attempt to correct this theoretical deficiency. This measure is an inverted measure of BCF found in the original Powers and Lowry (1984a) article. Like this original measurement scheme, LF measurement has been tested and results indicate it has potential to extend the field of listening (Mulanax & Powers, 2001). Most intriguing is this concept’s potential to simplify and consolidate the study of listening competence. It focuses on identifying patterns of listening and types of listeners more prone to produce misunderstandings in order to be able to improve listening proficiency. As a result, teachers and practitioners can use this concept and subsequent measurement procedure to ascertain an individual’s potential level of accuracy and mold a training program based on a simpler measure of how accurately one listens and/or communicates.

Potential Areas for Expansion and Improvement of Listening Fidelity

While LF has opened a door to a potentially more adequate measurement of listening competence, there is a great deal of room for enhancement. The following section will focus on four areas where the authors believe consideration should primarily rest. First, the need to normalize LF score is present from the original study (Mulanax & Powers, 2001). Second, studies should be conducted with different target populations in order to establish a relative range of LF scores for the general population as well as more specific, localized populations. Third, the LF work has yet to clearly explore receiver skill differentiation as a function of different cognitions or listening skills under different communication demands. Finally, only by combining measures of BCF and LF will scholars ever truly begin to understand the accuracy components of sender and receiver cognitions and how

they are related.

Normalizing LF Score Distribution

In the initial exploration (Mulanax & Powers, 2001), the skewed distribution toward higher LF scores concerned the authors. This skewedness may have contributed to lower than expected relationships between LF and Receiver Apprehension (RA) and LF and Locus of Control (LOC). This distribution could have resulted from a lack of complexity within the message due to the pre-administration effort to ensure the presence of all scoring elements or from the lack of complexity in the geometric pattern used as a stimulus for the source cognition. Either may have reduced the complexity of the listening task so that higher order listening skills were not essential for high LF scores. However, it is encouraging to note that in spite of the skewed distribution, support for the validity of the procedure was indicated.

A potential improvement in the distribution of scores seeking a normalized curve of scores representing LF skills may be obtained by utilizing different levels of source skill with comparable cognitions, perhaps high, moderate, and low source skill wherein the specified condition that each message content contains all the necessary information for a perfect LF score, yet the language is more/less complex, more/less articulated, or more/less organized, or more/less linguistically appropriate or the message is delivered differentially. Exploration of a wide variety of ways to achieve the measurement goal of equivalent cognitions, essential information, and differential message difficulty should be continued.

The impact upon LF scores of increasing the significance of the LF outcomes should be examined on the basis that the original assessments were made under typical research confinement as being non-evaluative in nature. The outcomes may be significantly impacted "...when the person expects to be evaluated with regard to adequacy of the information processed" (Ayres, Wilcox, & Ayres; 1995; p.167) in a real-life listening situation including different populations.

LF Percentile Comparative Databank

As with a large portion of social scientific research, the original LF study (Mulanax & Powers, 2001) focused on college students in a specific region. While it is advantageous to know the level of accuracy presently accomplished by college listeners, other populations may not

necessarily score in this range. For instance, individuals around the same age but with less education or formal listening training may not score as high or their scores may not produce leptokurtic skewness. Therefore, it is necessary to replicate the Mulanax and Powers (2001) study with different target populations. From these replicated studies it may be found that the actual LF score given to an individual may be best determined as a ratio of the individual score to that of the collective score of equivalent or target colleagues. It would certainly provide value to assess college students relative to college students, perhaps in a profile response manner similar to that used with GRE and SAT examinations where a person's achievement is designated by the percentage of people scoring lower. Concurrently, different information of value would come from the traditional approach of assessing the skill of an ESL student relative to 1) the test range, 2) other ESL students or 3) other EFL students at comparable age levels.

Other studies should also test the social and professional significance between people with high, moderate, and low LF scores to ascertain the significance of such differentiation. Other variables of interest would include personality type, interaction involvement, willingness to listen, and comparisons to traditional listening evaluation measurement procedures on both a conceptual and operational basis.

Dimensions, Cognitions, and Tasks

Other aspects meriting further consideration lie in the type of cognition and type of communication task being undertaken. As implied earlier, the cognition(s) represented in the LF procedure using geometric forms is different than, for instance, that of one's social or professional image. The communication task is equally different for the source and thus the source and receiver form qualitatively and quantitatively different messages. Time and repetition may play a role with some types of tasks. The communication task of sharing an internalized image or character quality contains significantly increased intangibilities requiring greater extension of symbols and the use of other symbol systems beyond that of language and vocalics.

Complete lists of communication tasks and related cognitions need to be developed. However, minimizing the confounding aspects of language should still remain a high priority. Some tasks and some cognitions may not be susceptible to such an effort and continual exploration of ways to represent cognitions must be maintained. The

work of Fitch Hauser and Hughes (1988) may provide guidance and direction in this area.

The Significance of LF Scores

The significance of a measurement of accuracy in receiving information lies largely in the ability to combine this measure with the traditional measurement of accuracy in sending information. By attempting to combine these two measures and correlating them with other variables, researchers may be able to discover, for instance, which personality types or types of listeners and/or communicators are more prone to miscommunication. This will not only be a significant finding but it can be used in a practical sense to target training programs to individual needs. It would also open a whole new area for communication and listening research. Therefore, a major effort to combine BCF and LF under one communication event umbrella should be made with specific attention placed on combining these concepts in the realm of true communicative interactions.

CONCLUSION

To understand or to be understood are both important components in the communication process, not only to effective communication but also to feelings of self-worth. In order to teach students and train professionals how to communicate and listen accurately, adequate measurement tools are necessary for both academics and practitioners. Without such measures we cannot further our understanding of listening process and skill.

The measure of accuracy from the perspective of the sender has been studied. Results suggest that this measure can address a critical component of communicative competence. However, the concern of accuracy from the perspective of the listener has been systematically ignored. LF, as a component of listening competence, speaks directly to the concern that effective communication occurrences should be measured from the perspective of the receiver. Only by replicating and extending studies using LF will the field be able to advance such a message. Furthermore, only by combining the two measures will further insights into the mysteries of miscommunication be discovered.

REFERENCES

- Applegate, J.S. & Campbell, J.K. (March, 1985). *A correlational analysis of overall and sub-test scores between the Watson/Barker and the Kentucky comprehensive listening tests*. Paper presented at the International Listening Association Convention. Orlando, Florida.
- Ayres, J., Wilcox, A.K., & Ayres, D.M. (1995). Receiver apprehension: An explanatory model and accompanying research. *Communication Education*, 44, 223-235.
- Barker, L. & Watson, K. (2000). *Listen up! At home, at work, in relationships: How to harness the power of effective listening*. New York: St. Martin's Griffin.
- Bostrom, R.N. (1990). Measuring individual differences in listening. In R.N. Bostrom, *Listening behavior: Measurement and application* (pp. 15-24). New York: The Guilford Press.
- Bostrom, R. N. & Waldhart, E. S. (1983). *The Kentucky Comprehension Listening Test*. The Kentucky Listening Research Center. Lexington, KY.
- Brown, J. I. & Carlsen G. R. (1955). *Brown-Carlsen Listening Comprehension Test*. Harcourt, Brace and World, Inc. New York, NY.
- Cooper, L.O. & Husband, R.L. (1993). Developing a model of organizational listening competency. *Journal of the International Listening Association*, 7, 6-34.
- Educational Testing Service. (1979). *STEP III Manual and Technical Report*. Addison-Wesley Publishing Company, Menlo Park, CA.
- Fitch-Hauser, M. (1990). Making sense of data: Constructs, schemas, and concepts. In R.N. Bostrom, *Listening behavior: Measurement and application* (pp. 76-90). New York: The Guilford Press.
- Fitch Hauser, M. & Hughes, A. (1987). A factor analytic study of four listening tests. *The Journal of the International Listening Association*, 1-1, 129-147.
- Fitch-Hauser, M. & Hughes, A. (1988). Defining the cognitive process of Listening: A dream or reality? *The Journal of the International Listening Association*, 2, 75-88.
- Gronbeck, B.E., German, K., Ehninger, D., & Monroe, A.H. (1998). *Principles of speech communication: Thirteenth brief edition*. New York: Longman.
- Kelly, C.M. (1965). An investigation of the construct validity of two commercially published listening tests. *Speech Monographs*, 32 (1), 139-143.
- Kelly, C.M. (1967). Listening: Complex of activities-And a unitary skill? *Speech Monographs*, 34 (2), 455-466.
- Kopecney, C. C. & Powers, W. G. (2002) Relational Development and Self-Image Communication Accuracy. *Communication Research Report*, 19 (3), 283-290.
- McCroskey, J.C. (1984). Communication competence: The elusive construct. In R.N. Bostrom (Ed.), *Competence in communication* (pp. 259-268). Beverly Hills, CA: Sage.
- Mortensen, C.D. (1997). *Miscommunication*. Thousand Oaks, CA: Sage.
- Mulanax, A. & Powers, W. G. (2001). Listening fidelity development and relationship to receiver apprehension and locus of control. *International Journal of Listening*, 15, 69-78.
- National Communication Association (2002)
www.natcom.org/instruction/competencies/college_competencies.htm.

- Parks, M.R. (1994). Communicative competence and interpersonal control. In M.L. Knapp & G.R. Miller, *Handbook of interpersonal communication* (2nd edition; pp. 589-618). Thousand Oaks, CA: Sage Publications.
- Powers, W.G., & Love, D. (1989). Basic communication fidelity: An extension. *Communication Research Reports*, 6, 79-83.
- Powers, W.G., & Lowry, D.N. (1984a). Basic communication fidelity: A fundamental approach. In R.N. Bostrom (Ed.), *Competence in communication* (pp. 57-71). Beverly Hills, CA: Sage.
- Powers, W. G. & Lowry, D.N. (1984b). Basic communication fidelity and nationality: Group interaction perceptions. *Communication Research Reports*, 1, 48-53.
- Powers, W.G., & Spitzberg, B. (1986). Basic communication fidelity and image management. *Communication Research Reports*, 3, 60-63.
- Rasmuson, T.R. (1987). The effects of pausing and listening ability on retention of a spoken message. *The Journal of the International Listening Association*, 1, 114-128.
- Richards, C. (2002, November). "I" contact: A sign of acknowledgment. Paper presented at the annual convention of the National Communication Association. New Orleans, LA.
- Roberts, C.V. (1988). The validation of listening tests: Cutting of the Gordian Knot. *The Journal of the International Listening Association*, 2, 1-19.
- Rubin, R. (1982). Assessing speaking and listening at the college level. *Communication Education*, 31, 19-32.
- Spitzberg, B.H. & Cupach, W.R. (1989). *Handbook of interpersonal competence research*. New York: Springer-Verlag.
- Trenholm, S. (1991). *Human communication theory: Second edition*. Englewood Cliffs, NJ: Prentice Hall.
- Watson, K. W. & Barker, L. L. (1988). Listening assessment: The Watson-Barker listening test. *Journal of International Listening*, 2, 20-32.
- Wolvin, A. D., & Coakley, C. G. (1994). Listening competency. *Journal of the International Association*, 18, 148-160.
- Villaume, W.A. & Weaver, J.B. (1996). A factorial approach to establishing reliable listening measures from the WBLT and the KCLT: Full information factor analysis of dichotomous data. *International Journal of Listening*, 10, 1-20.

William G. Powers (Ph.D., University of Oklahoma, 1973), Professor in the Department of Speech Communication, Texas Christian University, Fort Worth, TX 76129, w.powers@tcu.edu.

Graham D. Bodie (M.A., Auburn University, 2003), Research Analyst, Godwin Group, Jackson, MS 39205-0531