

## **Introduction**

In the area of aphasia testing, Blomert developed the ANELT ('Amsterdam Nijmegen Everyday Language Test') (Blomert, 1992, 1994; Blomert et al., 1987, 1990, 1994; Koster et al., 1988) for assessing the verbal communicative abilities of clients presenting with specific language impairments with respect to:

1. their level of verbal communicative abilities in conveying a message in response to an everyday scenario
2. change in performance in recovery, including the effect of different intervention strategies on their communicative behavior

Since a sufficiently explicit formal theory of functional language behavior or verbal communication was not available, Blomert adopted a pragmatic approach. The construct "verbal communication" was operationally defined in terms of the measuring unit of his test variables: "Verbal communication is a function of the understandability of the message to be communicated and the intelligibility of the utterances per se of a given daily life scenario, where for each construct five levels of ability are differentiated; 'not at all', 'a little', 'medium', 'reasonable', and 'good' (1994, p. 11)".

With reference to the usability of a test and the explicitness of the scoring procedure provided for ANELT, we discuss applications of the ANELT ( $N > 200$ ), which we have been routinely using since its availability with the aim of making the scoring procedure more transparent and attempting to operationalize the understandability scale by examining the responses in terms of their content. In this paper we report on ANELT test results and discuss responses from five tests from a single client in the recovery from aphasia.

## **Method**

### **Participant**

At the time of initial testing, TH was a 42 year old, right handed male, who had worked as a radio announcer prior to onset of his aphasia. TH suffered a left frontolateral intracerebral hemorrhage (aneurysm) and also a massive left hemisphere CVA. Initial aphasia testing revealed global aphasia and at 14.5 months post onset Broca's aphasia. TH showed severe agrammatic oral and written sentence production with, in particular, verb retrieval difficulties, asyntactic comprehension and apraxia of speech.

### **Procedure**

Beginning 15 months post onset TH participated in four therapy programs with extensive pre-

and post-therapy language testing. The therapy aimed at facilitating verb retrieval in the context of oral and/or written sentence production tasks. Five of the ANELT tests from pre- and post-therapy are discussed in this presentation:

- 1) Pre-therapy 1 (14.5 months post onset)
- 2) Post-therapy 1 (21 months)
- 3) Post-therapy 2 (33 months)
- 4) Post-therapy 3 (41 months) and
- 5) Post-therapy 4 (48 months).

Each ANELT was audio- and videotaped and transcribed. Two clinicians rated each ANELT test transcription of both versions (Version 1 [=10 items] and Version 2 [=10 items]) independent of each other and without referring back to previous test assessments according the 5-point understandability scale: 'not at all' (=1); 'a little' (=2), 'medium' (=3), 'reasonable' (=4), 'good' (=5).

The test protocols were analyzed with regard to the evolution of scores across the five test times to consider – post hoc – why TH received a particular score and what determined an increase in the number of points for each test item.

## **Results**

Figure 1a and b presents the results of the ANELT testing separately for version 1 and version 2 and Figure 2 for both versions.

Table 1 presents the test scores for each item for the five tests on the understandability scale. On five of the 100 ANELT items the two raters scored an item differently: one point more or less than the other rater. A third rater decided on the score for these items.

- Figures 1a, 1b, 2 here -

- Table 1 here -

Longitudinally, qualitative analysis of TH's performance on the ANELT shows an improvement in verbal communicative abilities from an average of: 1.7 → 3.1 → 3.2 → 3.6 to 4.3 (out of 5.0).

## **Discussion**

The usability of a test procedure refers to all important information test users require to enable them to apply the procedure adequately including the formal test description with standards and guidelines for its application and comprehensive scale definitions for scoring purposes. A key issue in this endeavour is measurement. The attributes or aspects to be measured by a scale, as well as how they are to be measured, must be determined by theory. According to Pedhazur & Pedhazur Schmelkin (1991), theory conceptualizes the aspects from which measurement

operations follow (p. 16). Thus, criteria of usability and a clear understanding of what is being measured by a scale and how to measure it are crucial for clinicians and researchers, particularly for initial applications of a test procedure.

The main criticism is that Blomert does not provide an adequate description for the attributes for each score of the understandability scale. None of the cited references contain a detailed description with relevant examples to enable the rater to learn the scoring via illustrative examples. Blomert describes the scale as an interval scale, however, since definitions of the attributes being measured are not given, it is difficult to determine the difference from one score to the next higher one on the scale, e.g., medium versus reasonable ability in conveying a message. Thus, each rater resorts to her/his own definitions or conceptions of “a little”, “medium”, “reasonable” or “good” with regard to the message being conveyed. On the surface both raters evaluated the test items with 95% agreement. Although this suggests that they rated in a similar manner, this can only be assumed – for both raters and also for the same rater for different scenarios.

A comparison of items over the five test times for which there is an increase in the score on the understandability scale reveals that the better performance is primarily due to the following changes in performance:

- a) an elaboration, i.e. increase in the number of adequate words in the form of a list of additional items (e.g., wedding party menu; ordering flowers for someone)
- b) an elaboration of the scene including extensions of the monologue, in which a possible solution is discussed with another person (e.g., telephone call to ask his wife for her opinion on the cost of a TV);
- c) a more concise, i.e. to the point response based on more accurate lexical retrieval; or
- d) a pragmatically more complete response to a scenario, that is, responding with a well-structured greeting, mention of the problem and/or solution and ending with a farewell (e.g. visit; new neighbor).

Analysis of TH’s responses reveals that although the items are comparable in terms of their content validity and they are representative situations of everyday life, adequate responses to the various situations vary in length and amount of information required. Other differences in TH’s performance relate to pragmatic principles (e.g., Gricean principles and the politeness hierarchy), which are not at all addressed in the ANELT understandability scale.

A detailed pragmatic and semantic analysis of the responses for each item for the five tests is presently being carried out based on data from healthy controls and aphasic clients in addition to TH. The results of this analysis will provide a reference point for scoring responses for each value on the 5-point scale, which in turn will make the scoring more objective and applicable for assessing verbal communicative behavior.

## References

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