

Toward the development of a cross-linguistic naming test

Alfredo Ardila

*Department of Communication Sciences and Disorders, Florida International University,
HLS139 Miami, FL 33199, USA*

Abstract

Developing a cross-linguistic naming test has represented a challenge in language evaluation. In this paper, it is proposed that a cross-linguistic naming test should fulfill at least the following three criteria: (1) include only “universal” words found across different languages. The basic cross-linguistic core vocabulary is usually referred as the “Swadesh word list”; (2) include different semantic categories (e.g., living and nonliving elements); and (3) avoid the confounding of perceptual difficulties. Departing from the Swadesh word list, a cross-linguistic naming test was developed, including six different semantic categories: (a) body-parts (10 words), (b) natural phenomena (non-touchable) (5 words), (c) external objects (potentially known through the sight and the touch) (5 words), (d) animals (5 words), (e) colors (5 words), and (f) actions (10 words). A total of 40 color pictures were selected to represent these basic words. It is emphasized that this test has two major advantages: on one hand, it is readily available in hundreds of different languages; and, on the other hand, it is not a “fixed” test, but it includes photographs that can be replaced. Theoretically, norms are not required, and it represents a low-ceiling test. Word frequency can be used as a criterion of the level of difficulty. The next step will be to find the performance profile in different language pathologies, as well as the decline pattern in cases of dementia.

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1. Introduction

Naming is a basic language ability. Word-finding difficulty (anomia) represents the most frequent aphasia sign (Benson & Ardila, 1996; Goodglass, 1993; Luria, 1976). Different tests have been developed to assess naming ability; some of them, however, have become more extended than others (e.g., *Boston Naming Test* [BNT], Kaplan, Goodglass, & Weintraub, 1983; *Object Naming Test*, Newcombe, Oldfield, Ratcliff, & Winfield, 1971; *Peabody Picture Vocabulary Test*, Dunn & Dunn, 1981).

It has long been recognized that naming body-parts, external objects, and colors depend on the activity of different brain areas (e.g., Moore & Price, 1999; Spitzer et al., 1998), and that these naming functions can be differentially affected by specific focal lesions (Hécaen & Albert, 1978; Luria, 1966, 1976). Action naming is occasionally included in some aphasia test batteries (e.g., *Boston Diagnostic Aphasia Examination*, Goodglass & Kaplan, 1983). A specific “Action Naming Test” was developed by Ardila and Rosselli (1994) with the purpose of testing a patient presenting a restricted ability to name actions. In addition to these four distinctions in naming (naming body-parts, external objects, colors, and actions), it has been further found that much finer distinctions can be established with regard to the naming defects observed in cases of brain pathology, which can be limited to a rather specific seman-

E-mail address: ardilaa@fiu.edu.

tic categories (e.g., people's names, living things, geographical names, etc.) (e.g., Harris & Kay, 1995; Goodglass, Wingfield, Hyde, & Theurkauf, 1986; Lyons et al., 2002; Warrington & Shallice, 1984) and even as specific as “medical terms” (Crosson, Moberg, Boone, Rothi, & Raymer, 1997). It is reasonable to expect that a naming test includes naming of different semantic categories (e.g., living and nonliving things) because—as mentioned above, the naming of these categories depend on different brain areas and can be differentially affected in cases of brain pathology.

The major naming test used in aphasia assessment is the BNT (Kaplan, Goodglass, & Weintraub, 1983). The BNT has been adapted to several languages, including Spanish (Garcia-Albea, Sanchez-Bernardos, & del Viso-Pabon, 1986), German (Merten, 2004), Dutch (Marien, Mampaey, Vervaeke, Saerens, & De Deyn, 1998), etc., has had widespread clinical and research applications. Nonetheless, the BNT has at least the following limitations: (a) pictures are frequently difficult to recognize, particularly in people with posterior brain pathology, elders, and illiterates; (b) it was developed in a particular cultural context, and it is culturally and linguistically biased. Some figures correspond to typical American elements (e.g., pretzel), and/or are well known only for people living in some world areas (e.g., beaver); (c) it does not distinguish semantic categories, and as a matter of fact, the semantic categories are rather randomly used (e.g., animals, musical instruments, external objects, etc.). In consequence, it is not appropriate to distinguish category-dependent naming defects; (d) it is based in the assumption that the pictures are presented in an increasing level of difficulty. This assumption is not clearly substantiated. Clinical observations do not always support it. Furthermore, the order of difficulty also varies from language to language. For instance, the level of difficulty for the different pictures is relatively different in Spanish than in English (personal observation).

In cases of aphasia, naming difficulties are manifested by (1) slowness or impossibility to find the correct word, (2) circumlocutions (including descriptions, e.g., “it is very big and strong”, and the use of superordinate words, e.g., “it is an animal”), and (3) paraphasias; different types of paraphasias are usually distinguished, though the two major types correspond to semantic paraphasias (e.g., *bench* → *table*) and phonological paraphasias (e.g., *pencil* → *percil*) (Ardila & Rosselli, 1993; Benson & Ardila, 1996; Luria, 1976). Phonetic deviations can be also recorded, but phonetic deviations are regarded as speech, not language defects.

Theoretically, a naming test should allow scoring for (a) naming speed; frequently, subtle naming defects are observed not as an overt failure to find the correct word, but as slowness in naming; (b) paraphasias (at least, phonological and semantic); (c) circumlocutions (i.e., superordinate terms and descriptions; e.g., “well, this is a big animal that may be found in Africa”); (d) word-retrieval ability when using phonological cueing (e.g., “*it is a/pe/. . .*”); and (e) failure in naming.

Two major factors can affect the naming ability. Naming ability is significantly correlated with the individual's educational level and age (Lezak, 2004; Spreen & Strauss, 1998). Lexical knowledge significantly correlates with the individual's educational level (e.g., Lecours et al., 1987, 1988; Manly et al., 1999; Rosselli, Ardila, & Rosas, 1990); vocabulary tends to decrease particularly after the seventh decade of the life (e.g., Mackay, Connor, Albert, & Obler, 2002; Ramsay, Nicholas, Au, Obler, & Albert, 1999; Tsang & Lee, 2003). Illiterate elders present in consequence, the lowest ability to find names. Some times a gender effect has been reported in naming, but this gender effect is inconsistent (e.g., Grabowski, Damasio, Eichhorn, & Tranel, 2003; Pineda et al., 2000).

In addition to the impairments in naming associated with abnormal brain conditions, difficulties in finding names may be due to a diversity of factors. The three major confoundings in testing naming ability are as follows: (1) Perceptual difficulties: The item is not recognized because of visual–perceptual defects. To overcome this difficulty, the BNT allows semantic cuing (i.e., to tell the semantic category). (b) Lack of familiarity with the item: Many of the items included in current naming tests have different levels of familiarity for people living in different countries and cultural contexts. For instance, the pretzel is a typical American snack, virtually unknown in most countries. (c) Word frequency: A frequent and easy word in a particular culture can be more unusual and difficult in another culture. A dart is easier to name for English speakers, and harder for Spanish speakers, whereas a domino is easier to name for Spanish speakers than for English speakers (personal observation).

Developing a cross-linguistic naming test requires using words that are found across different languages (*basic universal* or *core vocabulary*). Just few words are recognized to be universal. They refer to those elements that every person—regardless of time, place, and living conditions—has been exposed to (www.ethnoculture.com). This basic core vocabulary was proposed by Swadesh (1952, 1967), and it is usually known in linguistics as the “Swadesh word list.”

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