Orthography testing in Botswana

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Originally published as:

Hasselbring, Sue. 1996. "Orthography testing in Botswana." Notes on Literacy 22.2:34–37. See also: Hasselbring 1996 (in Bibliography (Literacy))

[Topics: Africa: Botswana, orthography testing]

Some people argued, “If you write Kalanga that way, the words will be too long and people won’t be able to read it!” Others countered, “If you chop the words into small pieces, people will read it in a choppy way!” This study was conducted to find out which was true. What difference did it make whether the preverbal morphemes were written as separate words (disjunctively) or as prefixes of the verb (conjunctively)? Kalanga is most closely related to Shona, which is written conjunctively, while the majority language in Botswana (Tswana) is written disjunctively. The only recently published Kalanga author writes in a way that is somewhere in between (composite).

A reading test was developed using three personal anecdotes which were first told orally, and then transcribed and edited by employees of Kalanga Bible Translation Project. Pretesting was done by having several Kalangas read the stories aloud. Difficult words or phrases were edited and one story was shortened to assure that the stories could be read in nearly the same amount of time. Three sets of word division rules were used:

1. A conjunctive one based on Shona
2. A disjunctive one based on Tswana
3. An alternative one based on the Kalanga author (heretofore referred to as composite)

Each story was written in each of the three systems. Six booklets were made. Each booklet had a different combination of order for word division as is shown in the table below. This was done so that we could distinguish what difference in performance was due to the story, or the order in which it was read, and what difference was due to the type of word division used (see Chart 1).


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Each booklet had a different color cover for easy identification as to the order of word division styles. For example, in the yellow book the first story was written conjunctively, the second disjunctively, and the third in the composite style. There were six different books, each with the word division styles in a different order. It was felt that using different colors to mark the word order styles of the booklets would not as likely be questioned by the readers as numbering or other devices for marking.

Each story was written on one page so the subjects could not begin looking at the next story before they were told to begin. The three stories were in the same order in each book. During the pretest, the impression of the testers was that the pretest participants seemed to improve from one story to the next and within each story. Therefore, the story which, after editing, still seemed slightly easier was put first, while the story that still seemed slightly more difficult was put last. This was done in an effort to balance out the reader’s improvement, even though the stories seemed to be of similar difficulty to the testers.

Several Kalanga speakers were trained to mark the stories, using tape recordings during practice sessions. As a person read, the researchers indicated on a score sheet each place the person repeated, hesitated, and mispronounced words. A second researcher timed the person as he or she read. Both researchers gave an evaluation from 1 to 4 for naturalness of intonation.

Before reading the story, demographic information about the reader was obtained. The readers were told that the three stories were written a bit differently and that we were trying to determine which way of writing Kalanga was easiest to read. They were not told that the difference was in the area of word division rules. After reading all three stories, the reader was asked which of the stories was easiest to read.

Over 350 Kalanga speakers read all three stories (about 250 in Botswana and 100 in Zimbabwe). The number of hesitations, rereads, and mispronunciations for each story were counted. The data was entered into the statistics program, EPI, for analysis. Results were tallied for subgroups, based on country of birth, age, education, who taught the person to read, and several other factors.

The results served the purpose of defusing the above mentioned argument, that is, no significant differences resulted! Most people said the three stories were equally easy to read. Only three subjects commented about the words being shorter or longer in different stories. Most attributed any difficulties in reading to the representation of specific phonemes or to dialect difference (note that all three stories were told and written in the same dialect). The difference in performance on the first, second, and third person’s performance generally improved from the first story to the second to the third. And this pattern of differences was larger than any differences based on the type of word division.

This is not to say that everyone read equally well. Many people read each story in less than one minute, but some took as long as 10 minutes per story. Some had almost no hesitation, repetitions, or mispronunciations, while others had many. A person who had problems with one story, however, had similar problems with all three stories.

The response to the test was very positive. People liked the stories, and many wanted to keep the books. People did not seem intimidated by the fact that notes were being taken as they read or that they were being timed. Of course, such a test can only be used with people who know how to read. The Kalanga people are highly literate in Tswana. Those who attended school before independence (1966) were taught to read and write in Kalanga. Since independence, little has been published in Kalanga, but people still use it for correspondence. Also, since there are only a few differences between the Tswana and Kalanga alphabets, Kalangas who can read Tswana do not find it difficult to read their own language.

A similar test could probably be used to test other types of orthography issues. This test cannot indicate which type of word division is easiest for people to learn to read, it can only measure which type of word division is easiest for people who already know how to read. We did not look at what parts of the story caused the most difficulty; we only considered the total number of hesitations, repetitions, and mispronunciations. An analysis of the actual errors might yield further useful information about the orthography.