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Community-based orthography development in four Western Zambian languages

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Original article

Short title: Orthography development Western Zambia
Community-based orthography development in four Western Zambian languages

Community-based orthography development is engages the native speakers as custodians of the language in decisions about how it should be written. While there are various guidelines on how to go about such an activity, examples of the implementation and resulting challenges are under-represented in the literature. This paper describes a workshop which brought together native speakers from four Bantu languages of Western Zambia to establish writing systems for their languages (Fwe, Mashi, Makoma and Kwangwa) and considers some of the linguistic and non-linguistic issues involved in initial development of writing systems.

**Keywords:** orthography development; Zambia; Bantu languages; community-based

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Introduction

The purpose of orthography development in unwritten languages is to enable and empower mother-tongue speakers to read and write their languages. Thus it is important to include these custodians of the language in the process, in order to establish a greater sense of ownership of the resulting writing system. This notion assumes that community ownership and involvement throughout the process of orthography development will result in orthographies which are not only accepted by local communities, but will also encourage local understanding of the rationale underlying the decisions made in establishing the orthography (Schroeder, 2008, p. 2).

In recent years there has been a shift towards inclusion of community voices in the development of orthographic systems away from the traditional model of a linguist analysing language data and proposing an orthography which is then tested with speakers. Examples from around the world have begun to emerge in the literature, from Asia (Bos, Bos, & Page, 2008; Lee, 2011), Africa (Williams, Jakobi, & Comfort, 2009), the Americas (Czaykowska-Higgins, 2009; Jany, 2010; Schieffelin & Doucet, 1994), the Pacific (Easton, 2003; Guérin, 2008) and even Europe (Priestly, 1992). These collaborative approaches address ethical issues inherent in linguistic fieldwork, moving from research ‘on’ speakers towards researching ‘on, for and with’ them (Cameron, 1992; Rice, 2011). This approach has been called empowering research...
(Cameron, 1992), community-based language research (Czaykowska-Higgins, 2009) and collaborative linguistic fieldwork (Yamada, 2007). Ethical linguistic research (Rice, 2006) casts linguists as not simply consultants or advisers but as individuals with a moral and ethical responsibility to the community.

In orthography development, this approach sees the linguist taking the role of a ‘midwife’ (Hyslop, Rice, & Stenzel, 2008). Orthography design in a wider context of language ecology (Lüpke, 2011) does not simply give communities and individuals an additional register to use in decoding and conveying messages, but an additional means to mark their identity. Leaving aside discussion of the benefits of enabling members of a language community to express their language in a written form ((Hinton, 2001; Jaffe, Androutsopoulos, Sebba, & Johnson, 2012; Lüpke, 2011), many authors have written about various non-linguistic issues which come into play when an orthography is developed. These include historical, religious, cultural, identity-related and practical factors (Lüpke, 2011), pedagogical and psychological aspects of reading and writing, and the wider sociolinguistic context (Seifart, 2006), including issues of legitimacy and authenticity (Schieffelin & Doucet, 1994), the competing discourses involved in establishing an orthographic system (Eira, 1998), and the effect of standardisation (Sebba, 2009). These issues take on political dimensions (Williams, et al., 2009), and it has even been
suggested that broad representation in orthography development is a human rights issue (Ugorji, 2009).

Supporting this shift to collaborative models, there are guidelines about how to do orthography development with community input (e.g., Cahill & Karan, 2008; Grenoble & Whaley, 2006; Hinton, 2001; Hyslop et al., 2008; Schroeder, 2008). These address both the linguistic and non-linguistic issues inherent in such an undertaking (such as standardisation, representation, transparency, acceptability) and propose methodologies to follow to achieve the desired outcomes.

It should be noted however that even ideal principles applied to orthography development can be violated and still result in a successful system, and that even an imperfect system may be perfectly adequate for the needs of a community (Bradley, 2003). The literature does not include many articles actually describing collaborative projects and their outcomes (Yamada, 2007), and there are fewer still involving more than one language group working through the issues together. This paper seeks to address this gap by reporting on a workshop involving speakers of four Bantu languages of Western Zambia developing orthographies for their own languages.

In response to requests from students attending a small theological college in Mongu, capital of the Western Province of Zambia, a plan was developed to
train local translators to develop scripture and related materials in their own languages. The plan was supported by the Seed Company, an American organisation associated with SIL which supports mother-tongue translation by linking individuals, groups and organisations to national Bible translation projects.

Background

According to Ethnologue, the number of individual languages listed for Zambia is 45, of which 43 are living languages and two are second languages without mother-tongue speakers (Lewis, 2009). However, census data from 2000 indicate that 72 ethnic groups in Zambia each speak “a dialect of the seven language cluster groups” (Central Statistical Office Zambia, 2000). From the 19th century until independence in 1964, local languages were favoured in education, as the missionaries who were responsible for establishing education in the region “rightly believed that a local language was a powerful linguistic instrument one could use to impart knowledge to a local community” (Manchisi, 2004, p. 11). Leading up to independence, there was a shift towards English as a unifying force, and English was declared the sole official language in 1964. In addition, seven indigenous Zambian languages have been recognised as regional official languages (Bemba, Kaonde, Lozi, Lunda, Luvale, Nyanja and Tonga) and these are the only ones taught or used as subjects in school, as well as in the media (vernacular newspapers, television and radio), courts of law
and politics (Manchisi, 2004). Orthographies for these seven languages were standardised in the 1970s (Kashoki, 1978), and all Zambian writing systems are required to use the Latin alphabet. English was the only official medium of instruction in schools until 1996, when education policy enshrined the right to initial instruction in literacy in a familiar language, while maintaining English as the medium of instruction (Linehan, 2004).

As a result of this educational policy, children in the Western Province of Zambia are taught literacy skills in Lozi, with a transition to English in the early grades. Lozi (ISO 639-3: loz) (International Standards Organization, 2007) is not the first language of many citizens of the Western Province, but is widely used as a lingua franca in the region for both educational and administrative purposes, and has newspapers, radio programs, dictionaries, schoolbooks, a grammar, and two translations of the Bible. While English is widely taught in the region, strong skills in that language are generally limited to those with post-primary education.

Of Zambia’s population of thirteen million, approximately 880,000 live in the Western Province (Central Statistical Office Zambia, 2000). This area, dominated by the Zambesi floodplain, was known as Barotseland during the colonial era. The population of the Western Province is largely rural, and has one of the lowest literacy and education rates of the country. Its status as the
poorest province in the country, with poverty levels at 84% (against the national average of 64%), and a lack of infrastructure, have recently led to calls for independence (IRIN, 2011).

In preparation for a series of translation training workshops, a survey was taken from May to December 2010 to identify the languages of the Western Province in most need of scripture translation (Sakahuka, Mulimba, & Lucas, 2011).

Figure 1: Language map of Western Province of Zambia

As a result of this survey, four languages were invited by the Seed Company and the theological college in Mongu to participate in a series of workshops. All are Niger-Congo, Atlantic-Congo, Volta-Congo, Benue-Congo, Bantoid,
Southern, Narrow Bantu, Central, K group languages, with three from the Luyana group and one (Fwe) from the Subiya group (Lewis, 2009). All four are “minority languages whose use is geographically localized and functionally restricted and whose number of speakers is declining … (the languages of the Western Province) manifest among each other different degrees of linguistic relatedness and belong to separate language groups” (Bostoen, 2007, p. 16). While not listed as endangered, these languages are under threat from the spread of both the trade and national languages. Each of the languages occupies its own “ecological niche” (Lüpke, 2011) and competes with Lozi and English with specific functions. The following table indicates each language's name, district, ISO three-letter code (International Standards Organization, 2007), population estimate from Ethnologue (Lewis, 2009) plus their categorisation and alternative names according to an update of Guthrie’s Bantu classification (Maho, 2003).

<table>
<thead>
<tr>
<th>Language name</th>
<th>District</th>
<th>ISO 693-3 code</th>
<th>Estimated population</th>
<th>Bantu classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fwe</td>
<td>Sesheke</td>
<td>fwe (listed as a language of Namibia)</td>
<td>10,200</td>
<td>K402 as Fwe, We</td>
</tr>
<tr>
<td>Makoma</td>
<td>Kalabo</td>
<td>sie (listed under Simaa)</td>
<td>8,000 (in 1977)</td>
<td>K353 as Koma, Makoma</td>
</tr>
<tr>
<td>Mashi</td>
<td>Shangombo and Kalabo</td>
<td>mho</td>
<td>20,800 (in Zambia)</td>
<td>K34</td>
</tr>
<tr>
<td>Kwangwa</td>
<td>Mongu, lyn</td>
<td>lyn (listed under)</td>
<td>around</td>
<td>K37</td>
</tr>
</tbody>
</table>
Table 1: Details of the Zambian language groups involved in the orthography workshop

<table>
<thead>
<tr>
<th>Language Group</th>
<th>Number of Translators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lukulu and Senanga Luyana)</td>
<td>30,000 (1969)</td>
</tr>
</tbody>
</table>

Each of the language groups were invited to send six translators to the workshops. Detailed criteria were provided to assist the community leaders in choosing translators (Barnwell, 2008), including Christian maturity (required for ongoing work of Bible translation), availability, dependability, being a mother-tongue speaker of the language, long-term commitment to the translation task, and having a good reputation in their community. Literacy in Lozi and competence in English was highly recommended. Since this workshop was the first component of a three-to-four year training program, it was important that the communities chose their representatives well, including those from a range of Christian denominations. Twenty-six translators (22 male and four female) attended the first three-week workshop on the site of the theological training college in Mongu in March 2011. The Zambian translators were all fluent in Lozi, the local trade language, and most were also reasonably literate in this language. The majority had at least primary school education, and therefore some familiarity with English; however the lack of overall English proficiency among the group made it necessary to use a Lozi interpreter for the lectures.

Orthography workshop
The course outline was based on a model designed by Katy Barnwell of SIL (a faith-based organisation that works with communities to build capacity for sustainable language development). The model, called the ‘Luke Partnership’ (Barnwell, 2008), uses a combination of lectures and small group work. Each day began with a devotional time, then a lecture to the whole group on a particular topic, which set goals for each of the language teams to work on in smaller groups that day. On some afternoons another whole group session addressed issues relating to establishing and running a translation program in the community. The first week of morning lectures focused on segmental orthography, the second on word separation, and the final week brought all elements together in the creation of a booklet entitled “Reading and Writing (language name).” The purpose of this booklet was to provide a summary and explanation of the decisions made by the translators during the workshop, so that the outcomes of the workshop could be discussed when the translators returned to their communities.

The first lectures explored some principles of a good writing system: accuracy, consistency, convenience, conformity, acceptability and agreement (see Figure 1) (Barnwell, 2008). These were presented to the group verbally and written up clearly on sheets in the classroom for future reference, first in English but later also in Lozi for clarity. These principles were regularly referred to throughout the remainder of the workshop. Examples of spelling were given
The five principles of a good writing system:

Accuracy: The writing system should reflect the sound system of the language. Every distinctive sound is written in its own way.

Consistency: The same sound should always be written in the same way. The same symbol always represents the same sound. There should be no “silent” letters.

Convenience: Any special symbols used should be easy to type and keyboard on a typewriter or computer.

Conformity: As much as possible, follow the writing system of the language of wider communication in the area. This will make it easier for people who can already read in that language to read this language also. Also consider how other languages of the same language family or spoken in the same region are written.

Acceptability and Agreement: It is important that the proposals be presented to interested leaders and others in the area for discussion so that agreement can be reached on how to write the language. It will take time and discussion to achieve consensus.

Figure 1: The five principles of a good writing system (Barnwell, 2008)
The initial step towards orthography development required each language group to identify a story from their culture. The advantage of working through a familiar story was that each translator would be working with known content, rather than a translation from English or Lozi, or a simple word list. Choosing a story which contained words and expressions familiar to all meant that the meaning would be clear and unambiguous to the translators, thus ensuring that the focus stayed on the orthographic representation of the story, rather than the meaning or the choice of words used to present the story.

Once the story was agreed on, one translator was chosen to tell the story, which was then recorded on a small digital voice recorder. This recorded story was then played back to group members who individually, phrase by phrase, transcribed the words of the story as they saw fit. Because all translators were literate in Lozi, and because of the close connection between Lozi and the workshop languages, this was not such a difficult task. The next step was to compare the transcriptions, in order to identify the discrepancies between the different orthographic choices of the translators. The assumption here is that if all five or six native speakers used the same orthographic representation for a particular sound or word – prior to any collaboration or discussion among the group – then this sound was not contested. The letters or letter combinations which differed across the individual transcriptions then became the focus of discussion throughout the workshop. There was also a
lecture on back translation to alert the trainee translators to the meaning of each word and word portion. This then formed the basis of the word separation discussion in the second week.

**Segmental orthography**

In the sessions following the initial story writing, lectures focused on segmental phonology. Simple explanations of consonant and vowel sounds were given, with examples from English and Lozi, and a method of identifying these segments in each language was demonstrated using a Lozi story. In small groups, each language group then worked through their original story and identified the consonant sounds present, with a discussion of which letters could be used to represent these sounds. As sound-letter representations were agreed, word lists were developed showing additional examples of each consonant sound in initial and medial positions (all words are vowel-final in these languages). These word lists formed the basis of simple dictionaries which can be expanded in subsequent workshops.

**Segmental orthography – Consonants**

This first attempt at writing in the language raised a number of segmental issues regarding the representation of specific consonant sounds in all four languages, in particular the velar nasal [ŋ], the palatal plosive/postalveolar affricate [c / tʃ], and in some languages the dental fricatives [θ] and [ð]. Each group
independently discussed the issues, with reference to the principles of a good writing system. An example of the application of these principles involves the velar nasal [ŋ], which in Lozi is written as <ṅ>, while [ŋg] is written as <ng> – following the principle of conformity, this is the preferred option for these languages, however this combination of keystrokes is complex to type, thus violating the principle of convenience (although keyboard shortcuts simplify the process). An alternative solution of <n’> was offered, which reflected the use of <n> with a diacritic but was easier to type, however each of the groups chose to retain conformity with Lozi, using <ṅ> for [ŋ] and <ng> for [ŋg].

All four languages had a sound written in Lozi as <c> which could be described as a palatal plosive or postalveolar affricate [c / tʃ] (detailed phonetic analysis was neither available nor necessary, so the phonetic description is left ambiguous without affecting orthographic decisions). The Fwe language group chose to use <ch> to represent this sound in order to differentiate it from <c’> which was used to represent an infrequent dental click sound in this language, while others chose <c> in conformity with the Lozi system. All four language teams chose to write the bilabial fricative [β] as <b> following Lozi, as there is no contrast with [b] (only produced as a plosive when prenasalised [mb]).

Two of the four languages (Makoma and Mashi) have dental fricatives [θ] and [ð], which are absent from the Lozi consonant inventory. Conformity with
English would suggest using <th> for both sounds, which is unsatisfactory (even in English), as it does not allow discrimination of minimal pairs such as (Mashi) \textit{thange} and \textit{dhange} which distinguish “mine” (first person possessive) for different noun classes. An earlier draft of a catechism in the Mashi language used an orthographic system developed by an Angolan Catholic priest, who knew Portuguese but not English and had no training in linguistics. He had chosen to use the trigraphs <ths> and <thz> to distinguish voiceless and voiced dental fricatives. The Mashi translators at this workshop initially used these letter combinations to represent the sounds, but were open to discussion about alternative options, such as the use of <th> (for voiceless) and <dh> (for voiced). Such a solution would conform to the orthography used in the New Testament of the closely related Mbukushu language (ISO 639-3: mhw). There were additional reasons to prefer this system, including ease of typing (in transcribing other Mashi words, the translators often left out one of the three components of the trigraph, instead using either <ts> or <th> or sometimes simply <z> to represent one of these sounds). Revealing one of the non-linguistic characteristics of community-based orthography development, there was a preference to retain the <ths>/<thz> usage, not on linguistic or practical grounds, but because the priest who initially used this system was a very powerful member of their community, and there was a fear of recrimination if a decision went against his authority. As a consequence, the translators at this workshop hesitantly agreed to go with <th> and <dh> and included several
reasons for doing so in their booklet, however after consultation with the community, reverted back to <ths>/<thz>.

In the Makoma language, the same pair of sounds exists, however the distinction between the voiced and voiceless sounds did not become apparent immediately, as only <th> was used in the transcription of the original story. It was not until the consultant later checked some words and heard the voiced sound that the distinction was identified. The group then chose to use <th> and <z> to distinguish the two sounds, since the language did not use a phonemic [z]. Later they decided that young people mostly used [s] and [z] (like Lozi although with more dental articulation) and consequently chose to use the corresponding letters <s> and <z>, in order to be more “forward-looking.” In both Mashi and Makoma borrowed words using [s] or [z] were generally produced with the dental alternatives, however this was not consistent, e.g. the name ‘Jesus’ was consistently pronounced (and written) <Yesu> in both languages, consistent with languages of the region.

**Segmental orthography – Vowels**

The vowels of the languages were identified using a similar process of identification from the initial stories. Like many Bantu languages (Hyman, 2003, p. 45), all four of these languages appeared to have a basic five vowel system [i, e, a, o, u]. While more detailed phonetic analysis may reveal further
distinctions, and speakers may have been influenced by the five vowel system of Lozi, these five vowels were sufficient to transcribe the words and texts identified by the speakers in this workshop. Awareness of contrastive vowel length was not consistent among the translators. As vowels and vowel patterns were identified in the original story, and then in the word lists, some minimal pairs were identified which contrasted long and short vowels. After discussion, each group agreed that writing double letters was the clearest and simplest way to represent these phonemes, which is consistent with the 1970 orthography decision made by a national committee regarding vowel length in Zambian languages (Kashoki, 1978, p. 5).

Segmental orthography – Tone

While each of these languages is tonal, tone appears to have a low functional load in the lexicon. It was difficult to elicit minimal pairs of tonal contrasts in the languages, despite general agreement that some examples existed in Lozi (such as between ‘teach’ /kulá ti/ and ‘urinate’ /kulâ ti/ – which was a source of much amusement). The consultant for the Mashi group identified some candidates for tonal minimal pairs, such as /diyá ra/ ‘finger nail’ and /diyà ra/ ‘rubbish’, but could not get complete agreement from the translators that tone was the only distinction between the words. All four teams agreed that tone should not be represented in their orthographies at this stage, although it is possible that some means of disambiguation may be necessary for certain word

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pairs or grammatical distinctions. The Makoma group identified pairs such as those in Table 2, and found that none of the translators or a visiting naive reader had difficulty reading the chosen orthography without tone markings. Even without reference to a standard manual on developing orthographies for Bantu languages (Schroeder, 2008), the outcomes for each language matched the recommendations therein, including the recommendation not to mark surface tone.

<table>
<thead>
<tr>
<th></th>
<th>‘pig’</th>
<th></th>
<th>‘whats-his-name’</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ngù lu/</td>
<td>'sweet potato'</td>
<td>/ndá mbo/</td>
<td>‘animal resting place’</td>
</tr>
</tbody>
</table>

*Table 2: Examples of tone minimal pairs in Makoma*

Since the goal of this workshop was to assist mother-tongue speakers to develop writing systems, no phonetic or phonological analysis was attempted beyond simple discrimination of sounds. Consequently, no detailed description of the phonetic systems or phonemic contrasts is available on any of these languages, a goal which is left open for further investigation, the value of which would be more to the linguistic community than the mother-tongue users of these languages, for whose benefit these workshops were designed.

**Word separation and morphology**
The independent transcriptions of the initial story revealed considerable variation in writing the separation or linking of word portions in each of the four languages. As an example of the various possible outcomes, the following shows the transcription of the same phrase (meaning “It happened like this”) by five different Mashi translators at the beginning of the workshop.

(1)

1 ‘Kwa kwanaharire ku ninga ci’
2 ‘Kwaka wanarire ku ninga chi’
3 ‘Kwaka wana arire kuningaci’
4 ‘Kwa ka wana harire ku ninga ci’
5 ‘Kwakawanarire kuninga chi’

Besides some segmental variation, there is significant discrepancy between where words and morphemes are separated or linked. In the draft booklet composed at the end of the workshop, as a result of applying the principles established, the orthographic version of this phrase was written as: &lt;Kwa kwamaharire kuninga ci&gt;.

While the Lozi language serves as a useful model for decisions of this kind, there have been some revisions of Lozi orthography in recent years, particularly the combination of separate morphemes into single units. For example the sentence ‘They haven’t heard you’ was written &lt;Ha ba sika mi
utwa> in the old orthography and <Habasika miutwa> in the new (Lucas, 2011, p.c.). However there is still significant variation, as some authors choose not to write some morphologically complex words as a single unit if the result will be very long. Because these changes in Lozi are fairly recent, and both translations of the Lozi Bible use the old orthography, the workshop translators were more familiar and comfortable with the older system. Discussion within the group led to the decision that the current system of Lozi orthography should serve as the model for the languages of the workshop for the benefit of future generations of readers and writers of these languages using a familiar system, despite the translators being less familiar with this system.

Two key principles were given for deciding when a morpheme should be written attached to or separate from another. Word components should be linked if

1. they cannot stand by themselves, or cannot be pronounced on their own
2. they cannot be separated by anything coming in between.

This was demonstrated in lectures using examples from both English (e.g., inflectional and derivational markers, such as plural and past tense suffixes, negative prefixes, etc) and Lozi (e.g., noun class markers, and infinitive verb prefixes). Using Lozi morphology as a model allowed pertinent discussion of issues relevant to nominal and verbal morphology in Bantu languages (Nurse & Philippson, 2003). Many of the morphophonemic alternations of Lozi were also
reflected in the workshop languages, such as [mu-, bu-, lu-, tu-] changing to [mw-, bw-, lw-, tw-] when followed by another vowel, and similarly [mi-, li-, bi-] changing to [my-, ly-, by-] in the same environment. These alternations were maintained in the orthographies, however the rule may not be very salient for native speakers, who frequently alternated writing <mu-/mw-> before vowel-initial roots.

Following each day’s lectures, the language groups were tasked with identifying the key grammatical components evident in their stories, and discussing how the principles of word separation applied. This led to identification of a range of different noun classes (and their associated affixes relating to number, adjectives and possession) and verbal morphology (including affixation of subject and object markers, and tense inflections). Further analysis is required to confirm the classes of each language, however as noted earlier, the workshop goal was functional orthography rather than rigorous grammatical analysis.

Computer literacy

Another feature of the second week of the workshop was the introduction of basic computer literacy skills for the Zambian translators. Prior to this workshop, only one of the translators had used a computer, and some had never seen one. In order to develop computer literacy skills among the translators,
especially for the ongoing work of translation and language development, the Seed Company provided a battery-powered Alphasmart Neo computer (Alphasmart, 2004) for each language group. These simple units consist of a keyboard with a four-line screen, and allow for simple word processing tasks. Each translator had the opportunity to use the machine, with the consultants demonstrating its basic functions. Some translators with more advanced English skills used the in-built typing tutor. These simple computers allowed the translators to input their stories and word lists, and could also be taken back to the community for additional data entry, to be formatted at later workshops for printing and distribution. Enabling the translators to create electronic data does not just equip them with a useful skill but also empowers them to make a sustainable contribution to the project which can continue long after the workshops have finished. It also facilitates a sense of ownership of the data and any printed materials that result.

**Reading and Writing Booklets**

The final week of the workshop involved the preparation of booklets to represent the decisions made about the orthographies of these four languages. The Zambian translators typed their stories and word lists into the Alphasmart computers, while the consultants formatted the booklets using the template developed for the Luke Partnership project (Barnwell, 2008). Because of the low levels of English language and literacy in the communities in which these
booklets would be used, it was necessary to translate explanatory notes from English into Lozi. This was a challenging task for the Lozi interpreter at the workshop, due to the lack of concise technical vocabulary available in Lozi to describe many of the linguistic terms used (such as noun class, adjective, negative, vowel, consonant). A small team of strong speakers of Lozi and English worked together to produce a translation which would be understood by the recipients of these booklets who may not be literate or educated in English. Some language groups included these explanations in both Lozi and English, while others used only Lozi. Example words in the text were generally given in Lozi and English, and one group included an introduction written in their own language also.

As well as descriptions of the vowel and consonant inventories of the languages, and explanations of why certain orthographic decisions were proposed, they included very basic overviews of nominal and verbal morphology. To demonstrate the orthography in use, transcripts of the original story used at the beginning of the workshop were included, following the orthographic decisions described in the booklet. Most groups also chose to include additional items or texts in the language, such as numbers, days, months, seasons, traditional proverbs, and other stories.
These booklets were copied in-house and presented to the translators on the last day of the workshop. The translators were then charged with returning to their communities and presenting the booklets to local leaders and key stakeholders to discuss the issues addressed in the workshop. This would aim to achieve the ‘acceptability and agreement’ that had been highlighted as one of the key principles of a good writing system.

**Discussion**

The goal of this workshop was to develop orthographies for the four Western Zambian language groups represented. The consultants were given guidelines and a structure to follow, focusing mostly on linguistic issues. There was little discussion about the implications of playing ‘midwife’ to the birth of these writing systems, beyond the need for usable writing systems to allow for language development, specifically Bible translation. Even lacking familiarity with much of the literature on orthography development, it seems many of the issues and solutions identified through this workshop accord with those highlighted in the literature, such as using five orthographic vowels, doubling vowels to indicate length, not marking tone, etc.

While this workshop achieved its goals, there is much room for criticism, particularly focusing on three limitations of personnel, location time. The structure of bringing consultants and community members together to a central
location for an intensive period (three weeks) both facilitated and limited the
outcomes of the workshop. The (foreign) consultants clearly set the agenda for
the workshop, with certain goals in mind, rather than inviting the collaboration of
participants and allowing them to determine the outcomes. This power dynamic
meant that the workshop fell short of the empowerment models of research
mentioned earlier. While the orthography development work was collaborative
in nature, the overarching structure was determined by the consultants. The
selection of only a few representatives from each language group also limited
the number of voices able to contribute to the discussion. That participants had
to be literate excluded input from speakers of the language with limited or not
literacy. Also any dialectal or sociolinguistic variants could not be included,
which had the effect of enforcing a ‘standard’ which may or may not be
representative of the wider community. The use of Lozi orthography as a
‘model’ because of its orthographic history and similarity to the workshop
languages may also have forced decisions in a certain direction. Holding the
workshop in a central location meant that none of the four groups were
particularly advantaged, however some groups had further to travel than others,
and some had more community connections in the town. Taking the participants
out of their communities meant that the work was not integrated into the life of
the community, and the linguists were not able to respond to other community
needs. The short time frame limited opportunities for detailed analysis of the
sound systems and grammars of the respective languages, meaning that some
features may have been overlooked. Beyond such language concerns, there
was less opportunity for deep and ongoing relationship building in the language
communities, however some of the consultants will continue working with these
participants in further workshops over three years, including visits to
communities.

Despite the limitations of this fly-in fly-out model, there was a great deal
of community involvement in the development of these orthographies. Some of
the decisions made did not accord with the preferences of the consultants.
While all four of the languages produced very similar orthographies, there was
no compulsion to either conform to or differ from results from each of the other
groups. The resulting orthographies are not set in stone, but were set up as
proposals, to be taken back to the communities for discussion and revised at
future workshops. Throughout the three year translation training process, there
may be many changes made as the writing systems are used in various
contexts. The model used worked effectively as an intensive, rapid means of
drafting orthographies, with one consultant assigned to each language group,
allowing for much discussion across languages. Away from their own
communities the participants were also able to focus on the task at hand, and
share with representatives of other language groups of the region. Decision-
making processes tended to follow hierarchies of age and power, however the
consultants noted that most participants were able to contribute to discussions
and provide examples, while still deferring the final decision to senior group members.

The development of orthographies for these four Bantu languages did not reveal anything extraordinary in linguistic terms, however the process highlighted some of the issues identified in the literature as likely to arise, both linguistic (e.g., the representation of [ŋ], vowel length and tone) and non-linguistic (dialect issues, differentiation from other languages). How they were resolved in this context may be different to other contexts. However, as linguists continue to be involved in orthography development (and related processes such as review and standardisation) with community input, these issues and processes merit recognition and support, including providing models, case studies and tools to be utilised in this important undertaking. This article only presents the starting point for these communities on the road to indigenous literacy. It will be interesting to see how the orthography and literacy practices develop as usage in the communities spreads (or doesn’t).

Conclusion

“An orthography is an expression of a people’s identity. People accept or reject an orthography based on sociolinguistic factors. If a group doesn’t want to use an orthography, it doesn’t matter how linguistically sound it is – they won’t. So “what the people want” is
not just one more factor; it is the most critical factor in acceptance of an orthography” (Cahill, 2011, p. 3).

The inclusion of mother-tongue speakers in the establishment and development of their own orthographic system is a means of ensuring ownership of the resulting system by the custodians of the language. Giving the language community the power to make decisions about their own orthography may lead to outcomes that are not optimal from a linguistic perspective. However, if the resulting system is accepted and approved by the communities for whom it is designed, then surely this is a more important outcome. While Bantu languages have their own complexity, the decision-making process involved in developing an orthographic system can be done by native speakers with input and guidance from consultants, while ensuring that the final decisions are made by the owners of the language themselves. This initial workshop in orthography development sets the foundation for ongoing work in language development for these Western Zambian communities.
Results from the Zambian Census of Population and Housing in 2010 will not be available until late 2012 (http://www.lusakatimes.com/2011/02/10/census-results-ready-2012/)

2 The International Standards Organization have allocated a 3-letter code to all identified languages as a consistent means of reference. The ISO standard 639-3 is used throughout this paper with the appropriate 3 letter codes for each language.

3 Map adapted from Ethnologue (Lewis, 2009) and LLMap.org (Global Mapping International, 2010)

4 For further discussion of the status of Mashi as a Luyana language see (Bostoen, 2007)

5 Note that the trade language Lozi is sometimes considered a Southern Bantu language (Sotho-Tswana, S.30) (Lewis, 2009), and sometimes a Western Savannah language (Lozi, K.20) (Maho, 2003, p. 647). In either case it shares many features with the languages under consideration here, while not sharing mutual intelligibility with any.

6 Figures for Namibia only - entire population estimated at 22-24000 (Sakahuka, et al., 2011). The status of Fwe is further discussed in (Bostoen, 2009).
7 Tone transcription here simply identifies the contrasting tones of minimal pairs, indicating high (á) and low (ā) contrasts only. Workshop participants did not provide further detail about the tones of unmarked syllables in these words.
References


