Rapid Grammar Collection as an Approach to Language Development

Timothy M. Stirtz
Rapid Grammar Collection
as an Approach to Language Development

Timothy M. Stirtz

SIL International®
2015
Abstract

In an age when efficiency and quality products are among the highest priorities of many organizations, the rapid grammar collection (RGC) approach attempts to keep both of these in balance. The approach uses participant methods to investigate vast amounts of data in a series of two-week workshops. After each, the collected data is documented in an instructive format for language speakers in several grammar books and a beginning dictionary. Using this approach, an adequate linguistic foundation for beginning literacy book production and even translation can take place in as short a time period as three months following the first workshop. All language data crucial for choosing a tentative writing system is investigated in the first workshop, and the tentatively agreed-upon writing system is presented to the community in the following months. After literacy book development and beginning translation have further tested the writing system, a second two-week workshop helps to revise the writing system, as well as to investigate discourse grammar so that Scripture translation can be more natural. Language development and translation can proceed smoothly and quickly because mother-tongue language developers adequately understand the grammar of their language.
Contents

Abstract

1 Introduction
  1.1 Approaches to linguistic analysis
    1.1.1 Traditional
    1.1.2 Institutional
    1.1.3 Participant
    1.1.4 Grammar book
    1.1.5 Participant and grammar book
  1.2 Rapid Grammar Collection (RGC) Approach
    1.2.1 First RGC workshop
    1.2.2 Results of first RGC workshop
    1.2.3 Second RGC workshop
    1.2.4 Results of second RGC workshop
  1.3 Audience and extent of this paper
  1.4 Statements of best practices

2 Preparing for the first RGC workshop
  2.1 Deciding to have an RGC workshop
  2.2 Prerequisites for an RGC workshop
  2.3 Schedule an RGC workshop
  2.4 Prepare the data for an RGC workshop
    2.4.1 Cards
    2.4.2 Preparing texts
    2.4.3 Marking texts

3 The first RGC workshop
  3.1 Rationale of an RGC workshop
    3.1.1 Merging phonology with morphophonology
    3.1.2 Merging phonology with dictionary construction
    3.1.3 Merging morphophonology with syntax
  3.2 Tools of an RGC workshop
    3.2.1 Boards
    3.2.2 Cards
    3.2.3 Representative words
    3.2.4 Texts
    3.2.5 Frames
  3.3 Agreement on spelling rules, word breaks and representing tone
  3.4 Best practices for the first RGC workshop
  3.5 Specific instruction for various types of languages
    3.5.1 Languages with dialect alternations
    3.5.2 Isolating languages
    3.5.3 Morphologically rich languages
  3.6 Other specific instruction
    3.6.1 Keep up the pace
    3.6.2 When the activity goes poorly
    3.6.3 Co-leading an RGC workshop
    3.6.4 Predicting readability

4 Following the first RGC workshop
  4.1 Alphabet book
  4.2 Beginning dictionary
  4.3 Phonology statement
  4.4 Consonant, vowel, and tone book
4.5 Grammar book
4.6 Story book

5 Preparing for the second RGC workshop
5.1 Establishing the writing system
5.2 Logistics of the second RGC workshop
5.3 Prepare the data for the second RGC workshop
5.4 Marking texts for the second RGC workshop

6 The second RGC workshop
6.1 Rationale for two RGC workshops
6.2 Discourse grammar investigation
6.3 Best practices for the second RGC workshop

7 Following the second RGC workshop
7.1 Revising books
7.2 Discourse grammar book
7.3 Grammar paper
7.4 Further work to be done

8 Summary

Appendix A: Resource List
Appendix B: Instructions for translating wordlist and collecting stories
Appendix C: Budget items for an RGC workshop
References
1 Introduction

1.1 Approaches to linguistic analysis

There are various approaches to linguistic analysis for the purpose of language development. Each has its own advantages and disadvantages.

1.1.1 Traditional

Perhaps the most common approach of SIL linguists has been to analyze a language by working individually with one or more language resource persons. The linguist thoroughly documents the grammar in academic papers, and presents to the language community informed options for representing the language in writing.

1.1.2 Institutional

Another approach by SIL has been to send mother-tongue speakers with academic potential to universities or other institutions for linguistic training. During their coursework or afterwards, they analyze the grammar of their language and are regarded as experts who can inform the communities about the best choices for the writing system.

1.1.3 Participant

A more recent approach of some SIL linguists has been to involve prominent members of the language community in the process of linguistic analysis. Because the mother-tongue speakers discover their grammar along with the linguist, they can make informed decisions about their writing system, rather than having to trust the suggestions of outsiders. (See Kutsch Lojenga 1996; Norton 2013 for a description of this approach.)

1.1.4 Grammar book

Still another approach of some SIL linguists has been to assist in the construction of grammar books for language speakers. Some books cover basic grammar intended as a first view of the language, whereas others are comprehensive. Some are constructed by linguists with the help of language speakers, and others are constructed by speakers under the guidance of linguists. The commonality is that each documents the grammar in a way speakers of the language can understand, thereby giving language communities the opportunity to be more informed about decisions concerning their writing system.

---

1The idea to write this paper was stimulated by conversations in the Interdisciplinary Workshop in Nairobi in May 2013. It was greatly encouraged by Dean Thomas, the AFLPS Language Development Team Leader, who took me to lunch one day, asked probing questions and attentively listened to my ideas. I am indebted to all who took the time to read and give thoughtful comments on a previous version of this paper, especially Oliver Stegen (Linguistics Coordinator of SIL Uganda Tanzania Branch) and Oliver Kröger (Linguistics Coordinator of SIL Mozambique), who have had many years of experience in participant methods for language development in Africa, and were kind enough to share their insights to improve this paper. Thanks to Constance Kutsch Lojenga, SIL International Senior Linguistics Consultant, who taught me the value of participant methods as I observed her assist language teams in East Africa. Thanks also to the linguists and language developers who have already begun using the methods of the rapid grammar collection approach, even from a draft version of this paper—especially my colleague Christine Waag of SIL South Sudan. Finally, thanks to God, from whom all ethnic groups have the gift of language, and from whom all knowledge originates.
1.1.5 Participant and grammar book

Finally, a highly successful approach developed by Kröger (2009) combines participant methods with documentation by grammar books. In this approach, not only do workshop participants discover the grammar along with a linguist, but they also construct and format the resulting grammar book through the guidance of a linguist. Perhaps development of a language begun in this way has a greater chance of sustainability than with any other approach.

But, rather than claiming any of the approaches are superior to any of the others, one could say that each is best suited to certain situations. For instance, the institutional approach may work best in places like Nigeria, where there are far more languages needing development than available linguistic personnel can individually assist. The traditional approach may still be the most viable option in certain sensitive countries, where the mere act of writing a language using a Roman script is a political-religious issue, and any gathering of speakers for language study is looked upon with suspicion.

1.2 Rapid Grammar Collection (RGC) Approach

The approach of this paper is also a participant and grammar book approach. It came about through necessity as a way of documenting grammar for language groups that had begun translation with little grammar analysis. Most language developers agree that linguistic analysis is important for arriving at an effective orthography and natural translation. Many developers can name at least one language with a complete New Testament that still has major issues in writing that prevent the ease of reading. Perhaps the writing systems of these languages could have been improved with more linguistic analysis earlier in the project. However, the pressure to quickly begin Scripture translation will always be present in SIL, since our moral conscience grows increasingly impatient for language communities to have a clear presentation of the gospel. Many developers can name at least one language where unreasonable time was taken for linguistic analysis, unnecessarily delaying the Scriptures from being accessible to the communities.

The approach of this paper is an attempt to engage mother-tongue speakers in the process of adequate linguistic analysis and documentation for language development in the quickest way possible. It requires the preparation of a wordlist of one thousand words and ten interlinearized texts. It uses participant methods in a series of two-week workshops. A linguist leads six mother-tongue speakers in the checking of hundreds of words and the eliciting of extensive data in morphology, syntax and discourse grammar. The grammar learned in the workshops is documented with a beginning dictionary and three grammar books that have instruction in simple English. Although it is recommended that speakers assist with the construction of these books as much as possible, linguists can draft the books from the data collected in the workshops and check them with speakers in a following workshop.

1.2.1 First RGC workshop

The first two-week workshop gives speakers an overall view of the language so that informed choices can be made for spelling rules, word breaks and how to represent tone in the orthography—all before substantial language development and translation takes place. Participants learn the phonemes that determine which alphabet symbols are needed, the distinctions made only by tone, the sound changes that occur when most morphemes come together, and the syntax of most word categories (parts of speech). Spelling rules and word-break decisions are discussed and tentatively agreed to at the time of seeing the relevant grammar displayed on the boards, and are later listed in grammar books for ease of reference.

1.2.2 Results of first RGC workshop

Within three months of the first workshop, there can be a beginning dictionary of one thousand correctly spelled words, two initial grammar books (one for phonology and one for morphology), as well as a
phonology paper that guides the analysis of these books. With the help of literacy personnel, an alphabet book with three pictured words for each letter can also be drafted, as well as a story book from the interlinearized texts. These materials can then be tested in the communities for acceptance of the writing system before continuing with the development of other literacy materials. Ideally, other books for teaching reading would be produced and a significant number of people taught to read before beginning the translation of Scripture. But assuming general acceptance of a readable writing system, translation can begin even before further linguistic analysis, provided that there is a second two-week grammar workshop within one-and-a-half years of the first.

1.2.3 **Second RGC workshop**

The second two-week workshop continues where the first left off. The lessons of the first two grammar books are checked and revised as needed, and in doing so, the participants are reminded of the grammar learned in the first workshop. Then, the remaining morphology and syntax topics are covered before moving on to discourse grammar. If translation has been done by this time, each grammatical aspect is immediately applied by revising the Scripture texts according to the grammar learned.

1.2.4 **Results of second RGC workshop**

Within three months of the second workshop, the first books are revised and expanded, and a third grammar book on discourse that helps improve the naturalness of the translation is drafted. The beginning dictionary and grammar books can become effective reference tools for language developers, especially as they learn to consult them for spelling consistency in literacy materials and Scripture.

Of course, there needs to be additional linguistic analysis after these two workshops as language development continues, such as an expanded dictionary and discourse analysis of non-narrative genres. However, the first two workshops and resulting books give an adequate linguistic foundation for the initial writing system and beginning translation.

1.3 **Audience and extent of this paper**

This paper is intended for language programs managers, language project donors, but especially for linguists assisting in language development. Much of the paper is written as if giving instructions to a colleague on how to facilitate an RGC workshop or draft a grammar book. For instructions on how to decide a writing system or how to analyze grammar, the reader is referred to the references section and the resource list in appendix A.

1.4 **Statements of best practices**

The paper is organized according to the various phases of the approach. After introducing each phase with an explanation of the significant aspects, a list of best practice statements is given for how to do each step of the phase. The minimum time frame for each phase is also given. The best practice statements are meant only as a guide, and in fact may only be achievable in the given time under ideal circumstances with an experienced linguist. In actuality, the best practices may take much longer than the times given. But even if the steps take twice as long, the initial linguistic analysis and description will still be faster than in many projects with other approaches. And the group consensus that normally results using the described participant methods often generates quality data and lasting decisions for the writing system.

There are as many ways to do linguistic analysis for language development as there are linguists and language developers. With this in mind, the best practices are meant only as suggestions. Because each language is different, and each group of participants have different personalities, the author doesn't follow all the best practices in any one workshop, but instead tries to adapt the practices to the needs of each workshop situation. The best practice statements are in fact not necessarily the best practices, since
it may be possible to improve upon each. Rather, they are intended as the most concise, clear and specific actions that the author can recommend, based on his experience in a specific context.2

2 Preparing for the first RGC workshop

2.1 Deciding to have an RGC workshop

One of the most important steps in preparing for an RGC workshop is deciding if the RGC workshop is right for the situation. The following are some of the most important requirements.

Requirements for the RGC approach:

- At least six months of full-time work of an experienced linguist over a period of one to two years. (Other sections of this paper describe the preparation and follow-up work required for facilitating RGC workshops.)
- At least $3,000 for each of two two-week workshops, including printing and supplies (at least a total of $6,000)
- Mother-tongue speakers are motivated to develop their language to the extent that they will do the preliminary work of translating a wordlist and collecting/translating texts
- A linguist in training or language assistant to the project team is available to attend the workshops, assist with the construction of grammar books, and for at least two years afterwards guide the team in the application of the grammar books for consistent spelling and natural translation.

The RGC approach is ideal for language communities who have people motivated to develop their language, who know their language well, and can speak, read and write in English or the language of instruction for the workshop. The approach can work reasonably well for those without a secondary education, provided that their command of English or the national language is at least minimal. It is helpful, but not entirely necessary to have churches in the language group home area requesting mother-tongue Scriptures. The approach can be used with language groups who have no alphabet or that have an alphabet and any number of literacy and translation materials.

2.2 Prerequisites for an RGC workshop

One of the greatest challenges for effective linguistic analysis is collecting initial language data. Without substantial data, there is little that can be done in an RGC workshop. So, when interest in language development has been shown by a community, SIL should request a wordlist and narrative texts, along with other appropriate steps, such as language assessment, community engagement, and signing of intellectual property rights agreements. Besides being helpful for language development and for comparison with related languages, this request gives an opportunity to the language community to prove their motivation for the work. One of the best ways of reaching the goal of sustainable language development is to challenge the commitment of beginners in the work, thereby weeding out those who are less than committed. With this in mind, the following are recommended requirements before scheduling, or at least before committing to the first RGC workshop.

2From 2009–2015, the author has lead RGC workshops in South Sudan for the Laarim [loh], Didinga [did], Tennet [tex], Beli [blm], Mundari [mqu], Caning [shj], Lopit [lpx], Belanda Bor [bxb], Bongo [bot], Gaahmg [tbi], and Jumjum [jum]. Beginning dictionaries and grammar books have been produced for most of these groups. (See appendix A.) The three-letter symbol in brackets represents the language name given here and is assigned by the International Organization for Standardization.
Prior to scheduling an RGC workshop:

- Send an initial letter to the language committee or to those interested in developing the language. The letter should state the opportunity of a two-week workshop of six speakers doing grammar work that should result in a beginning dictionary, grammar book and alphabet book. The letter should also explain the need for ten interlinearized stories, a wordlist of at least one thousand words such as the African wordlist in Snider and Roberts (2004) and brief instructions of how to collect these (see appendix B). When these are received, the language community can choose the time, place and participants for the workshop.

- Receive a translated wordlist of at least one thousand words from language speakers.

- Receive eight to ten interlinearized narrative texts from language speakers.

Bear in mind, that no spelling rules or understanding of the grammar is needed for compiling the wordlist or collecting and translating the texts. As long as the speakers can read and write in a national language with a Roman script, they should be able to use reasonable initial spelling of their own language.\(^3\) Of course the wordlist and texts received could be extremely rough. The spelling and glossing may be inconsistent, the handwriting may be sloppy, and the translation may be in very limited English. All of this is to be expected. As long as the instructions for translating the wordlist and collecting the texts have been more or less followed, accept and use the results. Once the words are organized on cards and the texts are typed and formatted, they are adequate for beginning the first RGC workshop.

For language groups that already have wordlists, stories in literacy books, or other materials in the language, make use of what is available. For example, stories in existing literacy books can be translated and submitted as the requirement for texts. If a dictionary or interlinearized texts have already been done by a non-mother-tongue linguist, of course these should be used or at least consulted. However, keep in mind that the writing of speakers themselves can be a better starting point for the workshop, since they will have helpful intuition toward a workable writing system in the language (as well as errors) that an outsider will not have.

If the preliminary work is not completed within a few months, it may be helpful every so often to ask the language group if they need any further instruction or help. Just reminding them of the opportunity for the workshop or showing examples of what books can result, may be enough to encourage them to complete the preliminary work. I have waited for over a year for some groups to complete the wordlist and texts. I don’t mind waiting, since I always have enough work to do in the meantime. My administrators in the South Sudan Group (SSG) are very kind to allow me to budget potential RGC workshops in a certain fiscal year, only to delay some of them until the following year. I recommend that all administrators be as flexible as those in the SSG.

Help those who have legitimate difficulty with the request, but don’t lower the requirement if at all possible. Important decisions for the writing system can only be made in an RGC workshop if there are sufficient data to work with. As difficult as it may be to get sufficient data before the first workshop, if may be even more difficult to get the data afterwards, once translation work has begun and funding requires it to continue at a steady pace.

2.3 Schedule an RGC workshop

When the wordlist and texts are in hand, it is time to schedule the first RGC workshop. Ideally the workshop would be done in the home area, such as in a central town or village. Electricity is not required, since computers are not used (nor recommended, at least until the participants are using computers for language development). However, it is important to have a quiet location with tables and chairs, as well as two white boards or chalk boards at least one meter by one-and-a-half meters. If no

\(^3\)In working with the Caning [shj] who have mainly been educated in Arabic, the author worked for one week with an individual speaker in collecting words and translating stories of literacy books to prepare for an RGC workshop. This was because the preliminary work was too challenging for them to do alone. For all other RGC workshops the author has led, the speakers prepared the texts themselves.
boards are available, bring some and leave them for following workshops in the area. A local church, home or office is normally fine for the workshop. See appendix C for a list of budgeting considerations for an RGC workshop.

Let the language committee, church leaders, or others with authority and interest in language development be the ones to decide who should attend the workshop. Send them an official written invitation with all important details in simple English or in the national language. The more participants in the RGC workshop, the more challenging it is to keep everyone engaged in the grammar collection process. On the other hand, the fewer participants in the workshop, the smaller the pool of trained personnel will be for doing the work of language development. Thus, six participants is a compromise between both of these factors and may be the ideal number to invite.

Schedule the first RGC workshop:

- Agree on the time, place and other details of the workshop.
- Send a formal invitation inviting six language speakers who have the authority to make decisions about the writing system and who are the most likely individuals to continue development of the language. The participants should speak the language well, understand simple English or the national language, and be able to read any literacy materials already produced, or be able to read the national language. Also, briefly state the aims of the workshop and any logistical details such as what food, transport, and lodging will be provided.

2.4 Prepare the data for an RGC workshop

The academic preparation of the linguist is crucial for the success of an RGC workshop. S/he must be aware of the alphabet choices of all related languages so as to suggest the same symbols for similar phonemes. S/he must carefully read all linguistic write-ups on the language so as to use the proposed grammar as a starting point (to be confirmed or rejected in the workshop). In the absence of linguistic write-ups on the language, s/he must be aware of the phonology, morphology and syntax of related languages so as to know what grammar to expect. S/he must be aware of, and as much as possible, make use of all literacy and translation materials in the language, in addition to the received wordlist and translated texts.

Linguist’s preparation for the first RGC workshop (at least two weeks):

- Be familiar with the alphabets of all related languages.
- Read all linguistic articles/write-ups on the language or related languages.
- Collect all literacy materials already in the language (if any).
- Type and format all interlinearized texts received. Print one copy of all the texts for each participant and staff member.
- For each participant and staff member, buy a notebook (at least 100 pages), pencil, sets of colored pencils, eraser, sharpener, and a bag to hold these supplies. Also buy white board markers or chalk, white boards or chalk boards (if not in the workshop location) (at least 1 meter by 1½ meters).
- Put on cards (slips of paper) all nouns, verbs and modifiers from the received wordlist, and enter them into a draft Fieldworks Lexicon file.
- In your printed copy of the texts, as much as possible, mark all morphemes and grammatical structures with colored pencils until reasonable guesses can be made as to how to categorize roots, morphemes and syntactic structures.
- Put on cards all nouns, verbs and modifiers from the received texts that were not in the wordlist, and simultaneously enter them in the draft Fieldworks file. As there is time, also put on cards and enter into Fieldworks all words from existing literacy books, beginning with the words of the
initial literacy books. In the Fieldworks file and on the cards, reference the page and line number of all words from stories.

<table>
<thead>
<tr>
<th>inflectional affix</th>
<th>gender word</th>
<th>final segment</th>
</tr>
</thead>
<tbody>
<tr>
<td>derivational affix</td>
<td>tone</td>
<td></td>
</tr>
<tr>
<td></td>
<td>singular noun</td>
<td></td>
</tr>
<tr>
<td></td>
<td>plural noun</td>
<td></td>
</tr>
<tr>
<td>confirmed long vowel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>alphabet book page</td>
<td>English gloss</td>
<td>confirmed vowel ε</td>
</tr>
<tr>
<td>line number in story</td>
<td>(root gloss)</td>
<td>(root gloss)</td>
</tr>
<tr>
<td></td>
<td>word category</td>
<td></td>
</tr>
</tbody>
</table>

Figure 1. Example of a data card.

2.4.1 Cards

At least fifteen hundred cards (slips of paper) should be cut from A4 size blank paper (8 per page). On these write singular and plural forms of nouns (if they differ) directly below each other in the middle of the card. An English gloss or simple definition goes below these words. Similarly for verbs, write two forms of the verb (if given in the wordlist). If the word is found in a literacy book or from the translated texts, list the page or reference in the bottom left corner in case you need to quickly check the context of the word during the workshop (Participants will not recognize some verbs or other words out of context). During the workshop, you will fill in other information on the cards when it can be confirmed, such as the word category in the bottom right corner, the number affix of nouns in the top left corner, derivational affix below the inflectional affix, roots of polymorphemic words in the bottom center, a gender word such as a demonstrative that can follow the noun in the top center, and any other notation that may be important for the dictionary. You may even find it helpful to mark each card for final segment, long or short vowel, tone, and other phonological detail as they are confirmed by comparison and contrast in the workshop.

2.4.2 Preparing texts

As you write each word from the wordlist onto cards, also type them into a draft Fieldworks Lexicon file so that you can have an easy reference of which words are on cards and their spelling. That way you can avoid having more than one card with the same word when adding words from the texts and literacy materials.

If the eight to ten texts have not already been typed, type and format them directly in Microsoft Word or Open Office. Some may advise typing the texts into Fieldworks so that the words can automatically be entered into the lexicon rather than needing to be typed as entries in the lexicon after being typed in the stories in Word. However, if the texts are only typed in Fieldworks, the transfer of texts from Fieldworks to Word puts each vernacular word and its gloss in an individual table or box, and this causes two problems.

First, when constructing grammar books after an RGC workshop, a common step is to search the texts for a particular word or morpheme, and copy and paste all clauses with the morpheme into the exercise section following the lesson on that morpheme. But the boxes from the Fieldworks file in Word make this step nearly impossible. Second, it is often helpful to search for a particular word (such as a particle, connector, etc.) in the Word document to determine how common it is, or to find its most common syntactic context. But sometimes the words in boxes from the Fieldworks file in Word are
skipped over in these kinds of searches. So, it is recommended that the texts be typed directly into Word in preparation for the first RGC workshop. As the texts are typed, each new word should be searched for in the draft Fieldworks Lexicon. Those that are not yet listed should be entered and also written on cards.4

2.4.3 Marking texts

Once the texts have been typed and formatted, print a copy of all the texts for all workshop staff and participants. Then in one story using colored pencils, begin marking word categories, morphemes and grammatical structures with various colors and shapes. It is somewhat like trying to diagram the grammar of sentences using a marking system.

Start by underlining in blue all words that appear to be verbs. When finished marking verbs in one story, underline all noun subjects of the verbs in green, and all noun objects of the verbs in red. Afterwards or at the same time, draw a green box around independent subject pronouns and/or subject agreement markers on the verb, and a red box around object pronouns and agreement markers. Then, draw an orange triangle around prepositions, a brown triangle around demonstratives, and a red triangle around adjectives (if any). For particles whose function you want to determine, circle each with a different color (but with the same color for each occurrence of the same particle). For bound morphemes whose function you want to determine, make a box around each with a different color.

Continue expanding your marking system as needed until you have all words and morphemes marked with reasonable guesses (if possible) in the first story. Then do the same for as many stories as you have time for, and at least until you begin to see the syntactic patterns and have enough examples of various morphemes to later compare and make reasonable guesses as to their functions. The following5 is one example of how this type of marking system can be done:

<table>
<thead>
<tr>
<th>Word Categories, Morphemes and Gram. Structures</th>
<th>Marking</th>
</tr>
</thead>
<tbody>
<tr>
<td>noun subjects</td>
<td>underlined with green</td>
</tr>
<tr>
<td>noun objects</td>
<td>underlined with red</td>
</tr>
<tr>
<td>noun recipients</td>
<td>underlined with purple</td>
</tr>
<tr>
<td>nouns following prepositions</td>
<td>underlined with orange</td>
</tr>
<tr>
<td>pronoun subjects</td>
<td>in green box</td>
</tr>
<tr>
<td>pronoun objects</td>
<td>in red box</td>
</tr>
<tr>
<td>pronoun recipients</td>
<td>in purple box</td>
</tr>
<tr>
<td>pronoun following prepositions</td>
<td>in orange box</td>
</tr>
<tr>
<td>possessive pronoun</td>
<td>in brown box</td>
</tr>
<tr>
<td>past perfective prefix a-</td>
<td>in pink box</td>
</tr>
<tr>
<td>future perfective prefix u-</td>
<td>in yellow box</td>
</tr>
<tr>
<td>subject/object person marker suffix</td>
<td>in blue box</td>
</tr>
<tr>
<td>ditransitive verb suffix -o, -ɔ</td>
<td>in brown box</td>
</tr>
<tr>
<td>derivational particle mu</td>
<td>in light blue box</td>
</tr>
<tr>
<td>noun derivational particles</td>
<td>in light green box</td>
</tr>
<tr>
<td>clause final evidential particle ki, ni</td>
<td>in purple box</td>
</tr>
</tbody>
</table>

4An alternative method that may save some time is to first type the vernacular text into Fieldworks and then copy the text (without the glosses) from Fieldworks into Word. Although you will still need to type the glosses twice—once in Fieldworks and once in Word—Fieldworks can then help you more easily compare the words of the texts with the words collected in the dictionary.

5Tables 1–6 are example data from the RGC workshops for Belanda Bor, Caning, and Jumjum.
<table>
<thead>
<tr>
<th>Word Categories, Morphemes and Gram. Structures</th>
<th>Marking</th>
</tr>
</thead>
<tbody>
<tr>
<td>prepositions</td>
<td>in orange triangle</td>
</tr>
<tr>
<td>demonstrative</td>
<td>in brown triangle</td>
</tr>
<tr>
<td>numbers, quantity</td>
<td>in light blue triangle</td>
</tr>
<tr>
<td>adjectives</td>
<td>in red triangle</td>
</tr>
<tr>
<td>question words</td>
<td>in blue triangle</td>
</tr>
<tr>
<td>perfective particle ni</td>
<td>in red circle</td>
</tr>
<tr>
<td>imperfective particle na</td>
<td>in purple circle</td>
</tr>
<tr>
<td>topic particle nyik</td>
<td>in light green circle</td>
</tr>
<tr>
<td>reflexive particle rɔk</td>
<td>in purple circle</td>
</tr>
<tr>
<td>negative particle ba</td>
<td>in orange circle</td>
</tr>
<tr>
<td>particle deqa</td>
<td>in blue circle</td>
</tr>
<tr>
<td>connectors</td>
<td>in yellow diamond</td>
</tr>
<tr>
<td>speech introducer weɛ</td>
<td>in light blue diamond</td>
</tr>
<tr>
<td>possessed and possessor nouns</td>
<td>purple arch above both words</td>
</tr>
<tr>
<td>derived noun phrases</td>
<td>brown arch above all words</td>
</tr>
<tr>
<td>relative clause</td>
<td>green line above all words</td>
</tr>
<tr>
<td>direct speech</td>
<td>yellow line above all words</td>
</tr>
<tr>
<td>indirect speech, compliment clause</td>
<td>brown line above all words</td>
</tr>
<tr>
<td>subordinate clause before main clause</td>
<td>pink line above all words</td>
</tr>
<tr>
<td>subordinate clause following main clause</td>
<td>light blue line above all words</td>
</tr>
</tbody>
</table>

The marking system must be somewhat tailored towards the morphemes present in the language. The actual choices for color and marking style are not important as long as there are not too many morphemes marked with the same color or shape. However, where there can be consistency, such as marking all subjects with the same color, whether noun or pronoun subjects, it is good to do so.

The marking system is particularly useful when searching for a particular morpheme. For instance, while preparing a session of the workshop on prepositions, you will need to know how each preposition is used. If they are already marked, it is much easier to find them and learn their function. Of course, searches can also be done on the computer, but this will only be as successful as the spelling consistency of the morphemes, and it is easier for a human to correctly guess spelling mistakes of words in context, than for a search command in any software. A second use of marking the texts in preparation of the workshop is that you then have a system for teaching the participants to mark the morphemes when learning their functions in the workshop.

In marking various constituents of the clause with different colors, the most common word order and position of each constituent can then be seen by a quick reading of the texts. Words that do not fit the common pattern can receive a star next to them, with brief explanation of the nature of the exception in the margin. An alternative way to determine the possible word orders of constituents is by charting texts in Fieldworks using the Text Chart tool. This tool aligns various constituents in individual columns and marks those that are not in their common position. Although a useful tool for linguists, my experience is that it is easier for language speakers to learn common word positions by observing the language in a marked text with natural format, rather than by observing the language in a charted text which can be awkward to read.

For the initial RGC workshop, the marking system should be tailored to word and clause-level syntax. It may include arches for compound phrases or noun possession of nouns, and perhaps marking of relative clauses and speech. But in general, there is no need to mark larger chunks of words. For the second RGC workshop, the marking system should be tailored to discourse-level syntax, where various clause types are marked differently, and participants are marked so that their function in discourse is
more easily seen. See section 5.4 for explanation of how to mark texts in preparation for the second RGC workshop.

3 The first RGC workshop

3.1 Rationale of an RGC workshop

Some language workshops in SIL are run for more than one language group at the same time. Lectures are given to all participants, and then participants separate into working groups of their language, each with a facilitating linguist, to apply the knowledge learned in the lecture by doing an assignment for their language.

By contrast, the RGC workshop is most successful when done for one language group at a time, with no lectures, spending the entire workshop time in working group sessions to investigate the grammar. The facilitating linguist leads a discovery learning process through various grammatical topics, checking or eliciting data in a systematic way. Although s/he has some idea of what to expect from the prepared wordlist and texts, s/he is essentially learning the language from the participants and simultaneously guiding the participants through the grammar learned. The linguist must be comfortable with a great deal of ambiguity and uncertainty, and must be willing to test grammar with speakers in the full knowledge that some will be found to be incorrect.

3.1.1 Merging phonology with morphophonology

The goal of the first RGC workshop is to investigate enough data that an alphabet, most spelling rules, word breaks, and tone representation in the orthography (if any) can be tentatively agreed on by the participants. At least for some languages, choosing the alphabet symbols is a small matter when compared with deciding how to handle the sound changes at morpheme boundaries, how to divide words, or how to distinguish in writing the words and grammar that sound the same except for tone. To have a practical writing system, it is important to view the words in their grammatical contexts, not just in isolation.

Although it is fine to have one workshop for phonology and another for morphology and syntax, if the two can be done together, it shortens the time before a complete writing system can be agreed upon. Of course, phonology is the foundation of morphophonology and should be thoroughly analyzed before proceeding with higher-level grammar. Nevertheless, it is possible to adequately confirm the phonemes of one thousand words in isolation, as well as the grammatical contexts of a representation of these words, all in a two-week period. Of course, two weeks is a short time for this much data analysis, and if funding allows, it is wise to schedule more time for this work.

Another reason for merging phonology with morphology and syntax in the same workshop is that analysis at various levels of grammar can help break up the monotony of mere word analysis. Although the majority of the first week should be spent on consonants, vowels and tone of words in isolation, other activities such as revising texts and learning about various roles of nouns or verb forms can help keep some participants engaged who would otherwise be too bored to continue.

With a daily schedule that allows four different grammar sessions, you will want to vary the activities from one session to the next. The first could be on comparing [ATR] vowels, the second on revising texts, the third on identifying verbs in the texts, and the fourth again on comparing ATR vowels. If one activity doesn’t take the entire time of a session, begin another activity. Variety can help the days go faster and keep the participants more productive.

Example daily Schedule
8:30–9:00 Songs, Scripture reading, and prayer
9:00–10:30 Grammar session
10:30–11:00 Tea
11:00–12:30 Grammar session
12:30–2:00  Lunch
2:00–3:30  Grammar session
3:30–3:45  Tea
3:45–5:00  Grammar session

3.1.2 **Merging phonology with dictionary construction**

One of the most important uses of a dictionary by language development teams is to regulate consistent spelling. Each new literacy and Scripture book drafted can be checked for spelling in comparison with the entries of the dictionary, assuming the dictionary entries have been spelled correctly. In the RGC workshop, the sounds of words are thoroughly investigated in comparison and contrast with the sounds of other words. After the workshop, only those words that have been confirmed to have correct spelling are entered into the dictionary. In this way, the dictionary is a tool that can be trusted for standardizing the writing of the language. For examples, see the list of beginning dictionaries produced from RGC workshops, given in appendix A.

3.1.3 **Merging morphophonology with syntax**

It is possible to analyze the sound changes of most morphemes in a language, and still not be able to recognize certain morphemes in a given text. In some languages, the underlying segments of certain morphemes can be more or less deciphered correctly from merely observing the morphemes in their natural context of discourse. But in other languages, certain morphemes have such diverse allomorphs because of numerous assimilation processes that they are unrecognizable as belonging to the same morpheme by non-speakers. For this reason, it is imperative that the actual lexemes of texts that will later be analyzed for syntax and discourse, and not just other lexemes from wordlists, first be analyzed for morphophonology. Otherwise, you may have a near perfect analysis of morphophonology and a near perfect analysis of syntax, but no way to view the two working together in natural discourse. It would be like building a bridge from opposite sides of a river at the same time, and discovering later that because the measurements were incorrect, the sides can never be joined in the middle.

Further, in order to make the most of the texts used in the RGC workshop, they should afterwards be made into a story book for readers of the language. To insure that all words of this book are correctly spelled, as well as all the words of literacy books already in existence, they should be included in the phonological analysis of the workshop, that is, they need to be written on cards to be analyzed in the workshop.

3.2 **Tools of an RGC workshop**

There are four main tools used in the workshop: white boards (or chalk boards), cards with lexemes, representative words, texts, and frames. We now discuss how each of these is most effectively used in an RGC workshop.

3.2.1 **Boards**

The white boards or chalk boards are vital to the workshop. They are used for vast amounts of data collection and analysis. Because there is much revision and correction of the data, flip charts cannot be used as a substitute. All data written on the board should be carefully planned ahead of time. You do this by organizing words on cards into certain groups that are later written on the board in the same order, or by writing carefully chosen words in frames from texts in a notebook to be later used on the board in eliciting sound changes. Write language data in black, glosses in blue, surface tone in green, and highlighted words (such as column headings) in red. When testing certain words that take some thought, participants will sometimes change their minds about certain words. Rather than erasing or putting a line through incorrect words and then having to rewrite them, you can put a red dot next to incorrect
words and a blue dot next to correct words. Write small and quickly, but neatly. Especially for large paradigms, it is helpful to measure and plan each column so as to ensure enough space for a tidy and well-presented chart.

As much as possible, arrive early each day and fill both boards (1 m by 1½ m) with prepared data before the morning prayers begin. After checking and discussing the data on one board and allowing time for the participants to copy it into their notebooks, erase and fill the board again while participants are busy copying the data of the other board. Writing data on the boards before a session has many significant advantages:

- It stimulates great interest and discussion, because some of the data will be incorrect and will need to be changed later.
- It invariably encourages most participants to arrive early to begin copying down the data. Although you should always give adequate time for participants to copy the data after it has been corrected, participants often like to write data ahead of time and then only have to make corrections during the workshop sessions.
- It models the value of diligence and good use of time, both of which are needed in order to investigate enough data in the course of two weeks.
- It gives participants an idea of how much work to expect in a particular workshop session. They will nearly always rise to the challenge!
- It more clearly gives the idea of the workshop activity you have in mind and how you plan to lead them through it. You can explain all you like of how to make a verb paradigm, but it will be much simpler to write all the person forms yourself and then have participants revise the forms as needed.
- It saves time during the workshop session itself, thereby making the activity more enjoyable for the participants. Even if you know a morpheme has irregular sound changes, you can still write the part of the word or words that are predictable ahead of time. Then during the workshop session, you can quickly write (or have participants write) the irregular changes of the morpheme.
- During a workshop session, it makes absolutely clear which data is under discussion, thereby focusing the attention of the participants, and helping each to be more engaged in the work and discussions for spelling agreement.

Although effective use of time in writing data is important, you must also be careful to spend enough time socializing with the participants during lunch and tea breaks so as to build a healthy rapport. Without a trusting relationship, the long days of hard work can more easily build tension between you and the participants that threatens the success of the workshop.

3.2.2 Cards

Cards, or slips of paper (8 per A4-size page), are your best tool for facilitating phonological analysis in the RGC workshop. The nouns, verbs, and modifiers should all be written neatly in the middle of cards before the first day of the workshop. Then during many of the initial sessions, the cards will be the basis of the activity. Before each session during non-workshop hours, you must organize the cards according to the goal of the activity. Much of what follows is the same as the participant methods described in Kutsch Lojenga (1996).

The first week of the workshop, you will need to check most words on the board for word category, meaning, and initial spelling. That means the words must be organized ahead of time according to your guess of nouns, verbs, and modifiers. Set aside all words that are obvious compounds or derived words to be checked later. In languages with noun classes or that have various affixes for plural formation, also organize the nouns according to your guess at each affix and allomorph. Writing your guess of the affix on each card ahead of time will make it easier to organize the cards (Make sure you later correct the affixes when they can be confirmed by accurate spelling and morphophonological processes.).
For all six hundred or so nouns (which may take several sessions), write the singular and plural form of the words on the board (if they differ), along with their glosses, as seen below. Write suffixes a different color than the roots. Use lines to separate groups of nouns, such as those you think have the same affix. Have the participants take turns reading a group of nouns. Then make any corrections that are needed. Words that do not have both a singular and plural form, you will need to confirm as nouns in another way, such as by placement in a frame with a demonstrative. After checking a list of words, give participants time to copy them in notebooks, while you make corrections neatly to the cards. This is also a good time for you to mark the word category in the bottom right corner of the card for all words that are confirmed to be nouns.

Table 2. Example of an initial noun check: Jumjum [jum] (dots represent [+ATR] vowels)

<table>
<thead>
<tr>
<th>Sing.</th>
<th>Plural</th>
<th>Gloss</th>
<th>Sing.</th>
<th>Plural</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>/-gä</td>
<td>waŋ</td>
<td>eye, face</td>
<td>/-ni</td>
<td>kiṭṭä</td>
<td>star</td>
</tr>
<tr>
<td>tääl</td>
<td>täälgä</td>
<td>flood</td>
<td>kiño</td>
<td>kiṭṭäni</td>
<td>hunter</td>
</tr>
<tr>
<td>määt</td>
<td>mädgä</td>
<td>brother</td>
<td>corńu</td>
<td>corńuni</td>
<td>bird</td>
</tr>
<tr>
<td>tiil</td>
<td>tiilgä</td>
<td>money, gold</td>
<td>annay</td>
<td>annayni</td>
<td>whip</td>
</tr>
<tr>
<td>tey</td>
<td>teygä</td>
<td>waist</td>
<td>koṭṭaŋ</td>
<td>koṭṭaŋni</td>
<td>tortoise</td>
</tr>
<tr>
<td>toŋ</td>
<td>toŋgu</td>
<td>spear</td>
<td>käljäm</td>
<td>käljämmi</td>
<td>animal skin</td>
</tr>
<tr>
<td>tol</td>
<td>tolgü</td>
<td>string, thread</td>
<td>rüñït</td>
<td>rüñïṇį</td>
<td>rainbow</td>
</tr>
<tr>
<td>yun</td>
<td>yuungu</td>
<td>Year</td>
<td>üṭük</td>
<td>üṭüŋį</td>
<td>python, snake</td>
</tr>
<tr>
<td>tük</td>
<td>tüggü</td>
<td>lip, beak</td>
<td>tiŋal</td>
<td>tiŋal</td>
<td>sand</td>
</tr>
</tbody>
</table>

For languages with no plural formation morphology, if you suspect that the spelling and glosses of words are already fairly accurate before checking them, such as may be the case with a language team that has been writing their language for a few years, or if the words have been checked by a linguist prior to the workshop, it may be possible to combine the initial checking of words with the steps for checking vowels, as discussed next. However, for languages with plural formation morphology or for teams that are new at writing their language, or are not proficient with the national language, there will likely be many corrections needed, and it is not advisable to check more than the initial spelling, meaning, word category, and plural formation morphology during the initial reading of the words. In languages with complex plural formation morphology, it may be best to check this separately from the other initial checking.

Before proceeding with vowel and consonant phonology, try to determine the root of each noun as much as possible. This will be easier after you confirm the plural or singular affix of each noun in the initial check of the nouns. You may need to posit assimilation processes after the initial step and use these to educate your guess for each root. Knowing the root of each noun allows you to do the next steps of checking vowels and consonants in roots alone without any concern for the sounds being altered by morphological processes.
When all the nouns have been initially checked with speakers, set aside any borrowed nouns. For the rest, decide which form (the singular or plural) is the best representation of the root noun, and organize the cards for that form according to vowels (one pile for nouns having only the vowel <a>, another for those having only the vowel <ə>, etc. and all nouns with mixed vowels in one pile). Then organize each vowel pile according to vowel length (if any) and syllable structure, such as (C)VC, (C)VVC, (C)VCV, (C)VVCV, etc. where nouns having an initial consonant and those not having an initial consonant can be placed in the same syllable-structure group. Also order the nouns according to final consonant (for monosyllabic nouns) or middle consonant (for disyllabic nouns), beginning with plosives, then fricatives, nasals, etc. as in following the order of a phonemic consonant chart. In the workshop session, write one or more vowel piles on the board, again in singular and plural form, with glosses. Use lines to separate subgroups of nouns, such as those with the same vowel length or syllable structure.

Table 3. Example of a vowel check: Jumjum [jum] (dots represent [+ATR] vowels)

<table>
<thead>
<tr>
<th>First vowel group</th>
<th>Second vowel group</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Singular</strong></td>
<td><strong>Plural</strong></td>
</tr>
<tr>
<td>kañ</td>
<td>kääjgä</td>
</tr>
<tr>
<td>waŋ</td>
<td>wangä</td>
</tr>
<tr>
<td>ŋaŋ</td>
<td>ŋañkä</td>
</tr>
<tr>
<td>bal</td>
<td>barkä</td>
</tr>
<tr>
<td>mal</td>
<td>malkä</td>
</tr>
<tr>
<td>ðaw</td>
<td>ðawkä</td>
</tr>
<tr>
<td>aak</td>
<td>akkä</td>
</tr>
<tr>
<td>yaam</td>
<td>yamkä</td>
</tr>
<tr>
<td>baam</td>
<td>bamkä</td>
</tr>
<tr>
<td>naam</td>
<td>namkä</td>
</tr>
<tr>
<td>baan</td>
<td>bankä</td>
</tr>
<tr>
<td>paan</td>
<td>pancä</td>
</tr>
<tr>
<td>yaan</td>
<td>yätkä</td>
</tr>
<tr>
<td>maañ</td>
<td>mäckä</td>
</tr>
<tr>
<td>jaan</td>
<td>jengä</td>
</tr>
<tr>
<td>kaal</td>
<td>kalkä</td>
</tr>
<tr>
<td>baal</td>
<td>balkä</td>
</tr>
<tr>
<td>ŋaal</td>
<td>ŋalkä</td>
</tr>
<tr>
<td>ŋaaw</td>
<td>ŋawkä</td>
</tr>
<tr>
<td>kaay</td>
<td>kaykä</td>
</tr>
<tr>
<td>lacan</td>
<td>lácängä</td>
</tr>
<tr>
<td>kabal</td>
<td>kääblgä</td>
</tr>
<tr>
<td>jamak</td>
<td>jamaŋŋi</td>
</tr>
<tr>
<td>kalak</td>
<td>kalaŋŋi</td>
</tr>
<tr>
<td>tambal</td>
<td>tamballi</td>
</tr>
<tr>
<td>rawcan</td>
<td>rawkä</td>
</tr>
</tbody>
</table>

Have participants take turns reading the nouns in one vowel group, listening carefully for the vowel quality of each word. It is important to read both the singular and plural forms of each noun since in some languages there are vowel differences between singular and plural forms. It is also important for the same participant to read all (or at least some) nouns in one vowel group without interruptions, so that the vowel sound of that group is cemented in your hearing and in the hearing of the participants.
Explain that you are listening for any nouns that sound as though they have a different vowel than the other nouns in the group. While the group of nouns is being read, make a mental note (or mark on the board with a dot) any nouns you think have a different vowel. After the group is read, ask the participants if they heard any nouns with a different vowel. If they don't choose the ones you had in mind, ask them to read those again. As you find nouns with a different vowel, move each to the group where it most likely belongs, to be tested later with that new group (or write the correct vowel in red next to the noun on the board to show it does not belong with the others in its group). Once two similar vowel groups have been checked (such as <a> and <ə>), read nouns with similar syllable structure in both groups for comparison, until most participants can hear the difference between the vowel sounds.

For any choices you disagree with, ask one participant at a time to read the noun in comparison with another noun of the same vowel quality, syllable structure and final consonant (if possible), as well as in contrast with a noun of the alternate vowel, same syllable structure and final consonant. It is important to listen to the words from more than one participant, since some participants have better pronunciation than others, and some participants may even differ in which vowels they pronounce for certain words. Ask the participants which two of the three nouns have the same vowel, and which is different. Sometimes participants confuse vowel distinctions with tone distinctions. If you suspect this is happening, then also find words of comparison and contrast with the same tone melody so that the participants can listen to the vowel quality without any distractions. (You may need to take time after the session to find such words, and then return to this exercise in a later session.) Never tell the participants what you think is the correct vowel. Instead, continue to have the participants read and carefully listen to the words in comparison and contrast, until you are satisfied that they are hearing the vowels correctly. It may take extra time for most of the participants to come to agreement on the sounds, but this is time well spent, since it is important training for accurate writing.

When the words in a list are agreed upon for spelling, give time to copy the words in notebooks and for you to correct the cards. In addition, mark each card that has been confirmed to have a certain vowel (such as by writing the vowel symbol along one edge of the card) so that any new words later collected can be distinguished as not having its vowel confirmed. Begin the activity with contrasts of vowels that you can hear best (possibly [a] and [ə], [o] and [ɔ], [e] and [ɛ]) and work towards those that you can hear least (possibly [u] and [ʊ], [i] and [ɪ]).

With groups smaller in number than six participants, it may be possible to check the words on cards directly, and have participants sort out any that don’t belong in each pile, rather than having to write all of the nouns on the board, at least after the first vowel pile has been done on the board and participants have the idea of the activity. However, when work is done only with the cards, there is more chance for ambiguity of meaning (such as with homonyms and tone minimal pairs), since only those who can see the cards can read the glosses. It is also more challenging to keep all participants engaged and working together when you can’t point to a word they can all see.

If there is vowel length in the language, once all nouns have been checked for vowel quality, including those with mixed vowels, again organize the noun cards according to vowel quality, vowel length and syllable structure as before, since after the previous session of checking vowel quality there will be some changes. Then write the nouns again on the boards. Explain that as the words are read this time, you are listening for vowel length.

Alternatively, if there were not many changes in vowel quality during the first vowel session, since the words were then organized according to vowel length as well as vowel quality, you could just have the words already on the board read a second time for vowel length. This may get too confusing if there were more than a few changes, so it may be worth the time to reorganize the words and rewrite them before checking vowel length. Another alternative to rewriting the words on the board, is to have participants read the nouns directly from the cards, and to sort out any nouns from one pile of cards that are different for vowel length than the rest. As stated above for analyzing vowel quality, this has several disadvantages, especially for groups with six or more participants.

Once there is agreement in the spelling, be sure to make any necessary corrections on the cards, and mark them “confirmed” for having either a short or long vowel.

Often during the process of comparing and contrasting nouns for vowel quality and vowel length, participants will think of other nouns that are in a vowel minimal pair with a noun on the board. It is important to immediately add these nouns to the board and later add them to cards. They help to give a
full picture of the functional load of (amount of meaning distinguished by) words and symbols, which you will need to be aware of when communicating to administrators about the readability of the writing system. See section 3.6.4 for a discussion on the readability of the writing system.

3.2.2.2 Cards for consonant phonology

Once all nouns have been checked for vowel length, organize them again according to single and doubled word-medial consonants (if any), then again for word-final voiced and voiceless consonant contrast (if any), and again for any other potentially confusing consonant contrasts (such as [ŋ] and [ŋg], [d̪] and [d̢]) in each word position. For each re-organization of the cards to isolate the particular sounds in question, write the words on the board for the participants to read and correct as needed. Once there is agreement in the spelling, be sure to make any necessary corrections on the cards and mark them “confirmed” for having certain consonants.

3.2.2.3 Cards for tone phonology

Again organize the noun cards according to syllable structure, word-final segments (for a language with noun plural suffixes) or word-initial segments (for a language with noun plural prefixes), and according to plural formation morphology.

Then in a workshop session, have the participants take turns reading and whistling (or humming) the singular and plural nouns of each group. A participant reads directly from a card, and then it is sorted into a pile according to its tone melody. Although speakers may not be able to correctly say which tone occurs on which syllable of a noun, they will often be able to correctly sort nouns according to their tone melodies. Keep the first card in a tone melody pile at the top of the pile. That way, participants can associate a particular tone melody with the same noun and use it for comparison with all new nouns that are placed in that tone melody pile, rather than having to relearn a new noun to associate with the tone melody each time a new noun is added.

In the beginning, participants may need help deciding how to sort the nouns. However, usually at least some will catch on quickly and be able to sort correctly. Question any placements that are obviously wrong, but as participants begin to hear tone correctly, let them make the placement decisions. Once all the cards in a group have been sorted, have the participants read the words of each tone melody pile, confirming that all have the same tone melody, or resorting any that are different. Once there is agreement in all the piles, be sure to mark the cards “confirmed” for having certain tone melodies. Then do the same process with another group of nouns. See Snider (Forthcoming) for more details on how to correctly elicit and analyze tone.

3.2.3 Representative words

After checking the vowels, consonants and tone of nouns, the next step is to check for sound changes across morpheme boundaries using frames. Although you could check the morphology of all the nouns, it is less exhausting to begin with the morphology of a small set of nouns, and add on more nouns as needed. But for this, it is best to carefully choose nouns that can represent all other nouns in all aspects that could possibly effect morphological sound changes.

The cards can help with the selection of these representative nouns, after they are again organized. If there are noun-final bound morphemes in the language (such as case markers, possessive pronouns, demonstratives, etc.), organize the nouns according to stem-final segment, derivational morphemes (if any), and plural formation morphology. For each resulting group, choose three representative nouns. Of the nouns chosen, make sure there are at least three with each of the different vowels of the language. This way, when you use these nouns you will find all vowel alternations as well as consonant alternations. Check that each tone melody is also well-represented. If instead or in addition there are noun-initial bound morphemes (such as prepositions, connectors, etc.), organize the nouns according to stem-initial segment, derivational morphemes (if any), and plural formation morphology. Again for each
resulting group, choose three representative nouns where there are at least three nouns with each of the different vowels, and each tone melody is well-represented.

Caning (see Caning Grammar Book in appendix A) has demonstrative suffixes attached to nouns, so we need to organize the nouns according to stem-final segment rather than stem-initial segments. Caning has twelve non-predictable suffixes that mark plural nouns, as well as one derivational pair of suffixes -wan/-gwan that indicate singular and plural body parts. Although the plural suffixes -iny and -u are common, there are only a handful of nouns with some of the less common plural suffixes. So for representative nouns with root-final <d>, we take three with the common suffix -iny, and any others that have been found to take a different plural suffix. For representative nouns with root-final <n>, we take three nouns with the common suffix -u, and any others that have been found to take a different plural suffix. The nouns wundwan/wungwan ‘ear/ears’ and andwan/asångwan ‘hand/hands’ with the derivational body-part suffix -wan/-gwan will be used in addition to the nouns with root-final <n>.

Table 4. Some representative nouns used for Caning [shj]: With root-final <d> and <n>

<table>
<thead>
<tr>
<th>Suffix</th>
<th>Singular</th>
<th>Plural</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>root-final &lt;d&gt; /-iny</td>
<td>abad</td>
<td>abadiny</td>
<td>stupid person</td>
</tr>
<tr>
<td></td>
<td>säxäd</td>
<td>säxädiny</td>
<td>egg yolk</td>
</tr>
<tr>
<td></td>
<td>amkadad</td>
<td>amkadadiny</td>
<td>chisel</td>
</tr>
<tr>
<td>/-tede</td>
<td>led</td>
<td>letede</td>
<td>dance type</td>
</tr>
<tr>
<td>/-tudi</td>
<td>sud</td>
<td>sutudi</td>
<td>mound, hump</td>
</tr>
<tr>
<td>/-tu</td>
<td>sad</td>
<td>satu</td>
<td>bowl, calabash</td>
</tr>
<tr>
<td>root-final &lt;n&gt; /-iny</td>
<td>gisin</td>
<td>gisininy</td>
<td>anteater</td>
</tr>
<tr>
<td>/-u</td>
<td>tasan</td>
<td>tasanu</td>
<td>female goat</td>
</tr>
<tr>
<td></td>
<td>megen</td>
<td>megenu</td>
<td>orphan</td>
</tr>
<tr>
<td></td>
<td>dän</td>
<td>dänu</td>
<td>scorpion</td>
</tr>
<tr>
<td>/-i</td>
<td>meyin</td>
<td>meyini</td>
<td>ant</td>
</tr>
<tr>
<td>/-de</td>
<td>jen</td>
<td>jende</td>
<td>year</td>
</tr>
<tr>
<td>derivational suffixes -wan/-gwan</td>
<td>wundwan</td>
<td>wungwan</td>
<td>ear</td>
</tr>
<tr>
<td></td>
<td>andwan</td>
<td>asångwan</td>
<td>hand</td>
</tr>
</tbody>
</table>

In section 3.2.5 on frames, we discuss how representative nouns are used in frames to determine sound changes at morpheme boundaries.

3.2.4 Texts

The first step in using the texts is to revise them for correct wording. The spelling used in the texts can be corrected after the workshop by applying the agreed-upon spelling rules, and also by comparing the spelling of words in the texts with those spelled correctly in the beginning dictionary. If the participants see changes needed in punctuation or translation, by all means make those revisions as well, but the priority is on correct, natural wording. So by the end of the workshop, you want to have all of the texts revised by the participants in this way. To revise a text, have a good reader (ideally the author of the story) read through the story completely. Discuss when the story might be told in the culture, by whom, and to whom, and if the written story is good, natural language that represents the spoken language. Then have the participants read and correct one line at a time until reaching the end. As the participants mention something that may need to be corrected, find the word or phrase they are talking about and write it on the board with a page and line number so that all other participants can contribute to the discussion. When all are in agreement, have all participants correct their copy of the text while you also correct yours. Try to revise at least one text each day of the workshop. For some groups, this process can take up to an hour per story. Other groups have little to correct in their stories.
Once a story has been revised, lead the participants in marking a particular word category, morpheme, or other construction that you plan to investigate for sound changes in a frame on the board. Teach the participants how to mark the morpheme using the same color and marking system you used when marking the texts in preparation for the workshop. The participants should mark the morpheme in one or more texts until they can give a reasonable explanation of how the morpheme is used.

Suppose in looking at the Caning wordlist you find sagal ‘girl’, but looking in texts you find sagalong, which seems to mean ‘this girl’. In preparation for the workshop, you put a green box around the suffix -ong in all words of several texts. Now in the workshop session, you lead the participants in marking this suffix with a green box in a revised text. Each time you find and mark the suffix, you ask the participants its meaning, how it is used, and perhaps how the meaning would change if it were not used. When most of the participants are giving reasonable answers, ask them to list the various ways (if more than one) the suffix is used. On the board, write each use as a simple statement and with an example clause from the texts. Include the page and line number from where the example was taken.

Table 5. Example of text marking and listing: Caning [shj]

<table>
<thead>
<tr>
<th>Demonstrative near suffix in Caning [shj]:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Points to a singular or plural noun near the speaker.</td>
</tr>
<tr>
<td>(5/15) Bonog, tong anadarugigong. ‘Friend, bring these glasses.’</td>
</tr>
<tr>
<td>2) Shows which noun the speaker is thinking about in the moment of speaking.</td>
</tr>
<tr>
<td>(4/3) Ili onoc abag sagalong. ‘I really must marry this girl.’</td>
</tr>
</tbody>
</table>

### Frames

Just as cards are the best tool for analyzing phonology, frames are the best tool for sound changes at morpheme boundaries. Frames are phrases or clauses taken from the texts where one word is replaced with representative nouns or verbs in order to investigate the environments where sound changes take place. Because they are taken from texts, they are sometimes more natural than elicited clauses. By using frames, you don’t have to elicit a particular morpheme in its correct grammatical context. Rather, you only have to find it in the texts, and choose an instance where the word it is bound to can be substituted with many other words. Sometimes you need to change other words in the sentence to make the frame useable with more substitutions, while keeping the original grammatical structure, but it is best to limit the number of changes as much as possible. The context in the story from where the frame is taken may help the participants conjure up meaning associated with the frame more easily than if it is a hypothetical elicited clause, or if it is changed dramatically from the texts.

Let’s say you find the following two Caning clauses where the suffix -ong is found. Although the first could be used as a frame, it might first require the verb to be changed to ‘see’ or another verb that can be used with both animate and inanimate nouns. The second clause already has the verb ‘bring’, which can be used with various nouns, so would be the better choice of a frame without alteration.

\[
\text{Ili onoc abag sagalong.} \quad \text{‘I really must marry this girl.’} \\
\text{Bonog, tong anadarugigong.} \quad \text{‘Friend, bring these glasses.’}
\]

The next step is to place all representative nouns chosen from the cards into the frame. Before the workshop session, you will have written the frame and representative nouns below it on the board. The representative nouns are written twice—first in isolation and again to be read in the frame. If you can’t guess the spelling changes with the attached suffix, leave off the unknown letters which can be filled in when the nouns are read. Then during the workshop session, first have the participants read the frame in the context of the story, ideally as follow-up on a text-marking exercise for the suffix. Point out that the spelling of some nouns changes when the suffix -ong is added. You want to find all the possible ways that nouns change with this morpheme so you can talk about spelling for those changes. To do this you want to change the noun in the sentence from anadarugig ‘glasses’ to other nouns. Then have the participants take turn reading the nouns in the frame as you or the participants write the nouns correctly.
Table 6. Example of a frame exercise: Caning [shj], with suffix -ong ‘this’

<table>
<thead>
<tr>
<th>Singular</th>
<th>Plural</th>
<th>Singular-this</th>
<th>Plural-these</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>abad</td>
<td>abadiny</td>
<td>abadong</td>
<td>Abadinyong</td>
<td>stupid person</td>
</tr>
<tr>
<td>säxäd</td>
<td>säxädiny</td>
<td>säxädong</td>
<td>Säxädinyong</td>
<td>egg yolk</td>
</tr>
<tr>
<td>amkadad</td>
<td>amkadadiny</td>
<td>amkadatsong</td>
<td>amkadadinyong</td>
<td>chisel</td>
</tr>
<tr>
<td>led</td>
<td>letede</td>
<td>ledong</td>
<td>Letedegong</td>
<td>dance type</td>
</tr>
<tr>
<td>sud</td>
<td>sutudi</td>
<td>sudong</td>
<td>Sutudigong</td>
<td>mound, hump</td>
</tr>
<tr>
<td>sad</td>
<td>satu</td>
<td>satong</td>
<td>Satugong</td>
<td>bowl, calabash</td>
</tr>
</tbody>
</table>

For many morphemes in various languages, the sound changes involving a morpheme will be readily predictable. That is, each group of representative nouns (organized according to the same stem-final segment, derivational morphology, and plural formation morphology) will have the same sound changes. After reading all representative nouns in the frame, you can then discuss with participants how each environment is predictable and how the sound changes can be represented in writing. However, for some morphemes in some languages, such as the suffix -ong ‘this’ in Caning, there are exceptions in one or more of the representative noun groups. For the group with stem-final <d> and plural suffix -iny,-ong, two singular nouns attach the suffix -ong, but the third singular noun amkadad ‘chisel’ attaches the suffix-song ‘this’ and the stem-final <d> becomes <t> (amkadatsong ‘this chisel’). In this case, you need to investigate the sound changes of more nouns in each group, until a pattern can be found, or all exceptions are noted.

After the segments are written for the sound changes in each noun, ask one participant to read all the nouns again, as you mark the surface tone in another color such as green. It is best to use tone markings that participants can easily understand, such as [−] for High, [−] for Mid, [−] for Low, [\] for High-Low falling, [\] for Low-High rising, etc. Explain that you are marking the tone because knowing the tone sometimes helps to understand the grammar, and to decide how to write words, but for now, the tone marks are only for language study, and are not for use in writing.

The tone transcription you make will not likely be perfect no matter how long you spend on it, so don’t let it unnecessarily slow down the activity. However, sometimes the tone will be an important factor for deciding word breaks, and in some languages will need to be represented in some way in the writing system. So, take the chance to at least make a tentative transcription of the tone while you have it.

After finishing a frame exercise, be sure the participants see all predictable sound changes. Mark all exceptions to the sound changes with a red star so that participants make a mental note of these. Then discuss the way the sounds are written, see if there is agreement on the spelling, and formulate a tentative spelling rule, if helpful. Then give the participants and yourself time to copy the data in the notebooks.

Record in your notebook all arguments (linguistic or otherwise) in favor of and against the spelling decision. These can later be helpful when drafting a grammar book that includes this spelling rule. You may want to include both sides of the argument along with the date and the people who made the decision. All this documentation can inform any future discussions about the decision if it is ever reviewed.

As spelling rules are tentatively agreed upon throughout the workshop, list them in a corner of a white board where you can continue to refer to them for several days as you check more data, or write them on sheets of paper taped to a wall. Make sure the wording of each rule is simple and straightforward, and consider having participants write the rules as recommended by Easton and Wroge (2012:25). A general rule for the RGC workshops is that you only need to investigate those morphemes and their allomorphs that are found in the texts. The vast majority of morphemes in a language will be represented in eight to ten texts. Investigating all the sound changes involved with these morphemes will be sufficient data for determining a tentative writing system. In the unlikely situation that a morpheme missed in the first workshop requires a change in spelling rules, the spelling rules can still be revised.
without too much difficulty in the next few years. So, concentrate your efforts on analyzing the morphemes in the texts, rather than spending time hunting for morphemes that may or may not exist.

3.3 Agreement on spelling rules, word breaks and representing tone

Another general rule is that participants of the RGC workshop (ultimately the language community served by the participants) have the final say in all writing decisions. The linguist’s responsibility is to ensure that the participants have adequately understood all the issues involved in making writing decisions (such as readability, transferability to the national language, similarities with related languages, etc.), but to leave the actual decisions to them. If the speakers do not have the final say in writing decisions, they may not use the writing system, and then development work on the language is a waste of time.

However, the linguist can have a profound influence on the writing decisions during the workshop, which should not be abused or taken lightly. Rather than cite her/his qualifications or experience, a linguist’s best influence is by calling attention to the data that needs to be handled consistently. The morphological activities of an RGC workshop tend to display data in a systematic way, and after seeing the organized data, participants often make thoughtful consistent choices that they would otherwise not make.

But, sometimes the participants need to have inconsistencies pointed out to them. For example, in Caning [shj] there is neutralization of a voicing contrast for plosives in word-final position. Participants write some words with a final <d> and other words with a final <t>, which all have the same final sound. It is generally best to have the same symbol represent the same sound, so this inconsistency in writing final plosives should be addressed by the linguist. To help participants see the inconsistency, you could put a list of at least twenty words on the board, some commonly written with final <d> and some commonly written with final <t>, for each participant to write on paper. Collect the papers and do the same exercise the following day with the same words in a different order. Compare the writing from one day to the next. If some of the same words written by the same participants have different final letters, or even if different participants wrote the same words differently, point out that readers may be confused by such inconsistency. Unless the participants can arrive at a teachable system for distinguishing when to write the two final letters, it will be much better to always write with the same final letter (Write all words with final <t> or write all words with final <d>, but don’t use both as final letters.)

Although language speakers should always have the final say in all writing decisions, SIL should always have the final say in which language groups it supports. Often when a language group makes a writing decision that a linguist experienced in orthography design might consider unwise, the decision will not so dramatically effect reading or writing that it would be a waste of time to try to use the writing system in spite of that decision. But there are cases, such as in languages with a high functional load of tone or [ATR] quality, where fluent reading may be extremely difficult until changes are made to effectively distinguish meaning, such as a way to represent at least some tone in writing. In such cases, the linguist may need to recommend that SIL not support the project until a writing system for improved reading is found. The changes do not necessarily need to be those suggested by the linguist, but they do need to result in reading fluency.

When investigating the grammar of the language, the linguist should keep a rough estimate of the number of minimal pairs or grammatical distinctions made only by tone or vowel quality. If there are a significant number of these not distinguished in the writing, s/he must discuss with participants how the reading could negatively be affected, and to propose some ways of representing the distinctions in writing.

See Snider (2014, Forthcoming) for information on deciding spelling rules, Kutsch Lojenga (2014) for deciding word breaks, and Snider (Forthcoming) and Kutsch Lojenga (2014) for representing tone in

---

6 This assumes no government mandates about orthographies of vernacular languages. If there are such mandates, of course the government has the final say for writing decisions.

7 This assumes that non-print materials such as audio recordings will not be the primary medium.

8 Stem-final plosives alternate according to suffixes, but that is a separate issue from the sound of plosives in word-final position, which is what is discussed here.
writing. Also see the list of Anglophone i-DELTA phonology course materials in appendix A that give instructions on making decisions for writing systems.

3.4 Best practices for the first RGC workshop

The following best practice statements are perhaps the steps needed for investigating the grammar most crucial for deciding the writing system of the majority of languages. Depending on the language, some of the steps will not be necessary for deciding the writing system, or will not be needed at all. For some languages, additional steps will be needed.

First RGC workshop (at least 2 weeks)

Introduction
- Introduce the workshop by briefly explaining the proposed aims, methods and expected results. Find out the expectations of the participants and anything they would like to change. Try to meet the requested changes if they do not compromise the aims stated in the workshop invitation.

Noun phonology
- After setting aside any obvious compound nouns and derived nouns, organize the remaining nouns on cards according to plural formation morphology. Then, using the boards, test all nouns for plural formation (if any), correct word category (if there is only one form), meaning, and initial guess at spelling.
- Choose which form of the noun (singular or plural if they differ) best represents the root. After setting aside any borrowed words, organize the root form of the nouns according to vowel, vowel length, syllable structure, and final consonant (of monosyllabic nouns) or middle consonant (of disyllabic nouns), and test the nouns of each vowel group on the board by comparing and contrasting the nouns. Move any that are in the wrong group to the correct group.
- Test the nouns with mixed vowels on the board by comparison and contrast, filling in a distribution chart on a separate board to guide the process.
- Reorganize the nouns according to vowel, vowel length, syllable structure, and final or middle consonant, and test the nouns of each group on the board for vowel length, again by comparison and contrast.
- Reorganize the nouns according to any potentially confusing consonant contrasts for all word positions, such as voiced and voiceless plosives, single and doubled consonants, nasals and prenasalized plosives ([ŋ] and [ᵑg]), labial velars and velars ([gb] and [g]), dentals and alveolars ([d̪] and [d]), labialized and un-labialized ([kʷ] and [k]). After each re-organization test each group by comparison and contrast.
- Organize the nouns according to approximants and similar vowels (such as [w] and [u] or [o]; [y] and [i] or [e] in syllable-final position), for all word positions. After considering the unambiguous syllable types, vowel sequences, and modified consonants (labialized, palatalized, etc.), discuss and agree on the spelling of all ambiguous occurrences of approximants and vowels. Try to agree on simple spelling rules to handle these in roots, but realize you may need to revise your rules when you come to morphology, for any approximant-vowel ambiguities that occur at morpheme boundaries.
- Organize the nouns according to syllable structure, word-final segments (for a language with noun plural suffixes) or word-initial segments (for a language with noun plural prefixes), and according to plural formation morphology. Then have speakers sort the nouns in each group according to tone melody as they say and whistle (or hum) each singular and plural noun from the cards.
Verb phonology

- After setting aside any obvious compound verbs and derived verbs, using the boards, test all verbs for word category, transitivity, meaning, initial spelling in one or more frames that best represents the root (if it can be determined which form is closest to the root). You may need a different frame for intransitive verbs than for transitive verbs. For transitive verbs, use a generic object such as ‘person’ or ‘thing’ so that there is no object pronoun bound to the verb.
- As soon as possible, find the most basic form of the verb—a form that all verb lexemes have (if possible), and can be used to list verbs in the dictionary.
- Organize the verbs (in their most basic form) according to vowel, vowel length, final consonant, and transitivity (if transitive verbs are morphologically distinct from intransitive), and test the verbs of each vowel group on the board by comparison and contrast; then test the verbs with mixed vowels.
- Reorganize the verbs according to vowel, vowel length, syllable structure, final consonant, and transitivity (if relevant), and test the verbs of each group on the board for vowel length by comparison and contrast.
- For any potentially confusing consonant contrasts, find all verbs with either of the two consonants, and test both groups by comparison and contrast.
- Organize the verbs according to syllable structure, word-final segment, and transitivity (if relevant). Then have speakers sort the verbs in each group according to tone melody as they say and whistle (or hum) each verb from the cards.

Modifier phonology

- Test all modifiers for meaning, initial spelling and word category using various frames on the board.
- Organize the resulting word categories and test the vowels. Then test for the tone using the words in frames.

Syntax

- Have a good reader (ideally the author of the story) read through a story completely. Discuss when the story might be told in the culture, by whom, and to whom, and if the written story is good, natural language that represents the spoken language. Then read and correct one line at a time until the end. Read, discuss and revise all other stories prepared for the workshop in the same way.
- As a group, find and mark a particular word category, bound morpheme, or particle in the texts using a colored pencil and specific marking style (underline, circle, box, triangle, arch above, line above, etc.) until the participants are making reasonable choices on their own. When analyzing another morpheme or word category, choose a different color or marking style. As needed, continue marking with different colors and styles until all word categories and morphemes are covered.

Noun morphology

- When marking nouns in the texts, be sure to have a different marking for noun subjects, noun objects, possessed nouns, objects of prepositions, and other uses of nouns. Discuss each syntactic category using enough examples until the participants can correctly choose the difference between each.
- For all tone melodies of the most common syllable structure of monomorphemic nouns, choose three animate (if possible) nouns to represent the melody. Using the texts as a guide, find two to four frames (depending on the number of underlying level tones) where the nouns can follow different words of the same word category, each with a different final tone. It is best if the noun is not the final word of the clause, but has the same following word in each of the frames, so as not to be affected by any phrase-final tonal process. Also, find two to four frames where the
nouns can precede different words of the same word category, each with a different initial tone. On the board, list and read all the representative nouns in all the frames, marking tone in a different color. If any of the nouns differ in tone from others in the same tone melody group, you will need to test more nouns in all groups until you find a predictable pattern.

- If there is any chance that tone could help distinguish case in the language, find frames where the representative nouns for tone can have each of the different syntactic functions (subject, object, etc.), ideally in which the noun is never phrase-final. On the board, list and read the representative nouns in all the frames, marking tone in a different color. If any of the nouns differ in tone from others in the same tone melody group, you will need to test more nouns in all groups until you find a predictable pattern.

- If there are noun-final bound morphemes (such as case markers, possessive pronouns, demonstratives, etc), organize the nouns according to stem-final segment, derivational morphemes (if any), and plural formation morphology. For each resulting group, choose three representative nouns. Of the nouns chosen, make sure there are at least three with each of the different vowels of the language. Check that each tone melody is also well-represented. If instead or in addition, there are noun-initial bound morphemes (such as prepositions, connectors, etc), organize the nouns according to stem-initial segment, derivational morphemes (if any), and plural formation morphology. Using the texts as a guide, find frames where each of the bound morphemes occurs. On the board, list and read all representative nouns in each of the frames. Mark tone in a different color. If any of the nouns differ in sound change from others in the same group, you will need to test more nouns in all groups until you find a predictable pattern. As much as possible, discuss and agree on simple spelling/word-break rules that handle each of the noun morpheme sound changes.

- If in the texts there is a difference in possession for alienable and inalienable nouns (possessed by other nouns), singular and plural nouns, or masculine and feminine nouns, list and read all possessed nouns for each type of possession found in the texts on the board, and find any missing possession of each type. As much as possible, discuss and come to agreement on simple spelling/word-break rules that handle all the possession.

- Using the different constructions for alienable/inalienable or masculine/feminine possession (if there is a difference for either), check the status of all nouns in the language for these qualities.

Polymorphemic nouns

- On the board, list and read all possible compound nouns (bound or phrasal, including idioms), and record the meaning of the individual roots. Make a comparison of the grammatical structure of nouns possessed by other nouns with that of the compound nouns. As much as possible, discuss and agree on one or more simple spelling/word-break rules that handle all the compound nouns, using the same rules as for possessed nouns unless they have a different grammatical structure.

- On the board, list and read all possible derived nouns, and record the meaning of the roots. As much as possible, discuss and agree on simple spelling/word-break rules that handle all of them.

Adpositions/locatives

- When marking adpositions in the texts, find and discuss as many examples as needed in order to arrive at a reasonable guess of the function and meaning of each adposition. Then, using the texts as a guide, find two or more frames where as many adpositions as possible can be substituted. In one frame, the adposition should introduce an animate noun, and in another an inanimate noun. On the board, check for all adpositions in the two frames and mark tone in a different color for all that are correct. If any sound changes take place in either the adpositions or nouns they introduce, representative nouns should then be tested with each of the adpositions and a simple spelling/word-break rule discussed and agreed to for handling the changes.

- If locatives are found in the texts to have different syntax or sound changes than adpositions, find frames for the locatives as well, and list and read all of them in the frames on the board. If
any sound changes take place, representative nouns should be tested with each of the locatives, and a simple spelling/word-break rule agreed to for the changes.

Pronouns

- Using the texts as a guide, find frames for each type of pronoun found in the texts (subject, object, possessive, object of a preposition, etc.). Then on the board, list all pronouns in each frame after first listing a noun the pronouns can replace. Fill in any missing pronouns. As participants read each frame with the pronoun, mark tone with a different color.
- On the boards, list all pronouns after each preposition, using the same frame for as many prepositions as possible. Mark tone in another color as each is read. As much as possible, discuss and agree on a simple spelling/word-break rule that handles all the prepositions introducing all pronouns.
- On the boards, list all possessor pronouns following the same singular noun. If in the texts there is a difference for pronouns possessing a plural noun, also list all possessor pronouns found following a plural noun. If in the texts there is a difference for pronouns possessing alienable and inalienable nouns, or masculine and feminine nouns, list all possessor pronouns found following an example of these types of nouns. Read and fill in any missing pronouns. When they are correct, mark the tone with a different color. As much as possible, discuss and agree on a simple spelling/word-break rule that handles all the possessor pronouns.
- If possessive pronouns alone can be a noun phrase in texts, list and read all such possessive pronouns in a suitable frame on the board, filling in any missing pronouns, and marking tone with a different color.

Demonstratives and indefinite pronouns

- When marking demonstratives and indefinite pronouns in the texts, find and discuss as many examples as needed in order to arrive at a reasonable guess of the function and meaning of each demonstrative. Find frames for each type and position of demonstratives found in the texts (demonstratives that can alone be a noun phrase, singular and plural demonstrative adjectives, and masculine and feminine demonstrative adjectives; demonstratives occurring before and after nouns, spatial and discourse demonstratives, and indefinite pronouns). On the board, list and read all demonstratives in the appropriate frames, filling in any of each type that are missing. When they are correct, mark tone in another color as each is read.
- If there is case in the language, list at least one of each type of demonstrative adjective with a noun in various frames representing all syntactic functions of the noun. Then mark each for tone with another color.

Relative/complement clauses

- When marking relative and complement clauses in the texts, find and discuss as many examples as needed in order to make a reasonable guess of the function and meaning of each morpheme introducing such clauses (e.g., restrictive or non-restrictive, definite or indefinite, etc). On the board, test for all possible word categories or phrases that may be introduced in such clauses (e.g., possessor nouns, possessor pronouns, adjective phrase, number, quantity, adverb/modifier phrase, verb phrase, and clause). Mark the tone of all that are correct in another color.
- Using the texts as a guide, consider which constituents of a relative clause can be relativized. (In which syntactic functions in the relative clause can the head noun appear?) On the board, test for all possible functions of the head noun in the relative clause (e.g., subject, object, direct object, object of preposition, etc.). Mark the tone of all that are correct.
- Using the texts as a guide, consider all agreement possibilities for the relative/complement clauses with the head noun (e.g., number, gender, definiteness, etc.). On the board, list and check all potential ways of marking such agreement, in all combinations, changing as little as
possible in wording from one construction to the next and still testing for the agreement intended. Then mark the tone of all that are correct.

Adjectives

- On the board, list all adjectives and the nouns they modify found in the texts. If in the texts there are morphological distinctions such as for number or gender, list the adjectives and nouns on the board to display these distinctions. Read, correct, and fill in any missing adjective-noun combinations, then mark tone with another color. As much as possible, discuss and agree on simple spelling/word-break rules that handle all the adjectives.
- On the board, list at least one paradigm of an attributive non-verbal clause with each pronoun and an adjective ('I am big', 'You are big,' etc.).
- If there is case in the language, list at least three adjective-noun combinations in various frames representing all syntactic functions of the noun, and mark for tone.

Verb morphology

- On the board, list and read all possible object and subject pronoun combinations ('I saw you', 'I saw him', 'You saw me', 'You saw him', etc.) for the same verb for each common verb form (such as perfective, imperfective) that differ in morphology. When correct, mark the tone with a different color. As much as possible, discuss and agree on a simple spelling/word-break rule that handles all the pronouns or person markers.
- When marking verb morphology in the texts, find and discuss as many examples as needed in order to arrive at a reasonable guess of the function and meaning of each. Then, if there are verb-final bound morphemes (e.g., object pronouns, aspect markers, subordinate markers, etc), organize the verbs (in most basic form) according to stem-final segment, derivational morphemes (if any) and morphologically distinct verb class (if any). For each resulting group, choose three representative verbs. Of the verbs chosen, make sure there are at least three with each of the different vowels in the language. Check that each verb tone melody is also well-represented. If instead or in addition there are verb-initial bound morphemes (e.g., subject markers, aspect markers, etc), organize the verbs according to stem-initial segment, derivational morphemes (if any), and verb classes (if any). Using the texts as a guide, find frames where each of the bound morphemes occurs. On the board, list and read all representative verbs in their most basic form, and then as in each of the frames. Mark tone in a different color. If any of the verbs differ in sound change from others in the same group, you will need to test more verbs in all groups until you find a predictable pattern. As much as possible, discuss and agree on simple spelling/word-break rules that handle each of the verb morpheme sound changes.
- On the board, list and read all possible compound verbs (bound or phrasal, including idioms), and record the meaning of the individual roots. As much as possible, discuss and agree on a simple spelling/word-break rule that handles all the compound verbs.
- On the board, list and read the most basic form of all possible derived verbs, and record the meaning of the roots. As much as possible, discuss and agree on a simple spelling/word-break rule that handles all of them.

Particles

- When marking particles in the texts, find and discuss as many examples as needed in order to arrive at a reasonable guess of the function and meaning of each. On the board, make a list of all particles in their various constructions, write the details learned about each, and mark tone. If any are bound to other words, find a representative list of the word category they are bound to, and read and test the representative words in frames with the particles, marking tone in another color. As much as possible, discuss and agree on simple spelling/word-break rules that handle all the particles.
Estimate the functional load of the writing system

- Towards the end of the workshop, count the number of minimal pairs (for tone, vowel quality, etc.) in each word category, as well as the number across word categories, which are not distinguished in writing. Also, estimate the frequency (count the number of occurrences of clauses out of the total clauses in a text) of each grammatical distinction (such as tone being the only difference for case, verb aspect, etc.) that is not represented in writing. If any of these are significant, discuss them and try to resolve them with a representation in writing.

Alphabet Book

- Towards the end of the two weeks, or on the final day, revise the alphabet book (if it exists) according to the agreed-upon spelling of the cards, or choose three picturable words for each letter of the alphabet that begin with each letter (if possible). If an alphabet sentence book exists, consider revising the spelling of this book as well.

Summary

- On the last day, list the spelling rules agreed upon on the board. Check if the participants are still in agreement with these rules. Apply the spelling rules by completely revising one of the texts according to all of the spelling rules. Tell the participants their assignment before the next workshop is to revise all the other texts according to the agreed-upon spelling rules, as well as any existing literacy materials, and to collect and interlinearize five additional stories, using correct spelling.

3.5 Specific instruction for various types of languages

3.5.1 Languages with dialect alternations

In any language, it is common for occasional words to differ according to certain dialects of the language. Such differences can be recorded in a blank space of the card for that word, and the word later entered in the dictionary as a dialect alternate. However, if the language has many words that

In preparing for an RGC workshop of a language with substantial dialect differences, in addition to the other requirements, you should also require a translated two hundred-wordlist for each of the recognized dialects. Then, instead of listing the plural form of nouns below the singular on cards, list the two forms side by side, and list all dialect differences in either the singular or plural form below one another on the same card. Choose an abbreviation for each dialect and label each set of nouns on the right side of the card. Try to find the dialect that most often has the same form with other dialects, and put a line above and below the words in that dialect on the card. Only write the singular or plural form of other dialects when they differ from this most common dialect in-between the lines. This system should speed the writing of words, and still accurately record all relevant information. The lines and abbreviations help the reader of the cards find her/his dialect word more quickly, regardless of how many dialects are recorded with differences on the card.
27

Figure 2. Example of a data card: For dialect alternation.

| singular | plural | (dialect 1 abbreviation) 
|---------|--------|----------------------
| singular |        | (dialect 2 abbreviation) 
| singular | plural | (dialect 3 abbreviation) 
| plural   |        | (dialect 5 abbreviation) 

When writing the words on the board, use separate columns labeled for each dialect, and make the lines for the column of the most common dialect with a different color. Only write the words of other dialects when they differ from this most common dialect.

All morphology and syntax can be collected as for other languages, except that you make a separate column on the board for the grammar of each dialect, using a different frame and set of representative words for each dialect.

3.5.2 Isolating languages

When working with an isolating language that has little or no bound morphemes, you will need to spend a significant amount of time on syntax, and especially the syntax of common particles which may have various functions. You can treat these as other morphemes in the language by first marking them in the texts. And drawing from the texts, you should also make a list on the board showing all types of constructions where each of these particles is found. As participants read the examples, mark tone in another color. For each construction, propose and write a description of its function. If you suspect there are functions or constructions of some of the particles not represented in the texts, try rearranging the word order of clauses with these particles (if you have observed that word order changes in the language) until you have confirmed or rejected all reasonable possibilities. Also try using two or more of the particles next to each other in various combinations (if you have observed that certain particles have a different function when next to each other than each alone) until you have exhausted all reasonable possibilities. Be sure to mark tone of each acceptable construction. Then try to determine the meaning and function of each. If you finish all the best practices steps for the first RGC workshop before the end of the two weeks, continue with the steps listed for the second RGC workshop.

3.5.3 Morphologically rich languages

When working with a language having an over abundance of bound morphemes that have complicated morphophonological processes or unpredictable allomorphs, you will want to spend as much time as possible documenting these sound changes. After carefully checking consonants, vowels and tone in a sufficient number of roots (at least 400 singular and plural nouns, and 150 verbs), use most of the remaining workshop sessions to elicit the morphology—with representative nouns and verbs in frames. Deciding how to spell the sound changes, as well as how to divide words involved with these morphemes, is of high importance in establishing an effective writing system. So, as tiring as it might be to plow through endless morphology, you must do it in order to faithfully serve the language group.

But keep in mind there is no penalty or shame in not finishing all the best practice steps for the first RGC workshop in two weeks. For some languages, this is simply impossible. When working with a language with extensive morphology, try to encourage donors to allow three to four weeks or to have a
second two-week RGC workshop a few weeks following the first, so that everyone gets a rest before continuing. You can only cover the amount of grammar that you can cover in the allotted time. There is no need to kill yourself or the participants in your attempts to meet the workshop goals. Goals are to spur us on, not to enslave or bury us. Whatever grammar is not covered in the first workshop can wait for another workshop. That being said, it is your responsibility to carefully prioritize which grammar you will cover in the allotted time. Until the writing system is established, you must always be carefully planning grammar sessions that will be the most helpful to establish that writing system, and most often this involves sound changes at morpheme boundaries.

3.6 Other specific instruction

3.6.1 Keep up the pace

In all the activities, there needs to be a balance between doing careful linguistic analysis and not getting bogged down on any one word or grammatical detail. Go slow enough that the majority of participants are hearing the correct sounds, understanding some functions of the morphemes, observing the morphophonological patterns, tentatively agreeing on spelling, and writing correct grammar in the notebooks. However, keep things moving. In a language with numerous sound alternations at morpheme boundaries, stifle your linguistic curiosity to exhaust all the syntactic functions of a particular morpheme. Sure the grammar would make a nice linguistic paper, but your job is help the language group arrive at a tentative working orthography, not to gather data for linguistic papers that further your career. For a practical writing system, it is more important to find the sound changes of morphemes than to fully understand all the functions of morphemes. Keep to the grammar that will help you arrive at the goal of agreeing on an informed writing system. Often a broad view of the grammar, such as investigating most morphemes in most environments using representative data, will be a better foundation for making orthography decisions than a deep but narrow view of the language, such as learning all there is to know about a few morphemes in the language.

Occasionally, participants will need time to discuss issues that arise, such as whether two adjacent roots should be joined as words, whether or not a certain noun has a plural form, or any number of other issues. Allow each person to have a say in the matter, but don't allow such discussions to go on past five minutes or so, unless the discussion is important for the activity. Often the issue can be more easily answered in a later session when all relevant grammar is collected and discussed for that issue. So, at an appropriate point, bring the participants back to the goal of the activity, and encourage discussions about other issues to continue during the next break time.

3.6.2 When the activity goes poorly

No matter how well prepared you are for the workshop, there will be one or more sessions that do not go as well as expected. In most cases, the cause is either that the data is not as expected or that the participants did not understand the aim of the activity.

When the data is not as you thought it would be based on the texts or what you know of related languages, try to still make the session useful, such as by revising a frame until it can be used to collect the intended data, or by finding out enough details of the grammar that you then know how to collect the data another way. There is no shame in not having all the answers. After all, the participants are the experts on the language, not you. It is just a matter of finding a way for them to communicate the information about the language. But if you suspect that your floundering is causing the participants to lose their enthusiasm for the work, stop and change to another activity. Later, rethink the possible ways of getting the intended data. If possible, pull one participant aside before the next workshop session and verify that your new frame will successfully elicit the intended data. Or collect one or more full paradigms of complicated verbs that can be used as models for paradigms of other verbs. That way you save yourself and the participants the misery of floundering in another workshop session.

When the participants are not responding as you expect, it may be because they do not understand the aim of the activity or what you expect of them. You may need to give a brief explanation for why the
activity is important, such as in order to have a list of correctly spelled words in the dictionary that all language developers can refer to. You may need to explain exactly what you would like the participants to do, such as to have one of them slowly read a list of words while all others listen for any vowels that are different than the rest. You may need to explain what you mean by asking questions, since sometimes questions are used as rebukes in Africa. You can say, “Sometimes when I ask a question, I already know the answer. I ask the question because I want to know if you also know the answer. Then I will know that we are together in the work.”

3.6.3 Co-leading an RGC workshop

Ideally, the RGC would be led by an experienced linguist and a linguist in training (or language assistant) who will work alongside the language development team in the years to come. The experienced linguist must ensure that the goal of the workshop is met, but there are many excellent mentoring opportunities in the midst of the workshop activities that can be effectively used to train the language assistant.

- The language assistant will observe that although the linguist does not always have all the answers, with perseverance and patience, s/he can substantially help the language team by gathering the right data and asking the right questions.
- The linguist can give extra explanation to the language assistant before or after each workshop activity, such as linguistic knowledge from other languages that sheds light on the data, how the collected data confirms or rejects initial guesses and guides the next steps, by admitting mistakes or suggesting alternative methods that may have been more successful, and by pointing out the specific steps taken in each activity so that the language assistant can learn to lead the sessions.
- Depending on the training, ability and enthusiasm of the language assistant, s/he can be encouraged to lead one or more of the sessions when ready, and be given constructive feedback afterwards.
- The language assistant can record the data with the intention of later documenting it in the grammar book under the guidance of the linguist.

Regardless of the extent to which the language assistant helps with the RGC, the experienced linguist must take responsibility for learning all there is to know about the language ahead of time, recording all the grammar collected during the workshop, and later ensure that all the collected grammar is well presented in the grammar books. Mentoring an assistant may take extra time from the linguist rather than saving time, but the reduplication of skills that will later save time will be well worth the initial extra time taken for mentoring.

3.6.4 Predicting readability

Toward the end of the first RGC workshop, after seeing the broad view of the language through the investigation of extensive amounts of data, and by evaluating the functional load of (amount of meaning distinguished by) various writing symbols, words and constructions, the linguist can predict to a certain extent the readability of the writing system. The most common phonological features hindering reading in Africa are tone and [ATR] vowel quality, since the distinctions in meaning made by these features are often under-represented in writing systems.

The functional load of words, which involves the number of under-distinguished minimal pairs (words that differ in meaning and sound, such as tone or ATR quality, but have the same spelling), is one factor in evaluating the readability of a writing system. If ten percent of words in the same word category are in a minimal pair, or if twenty percent of words in different word categories are in a minimal pair, the reading will be difficult if such words are not distinguished in writing. On the other hand, if less than two percent of words in the same word category are in a minimal pair, or if less than five percent of words in different word categories are in a minimal pair, there should be little difficulty
in reading, even without distinguishing such words in writing. These are somewhat the extreme scenarios, and many languages are somewhere in-between these percentages. So, we need to consider other factors to determine the readability of language’s writing system.

The greater the number of consonants, vowels, syllable types, and word syllable patterns in a language, the less functional load on any one writing symbol of the language, and the less likely that under-represented sounds such as tone or ATR contrasts need to be represented throughout the writing system. As meaning is distributed across more symbols, the meaning depends less on any one symbol. Thus, a language such as ‘Beli [blm] with only the CV syllable type and only CV an CVCV word syllable patterns is much more likely to need tone represented in writing than a language such as Laarim [loh] with four syllable types and ten word syllable patterns, all other factors being equal.

In addition to the functional load of words and symbols, there is also functional load of grammatical constructions, such as case, pronominals, verb aspect, etc. that differ only by tone. The greater the number of grammatical distinctions, and the greater the frequency of each distinction, the more important it is for such distinctions to be represented in writing. Perhaps if more than five percent of clauses in a given story have under-represented grammatical distinctions, reading will be difficult.

Before the end of the first RGC workshop, such issues for writing should be discussed, and as much as possible dealt with by making appropriate writing choices to resolve the issues. Any writing issues that are not dealt with in the workshop need to be mentioned in the report to administrators following the workshop. The extent to which writing issues are not dealt with, and the severity of each issue, will determine your recommendations for further work in the language.

If you can give a reasonably accurate prediction that language speakers will be able to achieve reading fluency of the writing system agreed upon in the first RGC, tell the administrators. They may want to immediately begin planning further language development in the language. If you have covered most grammar crucial for deciding the writing system, and if there are no major issues in the writing system, there is no reason why language development should not proceed at full force, as soon as the writing system is confirmed to be accepted by the community. If however, there are unresolved issues for the writing system that you suspect will make fluency of reading difficult, recommend that language development be put on hold until another RGC workshop can be held to resolve more of the writing issues, and that only materials for testing reading fluency be printed.

4 Following the first RGC workshop

Unless the grammar collected in the first RGC workshop is documented in an understandable way for speakers of the language, most of what the participants have learned will be forgotten in a few months or even a few weeks. If there is no record of the agreed-upon writing decisions, the language development has no greater potential for success than before the workshop. A lot of time, effort and other resources have gone into making the RGC workshop happen. In the months following the workshop, you and others must make the grammar collected as accessible as possible by documenting it in several ways.

These may include an alphabet book, a story book, a beginning dictionary, a consonant, vowel, and tone book, a grammar book, and a phonology paper. The alphabet book and story book are a way to test the writing system with the language community. The dictionary, grammar book, and consonant, vowel, and tone book are a reminder to the workshop participants of what they learned and agreed upon, and can also be tools for training all new language development personnel. Rather than running a grammar workshop every time a new language worker joins the development team, they can more easily be trained in the language using these books. The phonology paper which includes morphophonology helps guide the drafting of these books.

It is ideal for one or more of the workshop participants to draft or directly assist in the drafting of these books. However, because of a lack of equipment in the home area or a lack of participants with suitable skills and training, this may not be practical. As a second choice, it is appropriate for a

---

9These percentages are not based on academic research; they are merely a guess from the author's experience in working with a limited number of languages.
beginning linguist or language assistant to draft all or portions of these books, provided that the experienced linguist is still responsible for the data being well-presented in them. If there is no language assistant for the language development team, as is often the case within SIL with its limited personnel, the experienced linguist must draft the books herself/himself.

The books should be done in a timely manner, such as at least within one year of first RGC workshop. If the linguist has no other responsibilities, the dictionary, phonology paper, consonant, vowel, and tone books, and grammar book can all be completed in as short of time as three months. If literacy personnel are available, the alphabet book and story book can be drafted at the same time. Once drafted, each should be printed in small numbers, and sent to participants of the first RGC workshop to test with the language community. The books should be checked for acceptance of all writing decisions, as well as revised for any specific corrections needed. If the participants are in agreement, post the books on a public website such as webonary.org.

4.1 Alphabet book

The alphabet book may be the most tangible result for many of the speakers. Those that didn’t attend the workshop may not fully appreciate the grammar book, but they will likely enjoy seeing their alphabet displayed by simple words and pictures. It is the best tool for testing the alphabet symbols with the language community, so should be given priority.

Construct an alphabet book

- Send the words chosen for an alphabet book to a literacy person who can find pictures for each word and format the book. If possible, bring a copy of *International Illustrations: The Art of Reading 3.0 DVD* (Intl. Literacy Dept.: 2009) to the workshop and have one or more of the workshop participants choose pictures for each word directly from your computer screen. Print and distribute at least one copy of the alphabet book for each participant of the RGC workshop, for them to check and revise with the community.

4.2 Beginning dictionary

A beginning dictionary should be compiled first before any other documentation of grammar from the RGC workshop. Once the correctly spelled words have been entered into a new Fieldworks Lexicon file, you have an easy way to check the spelling of words in all other materials, since you can search for words in either the vernacular or in English. You can also transfer the data of the Fieldworks file to phonology software such as Phonology Assistant for help in analyzing the phonemes.

Be sure to make the beginning dictionary as user friendly for language speakers as possible. Make all vernacular words stand out from other words (e.g., by putting them in bold type). Make an introduction to the dictionary that explains how to read each entry and includes other helpful information, such as a list of word categories, plural formation morphemes, etc. There is no prescribed way to write the introduction of a dictionary since each language differs in which information is most crucial for the readers. However, a dictionary template with a list of possible topics is included in appendix A, along with beginning dictionaries of various languages.

Construct a beginning dictionary (at least 3 days)

- Enter the data of all cards checked in the RGC workshop into a new Fieldworks Lexicon file. For the headword field, use the spelling agreed to in the workshop. In a separate field (such as the phonetic field) enter the tone and the phonetic transcription when it differs from the orthography of the word. Write definitions in simple English. Enter the word category, all known senses, and the roots of derived forms and compounds. Enter unpredictable language specific data (such as plural nouns, dialect alternates, etc.) in the Variant Form field so that such words
will be seen in searches. You may also want to list these in a custom field so that you have more freedom in where to position them in the printed version of the entry. Enter binary language specific data (such as gender of nouns, alienable/inalienable nouns, countable/uncountable nouns etc.) in a custom field and consider using an agreement morpheme from the language to indicate the correct grammar (such as feminine or masculine demonstrative or possessor pronoun to indicate feminine or masculine nouns). Also enter information helpful to linguists (such as singular or plural morphemes, root-final consonants, etc.) in a custom field. You can decide later whether to include these in the print version, but they will at least be helpful to you as you analyze the data and draft books.

- Write an introduction for the dictionary that includes a list of alphabet symbols corresponding to IPA equivalents with example words, a list of abbreviations, a list of word categories with definitions, a list of common noun plural formation morphemes (if helpful), a list of common verb derivational morphemes (if helpful), and especially an explanation of how to read dictionary entries.

- Print and distribute at least one copy of the dictionary to each of the participants of the RGC workshop, for them to check and revise with the community. If the participants are in agreement, upload the dictionary to a public website such as webonary.org.

Instead of creating a new Fieldworks file, it is possible to revise the draft Fieldworks file used in preparation for the RGC workshop. It will likely be just as fast to re-enter the words from the corrected cards, and this eliminates the possibility of unnoticed mistakes of the first draft remaining uncorrected. But if you decide to revise the draft file, be sure to mark entries that have been checked in the workshop as different from those unchecked. For instance, you could put the words “checked in (language name) workshop (date) (place)” in the notes field of all entries with confirmed spelling. Then for each entry without confirmed spelling, you could delete the words “Main Dictionary” next to “Publish in” under the Publication Settings section of the details of the entry. Then these entries will be invisible in the printed version of the dictionary, but can still be seen in the edit version of the dictionary and in searches.

4.3 Phonology statement

The phonology statement is documentation for linguists of all meaningful sounds and how the sounds change in various environments. Because it is documentation for linguists, it requires the writer to think more deeply about the language and to ensure that there are no inconsistencies in the analysis. The additional learning from the writing process of this statement should be carried over to the grammar books, either as they are drafted, or later in revising them. If time is an issue, this statement can wait until the other books are drafted, as long as they are later revised according to the insights learned from the phonology statement. However, if the statement is done before the other books, it will improve the quality and speed of their construction, as many of the tables of data in the grammar books will be the same, albeit with a transfer from IPA to the orthography.

You may or may not want to deal with writing decisions in the phonology statement. Regardless, the phonology statement needs to be thorough enough to give the linguistic background for all writing decisions. In other words, it needs to give solid evidence for all consonant, vowel and tone phonemes in roots, as well as how these alternate in all known morphology. A variety of phonology papers for various languages are listed in appendix A.

Write a phonology paper (about 30 pages, at least 3 weeks)

- Write a phonology statement that includes charts for consonant and vowel phonemes, contrastive pairs of words for all phonetically similar phonemes, contrastive pairs of words for consonant length and vowel length, distribution in relevant word positions for consonants and vowels, distribution of vowels in combination with other vowels in words, lists of consonant sequences and vowel sequences or glides, lists of consonant alternations and vowel alternations
in roots, neutralization or restricted environments for segments, lists of syllable types and word
syllable patterns, a discussion of how ambiguous segments are analyzed, lists of contrastive tone melodies in the same syllable structures, lists of tone minimal pairs of the same word category and minimal pairs of mixed word category, and lists of consonant alternations, vowel alternations and tone alternations across morpheme boundaries. Give adequate discussion in each section and illustrate well with examples.

- Submit this paper for publication in a journal such as the SIL Electronic Working Papers.

4.4 Consonant, vowel, and tone book

A consonant, vowel and tone book, sometimes called Reading and Writing (language name), is the first of three grammar books, which all present different areas of the collected data to writers of the language in a way they can appreciate and understand. The grammar books are specifically intended for writers and developers of the language. They may not be as useful for readers of the language who do not contribute written discourse to the community. However, they would be appropriate for use in schools that teach reading and writing of the language, and they are vital tools for language development teams that produce literacy and translation materials. Each grammar book has lessons on various grammatical topics illustrated with organized language data. There are exercises following each lesson that test for understanding and answers for the exercises are given at the back of the book. The books can be used in teaching individuals or groups, and motivated individuals can even teach themselves through these books.
The consonants t and d sound similar at the beginning of words. When we listen carefully, we hear that the sound of t in *taba* ‘tobacco’ is different than the sound of d in *dakabug* ‘groundnut’. Say each of the words below. Listen carefully to the difference in sound between t and d.

<table>
<thead>
<tr>
<th>T t</th>
<th>D d</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>taba</td>
<td>tobacco</td>
<td>dakabug</td>
</tr>
<tr>
<td>tamic</td>
<td>blood</td>
<td>daraga</td>
</tr>
</tbody>
</table>

The letters t and d can also be in-between vowels. When we listen carefully, we hear the sound of t in *atapige* ‘spear’ is different than the sound of d in *badan* ‘palm’.

<table>
<thead>
<tr>
<th>T t</th>
<th>D d</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>atapige</td>
<td>spear type</td>
<td>Badan</td>
</tr>
<tr>
<td>aratamug</td>
<td>baboon</td>
<td>Amkadad</td>
</tr>
</tbody>
</table>

At the end of words, we only write the letter d, and never t.

<table>
<thead>
<tr>
<th>Correct</th>
<th>Wrong</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>ed</td>
<td>et</td>
<td>wood, tree</td>
</tr>
<tr>
<td>awad</td>
<td>at</td>
<td>bird</td>
</tr>
</tbody>
</table>

**Spelling Rule**: Write t and d at the beginning of words and between vowels. At the end of words, only write d, and not t.

**Exercise**

Carefully read and say each test word below. The **bold** letter of each test word may or may not be written correctly. Write the word correctly in the space given. The first one is done as an example.

<table>
<thead>
<tr>
<th>Test Word</th>
<th>Write correctly</th>
<th>Test Word</th>
<th>Write correctly</th>
</tr>
</thead>
<tbody>
<tr>
<td>dappa</td>
<td>rock</td>
<td>tumun</td>
<td>ostrich</td>
</tr>
<tr>
<td>tayong</td>
<td>bird type</td>
<td>dumos</td>
<td>elephant</td>
</tr>
<tr>
<td>matadawic</td>
<td>fish type</td>
<td>atorndori</td>
<td>fox</td>
</tr>
<tr>
<td>totong</td>
<td>here</td>
<td>adogono</td>
<td>wild dog</td>
</tr>
<tr>
<td>batad</td>
<td>marriage</td>
<td>'dämät</td>
<td>young cow</td>
</tr>
<tr>
<td>ongät</td>
<td>night</td>
<td>led</td>
<td>dance type</td>
</tr>
</tbody>
</table>


This first grammar book presents the meaningful sounds of the language in an instructive way—it organizes words so that potentially confusing sounds are compared and contrasted. These may include [+/-ATR] pairs of vowels, long and short vowels, single and doubled consonants, consonants that are difficult to distinguish (such as [ŋ] vs. [ŋg]), and tone melodies for various syllable structures in nouns and verbs. By comparing and contrasting a pair of confusing sounds, each with its own list of words,
readers become more familiar with the sounds and how they are represented in writing. One of the most challenging aspects for beginning writers is to accurately and consistently write such confusing sounds. When lists of words with each sound are compared, it not only reinforces the sound with the letter as writers read each word, but also gives a way of testing each new word they encountered with the sound. To decide how to spell a word, the writer compares the sound in the new word with the sound in either of the relevant lists of words, and writes with the symbol of the wordlist that matches the sound.

The following words have the vowel /a/ or /å/. Say each of these words and listen to the sound of the vowels.

<table>
<thead>
<tr>
<th>a</th>
<th>å</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>zax</td>
<td>zäx</td>
<td>roof of house</td>
</tr>
<tr>
<td>pax</td>
<td>päx</td>
<td>Miscarriage</td>
</tr>
<tr>
<td>'dax</td>
<td>zäg</td>
<td>stork</td>
</tr>
<tr>
<td>bac</td>
<td>dän</td>
<td>upper arm</td>
</tr>
<tr>
<td>mas</td>
<td>läg</td>
<td>fire</td>
</tr>
<tr>
<td>tas</td>
<td>xäs</td>
<td>danger</td>
</tr>
<tr>
<td>. .</td>
<td></td>
<td>. .</td>
</tr>
</tbody>
</table>

Figure 4. Example lesson from the *Caning Consonant and Vowel Book* [shj]: Comparing vowels a and å [ɔ] (Alfira et al. 2013:25–26).

For languages that have agreed to represent in writing any distinctions made by tone, this first grammar book demonstrates why tone needs to be distinguished, and teaches how the tone is represented in roots. (See *Reading and Writing 'Beli Book 2*, listed in appendix A, for an initial grammar book that teaches an alternative way of representing tone with punctuation.)

There is no prescribed order for the lessons in this first grammar book, or even which lesson topics should be included. Each language will differ on which lessons are most crucial for the writers. However, a template with a list of possible lessons on various topics, as well as potential terminology and their definitions is included in appendix A.

Construct a consonant, vowel and tone book (about 30 pages, at least 1 week)

- Draft an initial grammar book for speakers of the language that includes lessons introducing the alphabet, lessons on dividing words into syllables, and on distribution of consonants. It should also include lists of words comparing [+/-ATR] pairs of vowels (such as [o] vs. [ɔ]), long and short vowels, single and doubled consonants, similar consonant constructions (such as [ŋ] vs. [ᵑg]), and tone melodies for various syllable structures in nouns and verbs.
- Include all spelling rules agreed upon for roots such as possible vowel combinations, neutralization of consonants in word-final position, <w, y> versus <u, i> in vowel sequences or glides, how tone is marked in writing, and other spelling decisions writers need to be aware of for the writing system of roots.
- Introduce each new topic in a lesson with simple English, and give charts of example words to illustrate each main point. Each technical term (such as syllable, consonant etc.) should be defined when first introduced in a lesson, and again listed with an example in a glossary at the back of the book.
- Make exercises after each lesson that test the reader’s understanding. List the answers to the exercises at the back of the book.
- Make a wordlist at the back of the book of all vernacular words used throughout the book for ease of reference. Include singular and plural forms of nouns (if relevant), word category, gloss, and any other pertinent information.
• Print and distribute at least one copy of this book to each of the participants of the RGC workshop, for them to check and revise with the community. If the participants are in agreement, post on a public website such as webonary.org.

4.5 Grammar book

The second of three grammar books presents various word categories (parts of speech) in the constructions of phrases, clauses and sentences, as well as all known sound changes at morpheme boundaries and the agreed-upon way of writing these.

The interlinear texts from the RGC workshop, after being revised, are placed at the back of the grammar book. Many of the example sentences in various lessons are taken directly from the texts and referenced with story and line number. Many of the exercises following each lesson are collections of sentences from the texts. All vernacular sentences are translated so that both speakers of the language as well as non-speakers can use the book. Because the sentences are taken from texts, they at least represent natural grammar in the context of the stories, and may also be useful illustrations of the grammar in the various lessons. Nevertheless, the book will later be checked and revised with language speakers, so as to insure its naturalness, even if it is drafted by non-speakers.

Each lesson introduces one new topic that builds upon previous lessons. Lessons are written in simple English and have generous amounts of data examples which were collected in the RGC workshop. Explanation of the lesson topic and examples are kept to a minimum so as to keep the book from becoming tiresome to non-English speakers, and so that it can more easily be translated if needed. Terminology is sometimes simplified (such as “command” instead of “imperative”) although the proper linguistic term is included in parentheses. Thus, although the book covers a comprehensive amount of grammar, it presents the grammar simply, in a way that is sometimes more attractive to literacy and translation consultants than publishable linguistic papers.
Demonstrative near (proximal) suffixes

In this lesson we learn about the demonstrative near suffixes. These point to a singular or plural noun near the speaker. They may also show which noun the speaker is thinking about in the moment of speaking.

In (Nyax 3), Nyaxolow ‘Hyena’ talks about a certain sagal ‘girl’ he is thinking about. The suffix -ong on sagalong shows which sagal he is thinking about.

(Nyax 3)

_Ili onoc abag sagalong._ ‘I really must marry this girl.’

In (1), the suffix -ong on the noun op ‘young man’ shows which op is talked about. It is a singular noun that is near the speaker. Maybe the speaker is even pointing at op while talking.

(1) *Opong kadeläng.* ‘This young man fell.’
(2) *Opinyong kadelesäng.* ‘These young men fell.’

In (2), the suffix -gong shows opiny ‘young men’ is a plural noun near the speaker.

The suffix -ong is the most common demonstrative near suffix on singular nouns. However, other singular nouns have different demonstrative near suffixes, as shown below. Nouns with the same final letter (such as d) sometimes have different suffixes.

<table>
<thead>
<tr>
<th>Singular Noun</th>
<th>Suffix</th>
<th>Demonstrative near</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>abad</td>
<td>-ong</td>
<td>stupid person</td>
<td>Abadong kadeläng.</td>
</tr>
<tr>
<td>sad</td>
<td>-tong</td>
<td>bowl</td>
<td>Satong kadeläng.</td>
</tr>
<tr>
<td>bul</td>
<td>-dong</td>
<td>drum</td>
<td>Buldong kadeläng.</td>
</tr>
<tr>
<td>amkadad</td>
<td>-song</td>
<td>chisel</td>
<td>Amkadatsong kadeläng.</td>
</tr>
<tr>
<td>bac</td>
<td>-cong</td>
<td>upper arm</td>
<td>Baccong kadeläng.</td>
</tr>
<tr>
<td>nyang</td>
<td>-zong</td>
<td>crocodile</td>
<td>Nyangzong kadeläng.</td>
</tr>
<tr>
<td>ya</td>
<td>-nong</td>
<td>meat</td>
<td>Yanong kadeläng.</td>
</tr>
</tbody>
</table>

The suffix -gong is the most common demonstrative near suffix on plural nouns. However, other plural nouns have the demonstrative near suffix -kong.

<table>
<thead>
<tr>
<th>Plural Noun</th>
<th>Suffix</th>
<th>Demonstrative near</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>abadiny</td>
<td>-gong</td>
<td>stupid persons</td>
<td>Abadinyong kadeläng.</td>
</tr>
<tr>
<td>saxad</td>
<td>-kong</td>
<td>divorce (VN, N.PL)</td>
<td>Saxakong kadeläng.</td>
</tr>
</tbody>
</table>

Exercise 8

In the following sentences, underline all demonstrative near suffixes on nouns. The first one is done as an example.

(O&A 41)

I zaxadang siyakä 'därägsä zä 'dogong anya? ‘Why do you refuse to eat brain of head of this thing?’

(Gloss)

(O&A 54)

Peszängga ngakong tireneng. ‘This speech is really true, of course.’

(Nyax 15)

Bonog, tong anadarugigong, onoc abagäs uxandäng täkog. ‘Friend, bring these glasses, I am going to marry a certain woman for us.’

... ... ...

Figure 5. Example lesson: Caning Grammar Book [shj] (Alfira et al. 2014:38–42).
As with the first grammar book, there is no prescribed order for the lessons in this book, or even which lesson topics should be included. Each language will differ in which lessons are most crucial and how the lessons should be ordered and presented. In many cases, the paradigms and charts of data collected in the RGC workshop will need to be reorganized and presented in a different way than was collected. A template with a list of possible lessons on various topics, as well as potential terminology and their definitions is included in appendix A.

Construct a grammar book (initial version is 100–150 pages, at least 4 weeks)

- Draft a grammar book for speakers of the language that includes lessons on all word categories covered in the RGC workshop, all sound changes of all morphology covered, functions of each morpheme in their syntactic context, and basic syntax of phrases, clauses and sentences.
- First, revise all texts from the RGC workshop according to dictionary spelling and agreed-upon rules, and put them at the back of the book. For each morpheme, choose an abbreviation and mark the morpheme in the word-for-word line throughout the texts with that abbreviation. (This helps later with searches.) Then choose an abbreviation for each text that can be used for referencing example clauses in various lessons or the exercises following lessons.
- In the first lesson, list all spelling rules from the consonant, vowel and tone book, as well as all morphological spelling rules, rules for representing tone, and word-break rules agreed upon in the RGC workshop, which should also be discussed further in later lessons of this grammar book.
- Introduce each new topic in a lesson with simple English, and give example sentences taken from the interlinearized texts (list each reference), as well as charts of data collected in the RGC workshop that illustrate a grammatical pattern or show the sound changes of certain morphemes. Define each technical term (such as noun, command, relative clause, etc.) when introducing it in a lesson, and list it with an example in the glossary at the back of the book.
- Make exercises following each lesson that test the reader’s understanding of the lesson. A simple way to make exercises for many of the morphemes is to search for the morpheme in the texts. For each instance of the morpheme, or for at least ten instances that show a representation of its functions, copy the vernacular clause of the morpheme and its free translation. Then paste all clauses and their translations in the exercise following the lesson on that morpheme. List the reference for all clauses taken from the texts.
- Put the answers to the exercises at the back of the book.
- Print and distribute at least one copy to each of the participants of the first RGC workshop for them to check and revise. If the participants are in agreement, post on a public website such as webonary.org.
- Another way of documenting the grammar is by using the Parser and Writer for Syntax (PAWS) software, accessible at http://carla.sil.org/paws.htm. After answering questions about the language and typing in data, this software can produce a first draft grammar write-up. Although the initial format and content produced by PAWS may be more rigid than desired in the final book, some linguists may find this tool a less daunting way to begin drafting a grammar book.

4.6 Story book

One other result of the data collected in the first RGC workshop can be a story book of all revised texts used in the workshop. Once the spelling of all words has been revised by consulting the dictionary, and the English translation taken out, a literacy person can help find pictures (ideally chosen by a speaker) and format the texts into a book for practice reading of language speakers. Ideally this book would be constructed as soon as possible so the writing system can be more fully tested with readers of the language.
Construct a story book

- When the texts from the first RGW workshop have been revised, strip them of their translation and send to a literacy person who can find appropriate pictures and format the stories into a book. (Send the interlinearized stories as well, so that the content can help in the choosing of pictures).
- Print and distribute at least one copy to each of the participants of the first RGC workshop, for them to check and revise with the community.

5 Preparing for the second RGC workshop

5.1 Establishing the writing system

If the books resulting from the first RGC workshop are tested with the language community and a readable writing system is generally accepted, it is then ideal for more literacy books to be drafted to further test the writing system. The more materials that are written in the language, the sooner any remaining issues for writing will arise, and can then be discussed and dealt with. In addition, the drafting of new literacy books gives further opportunity for writers to practice the agreed-upon spelling rules and to become fluent readers. The longer the time period without further language development, the more potential there is for the remaining issues of writing to not be dealt with, and the more difficult it will be for literates entrenched in the initial writing system to be willing to make changes if needed when those issues arise. With this in mind, commencing translation work soon after the first RGC workshop can also draw out the remaining issues for writing, thereby helping language development as well as feed souls.

Time in-between the two RGC workshops (3 months to 1½ years)

- Assuming the writing system agreed upon during the first RGC workshop is readable and is checked for acceptability with the language community, it is ideal before the second RGC workshop for literacy personnel to help the language group produce additional literacy materials, such as an alphabet story book, a primer, and additional story books.
- Assuming readability and acceptability of the writing system, translation of Scripture could also begin during this period.

5.2 Logistics of the second RGC workshop

The second RGC workshop can be anytime between three months to a year and a half, following the first workshop. Before scheduling the second workshop, be sure that you receive the completion of any assignments you gave at the end of the first RGC workshop. By waiting, you encourage productivity and test for continued motivation for language development.

Prior to scheduling the second RGC workshop

- Receive the texts of the first RGC workshop corrected according to agreed-upon spelling.
- Receive literacy materials corrected for spelling or receive five additional interlinearized texts.

When you have received the completed assignments, schedule the workshop and send a formal invitation as with the first workshop. However, if funding is an issue, or if you noticed that some of the participants in the first workshop were not suited for language development, you can invite fewer participants to the second workshop, although all those who are actively developing the language such as by drafting materials should be invited.
Schedule the second RGC workshop

- Agree on the time, place and other details of the workshop.
- Send a formal workshop invitation to two to six language speakers.

5.3 Prepare the data for the second RGC workshop

The preparation for the second RGC workshop is similar to that of the first. You may again need to read relevant linguistic write-ups, and should carefully read the grammar books and phonology paper to refresh your memory. For all new texts, literacy books and translated materials since the first RGC workshop, find all words not in the dictionary and put them on cards to be checked in the workshop. Enter them into the official Fieldworks file for ease of reference as to which words are on cards, but mark them as unchecked in some way (e.g., by making them invisible in the printed version, or by putting a question mark after the headword). For each person in the workshop, print one copy of all new materials that you plan to revise during the workshop, including at least five chapters of narrative Scripture (if available).

Preparation for second RGC workshop (at least 1 week)

- Reread the consonant, vowel, and tone book, grammar book, and any helpful linguistics write-ups to become familiar again with the language.
- Type and format all additional interlinearized texts received.
- Print the consonant, vowel and tone book, grammar book, any new literacy books (since the first RGC workshop), additional texts received, at least five chapters of narrative Scripture (if available) and make into a combined book, one for each participant and staff member.
- Buy notebooks (of at least 100 pages), pencils, sets of colored pencils, erasers, sharpeners, and white board markers or chalk.
- In the texts, mark all morphemes and grammatical structures with colored pencils so that discourse grammar analysis can be done directly from the texts.
- Put all nouns, verbs and modifiers from the new literacy books, translated Scripture or received texts that are not already in the dictionary, on cards.

5.4 Marking texts for the second RGC workshop

When texts are marked with a well-planned marking system using various colors and markings (see section 2.4.3), even discourse grammar can be analyzed directly from the texts. Although constructing charts for clause word order and participant tracking are sometimes helpful, they are not necessarily more effective for language speakers in analyzing their language. Charts break up the text or leave out some words, making it more difficult for the participants to read the data in its meaningful context. Marking a text with various colors and shapes adequately highlights the grammatical constructions without obstructing reading or removing the context.

Whereas the marking of texts for the first RGC workshop should be tailored to clause-level grammar, the marking of texts for the second RGC workshop should have additional marking for discourse-level syntax. Mark subordinate clauses before a main clause with a pink line above, and mark subordinate clauses following a main clause with a light blue line. Mark direct speech with a yellow line above, mark indirect speech and compliment clauses with a brown line above, and relative clauses with a purple line above. For each main participant, choose a different color and draw a line with the appropriate color above all words that refer to each participant. Where participant references are only implied, make the symbol Ø in that place in the text with the color of that participant. Such a marking system for participant reference will be simpler for language speakers to follow in the context of the story than in a participant chart where the participant information is removed from its context.
6  The second RGC workshop

The second RGC workshop is a continuation of the first, in that further grammar is investigated and collected along with confirming or revising the grammar of the first workshop. But whereas the first workshop had the purpose of establishing a tentative writing system by way of investigating phonology and morphophonology, the second workshop has the purpose of analyzing narrative discourse grammar so that Scripture translation can have the natural story-telling style of the language.

The second RGC workshop begins where the first left off. You discuss any changes requested by the community for the alphabet book, story book, and dictionary. You review all the grammar learned in the first workshop by working through the lessons and exercises of the two grammar books, revising them as needed. You use the same methods as in the first workshop for investigating the phonology of all new words on cards. You use the same methods as in the first workshop for investigating all remaining morphemes and syntactic constructions. However, you spend a majority of the workshop time on discourse grammar, having the participants apply what is learned to drafted Scripture (if available).

6.1  Rationale for two RGC workshops

Although it might be tempting for funding reasons to combine the first and second RGC workshops, this is not recommended for at least three reasons.

- In the first workshop, participants mainly need to be able to read words, whereas in the second workshop, participants need to be able to read sentences and entire stories. So, the more practice in reading the participants have between workshops, the smoother the activities will go in the second workshop.
- Correcting the texts for consistency and spelling will improve the participants’ reading in the second workshop. But the texts can only be corrected after the writing system is first agreed upon in the first workshop. If the two workshops were united, there would be insufficient time for the needed corrections.
- The more language development that is done before the second workshop, the more chance there is for any remaining issues of writing to arise. Issues that arise should all be discussed and dealt with in the second workshop.

6.2  Discourse grammar investigation

Discourse grammar is a rather abstract concept and can be quite challenging to conceptualize. So, you need to find many clear examples ahead of time in texts for each feature of discourse grammar. Also find places in translated Scripture (if available) that may be improved if the discourse grammar were applied.

Much of discourse grammar has to do with the optional aspects of clause or word-level grammar. Choosing one grammatical option means something different for story-telling style than the alternative option. For example, if clauses that move the story forward primarily have perfective verb forms, and if an imperfective verb form is sometimes used for clauses that move the story forward in the climatic scene, the option of the alternate verb form may have a discourse function, such as to draw attention to the important actions in the climatic scene. So, to validate that a morpheme or construction has discourse function, it is often necessary to find two options—the common option and the less common option—for each occurrence in texts where the discourse function of that morpheme is suspected.

For each example in texts, have the participants try to find two ways of saying the same meaning using alternate grammar. Make sure that participants see both choices as correct grammar in the proper context, but that the discourse use of the grammar is used for certain story-telling reasons. As the participants begin to understand the discourse functions of certain grammar, write its details on the board with one example for each function.

Then have participants read one or more passages of Scripture that may need improvement. Ask participants if there is a better wording for the Scripture passage, based on what they learned from their
natural texts. If they want the passage to have the discourse function X, what is the way they could rewrite it? Give hints and ask probing questions that lead the participants to rewrite the passage using the discourse option, but don’t give them specific wording. They will often be much more receptive to a change in Scripture if they are the ones who thought of the wording. Keep in mind that no one likes to be told they did something wrong, and that is the inevitable implication of all changes in writing. You can soften the change by emphasizing the benefit of natural sounding Scripture. “We want it to be like God Himself is speaking the language.” Make sure you record all examples of Scripture that are improved in such activities, as these will be useful later for the discourse grammar book.

When participants don’t revise a Scripture passage with discourse grammar, it will likely be for one of the following reasons:

- Your understanding of the discourse grammar function is incorrect. If this could be the case, you should check that the proposed discourse function can be reasonably interpreted from many examples in the texts, and that your chosen examples are the best representation of this function. Then have participants read each example, making sure they understand the full context of the example in the story. Make sure there is an alternative construction or morpheme that can mean the same thing, and ask the participants to propose reasons why the current construction was used in this part of the story instead of the alternate construction. Listen carefully to their answers and evaluate the validity of each. If none of their responses resemble the discourse function you have in mind, you may need to abandon it, especially if it is not one of the common discourse functions found in other languages.

- The participants have not yet understood the discourse grammar function of a morpheme in their language or how it improves the Scripture passage. In this case, you need to review with participants the examples in texts or find new examples, and then again have the participants try to apply the grammar to Scripture. Try the review on another day in the morning when the participants have fresh minds. Because of the abstract nature of discourse grammar, it will take many clear presentations of each discourse function before some people fully understand.

- The participants need more time or more practice in writing (combining words for natural sentence constructions) to effectively apply the discourse grammar. In this case, you may need to give more time in the exercises of rewriting Scripture, or you may need to find passages of Scripture where it is more obvious how to apply the discourse grammar.

- The discourse grammar is correctly understood by you and the participants, however the participants suspect that their church will not accept the use of the discourse grammar because it too dramatically changes the structure of the passage from that in the national language (which could be interpreted as the sin of changing the word of God). In this case, you should be cautious and gentle in your encouragement for making changes, emphasizing the benefit of translation that sounds like God Himself is speaking the language. Don’t insist that every passage is changed. It may be appropriate for the participants to only change about half the passages that you suspect need improvement.

6.3 Best practices for the second RGC workshop

The following best practice statements are perhaps the steps needed for investigating the remaining syntax and the grammar most crucial for understanding narrative discourse. Depending on the language, some of the steps will not be necessary, and for some languages, additional steps will be needed. Also, see O’Herin (2014) for a list of linguistic competencies of translators that are recommended by SIL linguists.

Second RGC workshop (at least 2 weeks)

Introduction

- Introduce the workshop by briefly explaining the proposed aims, methods and expected results.
Review

- As needed, work through lessons and exercises of the consonant, vowel, and tone book and grammar book in order for the participants to understand the grammar, especially as it pertains to the new grammar you will elicit. Carefully mark all corrections. Prioritize the checking of sections of the books that you are less certain about. You may need to limit the time for reviewing these materials to 10% of the workshop hours.

Phonology

- On the board, test all new words for correct word category, plural formation or verb form, and meaning.
- Organize the words according to word category and vowel. Compare and contrast the vowels of new words with those in the vowel wordlists of the consonant, vowel, and tone book. Do the same for all potentially confusing consonants of new words.
- Organize the words according to the same syllable structure, word-final or word-medial consonant, and morphology. Then sort the words on cards in each group according to tone melody in comparison with the known tone melodies listed in the consonant, vowel, and tone book.

Practice revising spelling

- Make a list of all your suggested changes for the participants to consider in revising one or more drafted literacy books since the first RGC workshop. For each suggested change, be sure to note the relevant spelling rule and page in the grammar book. Then have participants practice using the dictionary and grammar books to check the spelling, ideally making corrections directly to the original file on a computer. Teach the Find Lexical Entry tool in Fieldworks to look up words, and the Find and Replace tool in Word for faster revision of spelling where appropriate.
- If Scripture has been translated, make revisions directly in Paratext. After the beginning dictionary is installed in Paratext, have participants practice checking spelling by right-clicking on words in the Scripture passage to bring up the dictionary entry directly.

Non-verbal clauses

- Using the texts as a guide for how non-verbal clauses are constructed, propose simple non-verbal clauses for each type found (such as presentational, existential, attributive, etc.). Find all possible copulas in the texts that may be used with one or more types of non-verbal clauses. Propose all possible constructions on the board and correct as needed, marking tone in another color for all that are correct.
- Using the texts as a guide, consider all possible word categories that may occur as either the topic or comment in a non-verbal clause (such as noun, pronoun, possessive pronoun, adjective, demonstrative, locative, stative verb, active verb, etc.). On the board, using one or more non-verbal clauses as a frame, list and read one or more example words from each of the possible word categories, as the comment in the frame. Then list and read each of these example words as the topic in the frame. When it has been determined which word categories can occur in each position, read and mark the tone of each in another color.

Quantities

- On the board, list and read all potential quantities from the texts and the wordlist in two frames—one where the quantity modifies a singular noun (if possible), and one for a plural noun. Then mark tone. If a distinction is found for quantities modifying countable nouns and uncountable nouns, test all nouns with alternating quantities to determine which are countable and which are uncountable.
Numbers
- On the board, list and read all known numbers as they modify a noun. If a distinction is found in the texts between cardinal and ordinal numbers, list and read the numbers in frames for both types. Fill in any missing numbers, then mark tone.

Adverbs/modifiers
- On the board, list and read all adverbs/modifiers in as few frames as possible, using verbs that may handle a wide range of modification such as ‘go’, ‘see’, ‘do’, ‘beat’. Mark tone on all that can be placed in a frame.

Commands
- Find the different ways of making commands in the texts (including implied commands) and list them on the board. Then order them according to how strong or forceful they are.
- For all commands found in the texts, list the authority relationship between speaker and recipient as higher to lower, same authority status, or lower to higher. Find which ways of making commands can be used for each authority relationship.
- If translated texts are available, compare how commands are used in natural texts with those in Scripture, and make revisions accordingly.

Interrogatives
- Using the texts as a guide, propose a list of simple statements that include all constituents of a clause, adding or replacing one new constituent per statement, but otherwise using the same words for each statement, as much as possible. For each statement, propose simple questions that substitute an interrogative for each constituent (including singular/plural and masculine/feminine agreement), one new interrogative per question. Those constituents that lack an interrogative in the texts can be left blank in the proposed questions. On the board, write each statement with a corresponding question directly below it. If there is more than one way of constructing questions found in the texts, proposed both ways for each statement on the board. Read and correct each statement and question, filling in any missing interrogatives, until all constituents (and agreement for constituents) are represented with an interrogative. Include at least one yes/no question with a corresponding statement. Mark the tone of each statement and question.

Connectors
- When marking connectors in the texts, find and discuss as many examples as needed in order to arrive at a reasonable guess of the function and meaning of each connector (as well as for joining clauses without a connector). Write one example from the texts on the board for each function of each connector. Also include other details learned about each connector (such as joining a dependent or main clause, position in the clause, and gloss in English). Make a chart of all connectors on the board, organized according to whether they connect a dependent clause before a main clause, a main clause, a dependent clause following a main clause, or a dependent clause inside a main clause (relativisors, complementisors). Check the spelling and mark the tone of each.
- If translated texts are available, compare how connectors are used in natural texts with those in Scripture, and make revisions accordingly.
- In many languages, not all connectors will be represented in eight to ten narrative texts. Perhaps most of the connectors needed for translating narrative Scripture passages will be represented in these texts. But to learn other connectors and their functions, it is helpful to collect hortatory (persuasive) and expository texts, and these should in fact be collected before the language team translates epistles of Scripture. Alternatively, participants can sometimes generate the remaining
connectors in their language by looking at the connectors in English or the national language, especially if there are example sentences to demonstrate the functions of those connectors.\textsuperscript{10}

Negation

- Find examples of each different negative construction found in texts and write them on the board along with their corresponding positive construction. Also find example constructions of each different component of the clause that can be negated. Read, correct, fill-in missing constructions and mark the tone of each.

Speech

- When marking speech in the texts, find all ways of introducing speech (either before or after any speech, which speech verbs can be used, which speech connectors are used, etc.) and all types of speech (direct, semi-direct, indirect). List at least one example of each on the board with details of how they are used in texts. Also, find alternate pronouns that can be used in speech (if any) such as logophoric pronouns that distinguish the speaker from another participant that is not the speaker.
- If translated texts are available, compare how speech is introduced in natural texts with that in Scripture, and make revisions accordingly.

Word order changes

- Find all clauses with constituents in an uncommon word order. List these on the board in uncommon order, and also rearrange these clauses to be in their expected or common order. Read and check that both are possible, and mark the tone. Discuss and list reasons why each of the clauses may occur in the texts with uncommon order (focus, topic, emphasis, thematic, etc.)
- If translated texts are available, compare how word order changes are used in natural texts with those in Scripture and make revisions accordingly.

Use of common verb forms

- Find and discuss the use of common verb forms in the texts (such as perfective, imperfective, past, present, progressive/continuous) until reasonable guesses can be made as to their function in the larger discourse. Discuss and list the common functions of each form (such as mainline action, background information, narrative comment, concluding remark, etc.). List all examples of where the forms are not used for the most common function. List the same examples written with their expected or common verb form. Read and check that both are possible and mark the tone. Discuss and list reasons why the forms are not used for their most common function at these points in the texts (emphasis, peak episode, etc.).
- If translated texts are available, compare how verb forms are used in natural texts with those in Scripture, and make revisions accordingly.

Markers of scene changes

- After some instruction on what indicates a scene change (such as a change in time, place, participant, or situation), divide at least three stories into scenes. At each scene change, make a list on the board of the connectors and constructions used to indicate the scene change. Order these from most common to least frequent.
- If translated texts are available, compare how markers of scene changes are used in natural texts with those in Scripture, and make revisions accordingly.

\textsuperscript{10}Tom Matthews and Oliver Stegen of SIL Uganda-Tanzania Branch constructed a very nice list of connectors with example sentences in Swahili, and discovered that at least twice as many connectors could be found using this list as were found in any ten narrative texts alone.
Participant reference
- On the board, list various constructions for introducing participants and props in the texts. Discuss and list any differences between the ways of introducing major participants or important props from those that are not as important. List differences between the ways of introducing participants that are known from other stories and those that are not known.
- On the board, list various constructions for reintroducing participants after not being mentioned for some lines. List any differences between participants that are considered important and those considered unimportant.
- On the board, make a list of all types of constructions that can refer to major participants (such as a noun phrase, pronoun, subject/object marker, verb alone).
- In texts, find which constructions are most often used to refer to the same subject as in a previous clause, a different subject as in a previous clause, and a speaker responding to a previous speech. Check how the types of clauses (dependent, main, relative, etc) affect how the participants are referred to in these contexts (same subject as in previous clause, different subject ..., etc.). List all examples of where the common participant reference constructions are not used in their common context. List the same examples with their expected or common participant reference construction. Read and check that both are possible. Discuss possible reasons why the more common constructions are not used at these points in the texts (emphasis, salience, faster pace at peak episode, etc).
- If translated texts are available, compare how participants are referred to in natural texts with those in Scripture, and make revisions accordingly.

Use of idiophones and particles
- On the board, list examples from the texts of all idiophones and particles that may function in the larger discourse. List the same examples without the idiophones or particles. Read and check that both are possible. Discuss and list how the idiophones and particles are used in the story (to make actions more dramatic, have emphasis, show faster pace at peak episode, etc.)
- If translated texts are available, compare how idiophones and particles are used in natural texts with those in Scripture, and make revisions accordingly.

Summary
- On the last day, summarize the grammar learned that will be important for making changes to Scripture. Have participants apply the grammar learned by revising the translation of a new passage of Scripture.

7 Following the second RGC workshop

Following the second RGC workshop, the first grammar book should be revised, the dictionary and second grammar book should be revised and expanded with new data collected in the second workshop, and a third grammar book should be drafted for discourse grammar. All books should then be posted on a public website such as webonary.org

7.1 Revising books

Revise the consonant, vowel, and tone book (at least 1 day)
- According to the agreed-upon changes in the second RGC workshop, revise the spelling rules and spelling of words in the consonant, vowel, and tone book.
- Print and distribute at least twenty copies with the community, and post on-line, such as on webonary.org.
Revise and expand the dictionary (at least 2 days)

- According to the agreed-upon changes in the second RGC workshop, revise the dictionary, and add all new words investigated in the workshop.
- Print and distribute at least twenty copies with the community, and post on-line such as on webonary.org.

Revise and expand the grammar book (final version is 150–250 pages, at least 2 weeks)

- According to the agreed-upon changes in the second RGC workshop, revise the spelling rules and words of the grammar book.
- Add lessons with exercises for all additional word categories, sound changes of morphology, functions of morphemes, and syntax of phrases, clauses and sentences.
- Expand the glossary at the back of the book with all new terminology.
- Print and distribute at least one copy with each participant of the second RGC workshop, and post on-line such as on webonary.org.

7.2 Discourse grammar book

The third of three grammar books presents lessons on discourse grammar in order to train translators in the natural story-telling style of the language. The discourse grammar book builds on the lessons of the grammar book, referencing the interlinearized texts at the back of the grammar book for examples. Whereas the grammar book is for all language developers, the discourse grammar book is specifically for translators of Scripture.

The first lesson of the discourse book should illustrate the need for proper use of discourse grammar, such as by showing an obvious example of poor story-telling style in the language, and specific ways to improve it. Then, as with other grammar books, the discourse book should introduce one topic per lesson, and illustrate the main points with example data from the second RGC workshop.

In addition to the various lessons that build upon previous lessons, there should be a section at the back of the book where the discourse grammar of the language is compared with that of English (or the source language for translation). At least the most common mistakes made by following English too closely should be highlighted in this section. The specific examples and practice exercises should be taken from actual passages of Scripture that were first translated poorly and were later improved for naturalness with discourse grammar. If Scripture was available and used for application of discourse grammar in the second RGC workshop, such examples should be readily available.
Translating from English

In this lesson, we learn several ways the story-telling grammar of Laarim differs from the story-telling grammar of English. When translating Scripture from English, it is important to remember these differences.

**Objects Used as Subjects**

In English, objects of one clause can be subjects of the following clause without being repeated. In Laarim, objects of one clause must be repeated when used as the subject of the following clause.

In (1), the object of the first clause is supposed to be the subject of the second clause. But the meaning is unclear. *Mutha* 'Moses' is the subject of the first clause. Since the subject is not mentioned in the second clause, readers may think *Mutha* is also the subject of *uuk et cĩ ēēn Heburu* 'beat a Hebrew person'. This is according to the first participant rule which says that when no participant is mentioned, the clause has the same subject as in the previous clause. So, Laarim readers think the one doing *uuk et cĩ ēēn Heburu* is the subject *Mutha* of the previous clause. But the one doing *uuk et cĩ ēēn Heburu* is supposed to be *et cĩ Ijibi* 'person who is an Egyptian'. In English, the meaning is clear, but in Laarim the meaning is not clear or even wrong.

(From Exodus 2:11; Bad translation)

(1) Acĩn balna *Mutha* et cĩ Ijibi ‘Moses saw a person who is an Egyptian
uuk et cĩ ēēn Heburu. beat a person who is a Hebrew.’

(From Exodus 2:11-12; Good translation)

(2) Acĩn balna *Mutha* et cĩ Ijibi, ‘Moses saw a person who is an Egyptian,
uuk *et cĩ Ijibi* the Egyptian beat
et cĩ ēēn Heburu. a person who is a Hebrew.’

In (2), the object of the first clause is repeated as the subject of the second clause. The third Laarim participant rule says to use a noun phrase when there is a change in subject. So, (2) is a good translation because it uses *et cĩ Ijibi* ‘person who is Egyptian’ for the subject of the second clause.

**Translation exercise**

The passage below is translated two different ways. First, underline the subject of each clause. Then circle the number of the translation that uses the best words for subjects in the clauses.

(From Exodus 2:6)

(1) *Upuk doo cĩ alaano lôcîbirô,* ‘The daughter of the king opened the basket,
ithôŋ icĩn dooleca and saw the child
utulu, crying,
ithôŋ atamatik înôônô. and felt sorry for him.’

(From Exodus 2:5-6)

(2) *Upuk doo cĩ alaano lôcîbirô,* ‘The daughter of the king opened the basket,
ithôŋ icĩn doolec, and saw the child,
utulu dooleca, the child was crying,
ithôŋ atamatik doo coo înôônô. and this daughter felt sorry for him.’
As with the other grammar books, there is no prescribed order for the lessons in the discourse book, or even which lesson topics should be included. However, a template with a list of possible lessons on various topics, as well as potential terminology and their definitions is included in appendix A.

Construct a discourse grammar book (150–250 pages, at least 6 weeks)

- Draft a discourse grammar book for translators of the language that includes lessons on episodes of narrative texts, topic/focus and word order, discourse use of verb forms, speech, markers of scene changes, participant reference, and particles and idiophones.
- Introduce each new topic in a lesson with simple English, to be followed by example sentences taken from the interlinearized texts. Define each technical term when introduced and again list it in a glossary at the back of the book.
- Make exercises following each lesson that test the reader’s understanding of the lesson, and put the answers at the back of the book. For at least some of the exercises, make use of the revisions in translated Scripture (if any) made during the workshop, by letting the reader choose which version is preferred—the old or revised.
- For each aspect of the discourse grammar that differs substantially from English, there should be a lesson comparing that aspect of grammar in the two languages.
- Print and distribute at least one copy of this book to each of the participants of the second RGC workshop for them to check and revise. Then post it on-line such as on webonary.org.

7.3 Grammar paper

Because you have had the privilege of seeing the overall view of the language, you now have the unique advantage of highlighting one or more of the language’s interesting grammatical features for the academic community, such as in a linguistics conference or journal submission. Some of the benefits of doing this are as follows:

- It improves your understanding of a particular aspect of the grammar.
- It expands your thinking about similar aspects of grammar in other languages.
- It improves your skills in linguistic analysis and writing about grammar for assisting other language groups.
- It gives more credibility to SIL as an institution so that SIL members may more effectively work with those having similar goals.

Grammar paper (at least 3 weeks per paper)

- Write one or more papers on a particular aspect of the morphology, syntax or discourse grammar, and present it at a linguistics conference, or submit it to a journal.

7.4 Further work to be done

Obviously, the linguistic analysis is not finished at this point. The dictionary needs to be expanded with all new words found as further literacy books and Scripture are drafted. The grammar books need to be revised as new morphemes and constructions are found. A discourse workshop for non-narrative genres needs to be run after there are non-narrative Scripture portions drafted. However, what has been done by this point is a substantial foundation for all further literacy and translation work.

The most pertinent work following the second RGC, is that mother-tongue language developers continue using the agreed-upon writing system, and that translators continue improving the naturalness of Scripture by applying the discourse grammar learned. But the fact is that many language teams will not make full use of the grammar learned in workshops, even if there are well-written grammar books to
remind them of the grammar, without the ongoing help of a language assistant. In fact, an understanding of how to apply the grammar may only come for some teams as a language assistant shows specific examples in books that need to be changed according to the agreed-upon rules or grammar.

Mother-tongue language developers should be encouraged to draft materials according to the writing system and proper discourse. Then after any new book is drafted, the language assistant should check the book, making comments for suggested changes where the spelling of words, spelling rules, word-breaks, tone representation, or discourse grammar are not followed, and give page numbers in the grammar books where the rules or grammar are explained. Then, the language developers should revise the book as they deem appropriate, and the book given back to the language assistant so that s/he can confirm that the developers have considered the suggestions.

This revision process is best done when the language assistant sits next to a language developer at the computer, and corrections are immediately made after being discussed. However, the revision process can also be marginally successful through email or Skype correspondence, or by uploading and downloading the file of the book to an internet site such as with Paratext.

It is ideal for the revision process to be done by an onsite language assistant who has attended both RGC workshops, understands the grammar books, and has time to assist the language team on an ongoing basis for several years after the workshops if needed. It is much less than ideal for an experienced linguist to fill this role in the absence of such a language assistant, since s/he will likely have many other responsibilities which may cause delays in giving feedback to the team, and s/he may only be able to assist from a distance through internet devices. If there is no language assistant, the linguist needs to fill this role as much as possible. Otherwise, all the grammar work to this point may have little lasting benefit to the team. To prevent this unfavorable situation, a language assistant is required for having RGC workshops.

Literacy materials and translated Scripture (ongoing as needed)

- All new literacy materials and Scripture drafted after the second RGC workshop are carefully checked for agreed-upon spelling by mother-tongue language developers.
- Then, a language assistant checks the materials for spelling according to the rules of the grammar books or discourse grammar, and makes suggested changes using the ‘track changes’ tool in Word or the ‘comment’ tool in Paratext, giving page numbers in the grammar books where the relevant grammar is explained.
- The mother-tongue language developers read each suggested change and revise materials as they deem appropriate, then send the book back to the language assistant.

8 Summary

The RGC approach to language development quickly enables mother-tongue language developers to understand the grammar of their language while safeguarding the quality of linguistic analysis and ensuring an effective writing system. RGC may be an appropriate approach, assuming certain elements are in place, such as the availability of an experienced linguist who has six months of availability over a year and half period, a language assistant who has been assigned to assist the language team, and language speakers willing to prepare an extensive wordlist and translated texts.

After extensive preparation, the linguist facilitates the investigation of the sounds of hundreds of words, as well as alternations of those sounds at most morpheme boundaries, in a two-week workshop with six language speakers. The result is an agreed-upon writing system that involves alphabet symbols, spelling rules, word breaks, and representation of tone if needed. These are documented along with vast amounts of collected data in a beginning dictionary and two grammar books. The books serve as reference tools for language developers, reminding them of the grammar learned and the agreed-upon writing system.
Assuming the tentative writing system is readable and acceptable to the language community, literacy books and Scripture translation can begin before the second RGC workshop as a way of further testing the writing system.

In the second two-week workshop, the writing system is revised as needed, the remaining word and clause-level grammar is investigated, and the discourse grammar is analyzed and applied to translation. Previous books are revised and a new grammar book is drafted for translators of all the discourse grammar learned, including how the story-telling style of the language differs from that of the translation source language.

As literacy books and Scripture portions are drafted in the following years, the language assistant helps to ensure the agreed-upon writing system and discourse grammar is consistently applied by giving specific suggested corrections to materials and by referencing the grammar books.

Although the approach does not complete the work of linguistic analysis, it establishes a solid linguistic foundation for a successful writing system and natural translation within a feasible time frame.
Appendix A: Resource List

The following resources are available for download from www.sil.org. Included are lecture notes, PowerPoints and handouts from the Anglophone i-DELTA phonology course that give instructions for orthography decisions and tone analysis. These resources are intended as academic support for linguists that facilitate RGC workshops.

Dictionary websites

http://beli.webonary.org
http://mundari.webonary.org
http://caning.webonary.org
http://lopit.webonary.org
http://belandabor.webonary.org
http://bongo.webonary.org
http://gaahmg.webonary.org

Examples of beginning dictionaries

Laarim-English Dictionary www.sil.org/resources/archives/58710
'Beli-English Dictionary www.sil.org/resources/archives/54225
Mundari Dictionary www.sil.org/resources/archives/55041
Caning-English Dictionary www.sil.org/resources/archives/58711
Lopit-English Dictionary www.sil.org/resources/archives/62345
Belanda Bor-English Dictionary www.sil.org/resources/archives/62009
Bongo-English Dictionary www.sil.org/resources/archives/59514
Gaahmg-English Dictionary www.sil.org/resources/archives/61441
Jumjum Dictionary (in progress)

Examples of consonant, vowel, and tone books

Laarim Consonant and Vowel Book www.sil.org/resources/archives/58701
Reading and Writing 'Beli Book 2 www.sil.org/resources/archives/58704
Reading and Writing Mundari Book 2 www.sil.org/resources/archives/58700
Caning Consonant and Vowel Book www.sil.org/resources/archives/58729
Lopit Consonant and Vowel Book www.sil.org/resources/archives/62346
Belanda Bor Consonant and Vowel Book www.sil.org/resources/archives/59099
Bongo Consonant and Vowel Book www.sil.org/resources/archives/59513
Gaahmg Consonant and Vowel Book (submitted)
Jumjum Consonant and Vowel Book (in progress)

Examples of grammar books

Laarim Grammar Book www.sil.org/resources/archives/58705
Didinga Grammar Book www.sil.org/resources/archives/58715
Tennet Grammar Book www.sil.org/resources/archives/58732
'Beli Grammar Book www.sil.org/resources/archives/58712
Mundari Grammar Book www.sil.org/resources/archives/58714
Caning Grammar Book www.sil.org/resources/archives/58730
Lopit Grammar Book www.sil.org/resources/archives/62308
Belanda Bor Grammar Book www.sil.org/resources/archives/62024
Bongo Grammar Book www.sil.org/resources/archives/60542
Gaahmg Grammar Book www.sil.org/resources/archives/61432
Jumjum Grammar Book (in progress)

Example discourse grammar book

Laarim Discourse Grammar Book www.sil.org/resources/archives/58728

Templates

Consonant, Vowel and Tone Book template (in progress)
Grammar Book template (in progress)
Discourse Grammar Book template (in progress)

Phonology papers

'Bëlï Phonology, Tone and Orthography www.sil.org/resources/publications/entry/56015
Mundari Phonology www.sil.org/resources/publications/entry/57575
Three Analyses of Underlying Plosives in Caning, a Nilo-saharan Language of Sudan (submitted)
The Phonology of Lopit and Comparison of Dialects
www.sil.org/resources/publications/entry/57435

Grammar papers

Mundari Mid-Vowel Raising through [ATR] Harmony (submitted)
Logophoric Pronouns and Other Pronominal Elements of Bongo (in progress)
Grammatical Marking for Tone Distinctions in the Gaahmg Orthography (in progress)

Anglophone i-Delta Phonology Course lessons

Lesson 19 Alphabet Symbol Choices www.sil.org/resources/archives/59488
Lesson 20 Morphophonology www.sil.org/resources/archives/59118
Lesson 21 Word Breaks www.sil.org/resources/archives/59150
Lesson 22 Word and Phrase Rules www.sil.org/resources/archives/59151
Lesson 23 Morphological Spelling www.sil.org/resources/archives/59152
Lesson 24 Stress Versus Tone www.sil.org/resources/archives/59154
Lesson 25 Tone Melodies www.sil.org/resources/archives/59157
Lesson 26 Tone Phonemes www.sil.org/resources/archives/59158
Lesson 27 Tone Allophones www.sil.org/resources/archives/59164
Lesson 28 Tone at Morpheme Boundaries www.sil.org/resources/archives/59167
Lesson 29 Grammatical Tone www.sil.org/resources/archives/59169
Lesson 30 Tone in Orthography www.sil.org/resources/archives/59171
Appendix B: Instructions for translating wordlist and collecting stories

Translating the wordlist

- Some of the words in the list are nouns. These may be a person, animal, place, thing, or idea. They may have a singular (one of the word) and plural (more than one of the word). On the wordlist, you should write both the singular and plural of each noun (if they are different).
- Some of the words in the list are verbs. These may be an action, motion, body sense, change, or state. You may be able to use most verbs as a command—to order a person to do something. You may also be able to write most verbs as an infinitive, by putting it in the blank of “He wants to ____.” On the wordlist, you should write both the command and infinitive of each verb.
- For all other words in the wordlist, just write the word once.

Collecting stories

- Collect eight to ten stories of various types—some should be animal stories, some telling what happened in history, some about real life, and some teaching proper behavior.
- The stories should be from good speakers of the language. The story-tellers should have different ages and gender. It is best if some of the stories come from experienced story tellers.
- In each story, there should be a problem that is solved, or something causing something else to happen.
- The stories should be whole units—they should not be part of a larger story.
- Most of the stories should have at least three people or animals doing actions.
- The more speaking, the better. At least some of the stories should have speaking going back and forth between people several times.
- It might be easiest to first record speaking of a story on cassette or digital recorder, such as video mobile phones. But stories that are only written (not first spoken) are also fine. So, stories from literacy books are fine if they are later translated.
- Stories should be two to four minutes recorded, or three to five pages (about eight lines per A4 page) after being translated, but stories longer than these are also fine.
- Correct any mistakes in the written story. Write numbers on each line of your story.
- Then make a word-for-word translation. This means you should translate each word into English directly under each word in your language (see the example story below).
- Then make a free translation under the word-for-word translation. This means you write the line in natural English word order and meaning.
- Skip a line between the free translation and the next line in your language.
- If someone has time to type the story and translation on the computer, that is good. Otherwise you can handwrite the story in clear writing, and give it to the language programs manager, who will scan it and send to me.
- It is good to have more than eight texts so that we can choose the eight best to study. The English translation does not need to be perfect. As long as I can roughly understand the meaning of each line, that is good enough for now.
Example story beginning

1. Avi banna eeti îmma îthông otod këëta, stay was person certain and climb tree
   There was a certain person who climbed a tree.

2. eet cî een dôtît, îthông mi avi nê këëta tidiina wo, person which be male and when stay he tree up is,
   The person was a man, and when he was up in the tree,

3. avu ngaa îmma îthông ūük kartënêi baatha.
   stay wife certain and go grass bush.
   a certain women went to look for grass in the bush.
Appendix C: Budget items for an RGC workshop

- Two white boards or chalk boards, white board markers or chalk
- Printing stories, grammar books, literacy books, etc. for each participant
- Notebooks, pens, colored pencils for each participant
- Travel for the linguist and language assistant (perhaps also for some participants) to and from the location of the workshop
- Accommodations for the linguist and language assistant (perhaps also for some participants) for thirteen nights in the location of the workshop (arrive Sunday of the first week; leave Saturday of the second week)
- Local transportation for the linguist, language assistant and six participants for eleven days of the workshop (Mon–Sat of the first week; Mon–Fri of second week)
- Lunch and mid-morning tea for the linguists, language assistant and six participants for twelve days (Monday of first week through Friday of second week)
- Rent of workshop room (hopefully rent-free if it is in the home area, as this is sometimes a way for the community to contribute towards the work of language development)
- Celebration food and drinks on final afternoon.
- If possible, do not give participants an incentive or honorarium for their efforts in the workshop, since the work is a way for them to contribute to the development of their language, and they also benefit by receiving the grammar training. (The more the language members contribute to the work, the more likely their language development will become sustainable.)
References


Kröger, Oliver. 2009. Bridging the Gap: Bantu grammar workshops as a means to support community-based language development.


