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## Approaching micro-level planning from an intelligibility perspective: a case study from Pentecost Island, Vanuatu

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### ABSTRACT

The Vanuatu government has recently implemented a policy of vernacular literacy. Children are now to receive the first three years of schooling in a vernacular language. Needless to say, in a country with less than 300,000 people [Vanuatu National Statistics Office 2016 Accessed January 4, 2016. <http://vnso.gov.vu/>] and more than 100 indigenous languages, some classrooms have more than one L1. In such cases, the language policy recommends that the variety with the most native speakers should be promoted. This is a good solution for those speakers of the larger language, but what impact does such a policy have on the children whose L1 is not included in the curriculum, and who are instructed in a vernacular language that is not their own? To answer this question, we conducted intelligibility tests across closely related varieties of northern and central Vanuatu. We conclude that in villages where children already receive a good deal of exposure to other language varieties in their daily lives, implementation of the government's language policy is a viable option. However, we make this point with the caveat that what is practical and beneficial for literacy education is not necessarily optimal for the preservation of small endangered language varieties.

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### The evolution of educational language policy in Vanuatu

Vanuatu is one of the most linguistically diverse nations in the world, whether measured in terms of languages spoken per capita, or languages in relation to land mass (François et al. 2015, 8). The population is less than 300,000 (Vanuatu National Statistics Office 2016) and, depending on one's estimate, there are between 105 and 138 indigenous languages still spoken across the island archipelago (although many are endangered) (François et al. 2015, 5–6). Furthermore, English and/or French are spoken by the educated elite; these languages are a by-product of Vanuatu's colonial legacy before the country became independent in 1980. Finally, the creole lingua franca, Bislama, is widely used to communicate across language boundaries. Most children master Bislama by their teenage years, and many well before then. In families where parents come from different L1 backgrounds, some children even speak Bislama as a first language.

Article 3 of the Constitution of the Republic of Vanuatu (1980) makes the following pronouncements about the status of English, French, Bislama, and the nation's indigenous languages.

## National and official languages

- (1) The national language of the Republic of Vanuatu is Bislama. The official languages are Bislama, English, and French. The principal languages of education are English and French.
- (2) The Republic of Vanuatu shall protect the different local languages which are part of the national heritage, and may declare one of them as a national language.

The Constitution takes a pluralistic stance towards Vanuatu's many languages, but English and French are accorded a special status because they are promoted as the principal languages of education. Yet the implications of this approach are sobering. According to a document produced by the Ministry of Education (2006, 33–34), Vanuatu ranked poorly among Pacific Island nations in terms of its educational outcomes. The Ministry of Education found that only 74% of primary age children were enrolled in school (the second-lowest rate in the Pacific), and that two-thirds of students were at least a year behind their age group in literacy performance. The reasons behind these disappointing results are many, but one factor could be students' language difficulties at school, where they have been expected in theory at least to do all their learning in a colonial language that most have no exposure to in their daily lives. Accordingly the Ministry of Education (2006, 20) now recommends that students be taught vernacular literacy in Pre-school, Year 1, and Year 2. More specifically (since there are more than 100 vernacular languages), it recommends the use of 'approved vernacular languages' (Ministry of Education 2006, 22, emphasis ours) or 'selected strong vernacular languages' (Ministry of Education 2006, 33, emphasis ours). But what is meant by 'approved' or 'selected strong' languages? Vanuatu's new language policy expands on the Ministry's recommendations, explaining that the language of instruction should be 'a vernacular language which could be Bislama, French or English if *used by majority of children*' (Ministry of Education 2012, 18, emphasis ours).

In other words, children from Pre-school through to Year 2 are to be instructed in the first language spoken by most students in any given classroom. This is a good solution for the children who are majority language speakers, but what about the children who are in the minority?

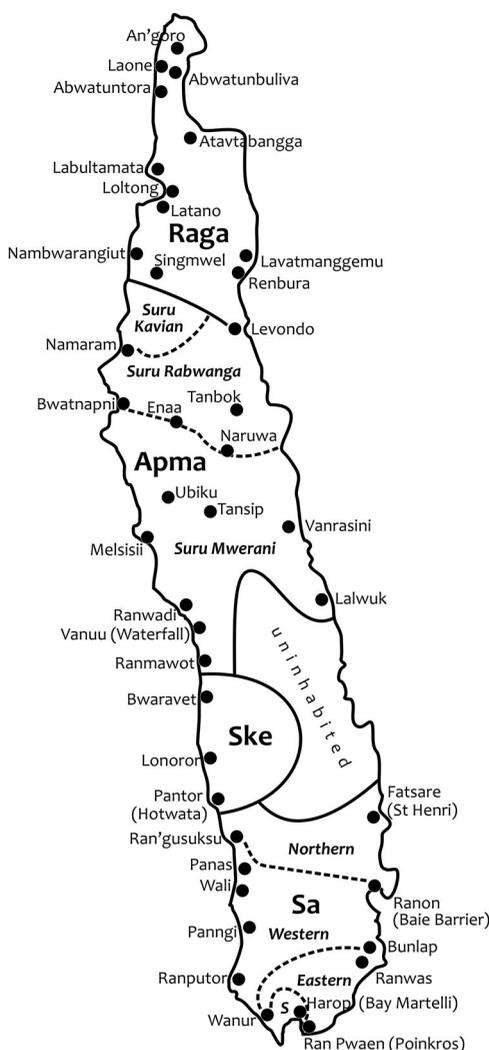
It is difficult to know exactly how many children are in this type of situation. The Ministry of Education and Training (2013, 22) reports on the number of Early Childhood Education centres teaching in a vernacular, and the number of children enrolled in vernacular pre-schools. However, the individual vernaculars of schools/students are not specified in the statistics and therefore there is no way of knowing about the extent to which vernacular language classrooms host more than one vernacular. However, it is safe to say that in any village (see Figure 1) where speakers of more than one variety live in close proximity to each other, the school in that village would have classrooms hosting students from more than one language background.

Would instruction in a language that is not a child's L1 be of any use to that child? To answer this question, we conducted intelligibility tests across closely related varieties of northern and central Pentecost Island.

## The varieties of Pentecost Island

Pentecost (cf Figure 1) is a typical Vanuatu island in the sense that many language varieties are packed into a relatively small area. Pentecost is 62 kilometres from north to south, and 12 kilometres across (Gray 2012, 8), yet it is home to four (debatably five) language varieties and a number of smaller dialects.

Our tests focused exclusively on intelligibility between the Raga language of North Pentecost (with about 6500 speakers) and the Apma language of Central Pentecost (with about 7800 speakers) (Lynch and Crowley 2001; current population is likely higher due to natural increase since 2001). Raga is a remarkably homogeneous language, with minimal variation across speakers (Gray 2012, 16). Raga shares 60% cognacy with Apma, according to Gray (2012, 14); this is based on his sample



**Figure 1.** Present-day languages of Pentecost Island (source: personal communication, Andrew Gray, 19 July 2016). Purported language boundaries are drawn in solid lines; purported dialect boundaries are drawn in dotted lines. The map shows large villages only; smaller hamlets are not represented. The villages and language varieties under study in this paper are highlighted: RA = Raga, SK = Suru Kavian, SR = Suru Rabwanga, SM = Suru Mwerani.

of 247 words (personal communication, Andrew Gray, 30 May 2012). According to Tryon (1976, 106), the two languages share 52% cognacy based on a sample of 242 words. Our own small testing sample of 80 words showed a cognacy rate of 54% between Raga and Apma.

Apma is purported to have three dialects, which are Suru Rabwanga, Suru Mwerani, and Suru Kavian. Suru Rabwanga and Suru Mwerani share 99% cognacy, and the speakers of these two varieties have no problems in understanding one another. Suru Kavian only has 90% cognacy with the other two dialects, according to Gray (2012, 14). Results from our own research reveal an even lower cognacy rate of 87.5% between Suru Kavian and Suru Mwerani. In the course of her fieldwork in Central Pentecost over the past 13 years, the first author has observed there to be intelligibility problems between Suru Kavian and the other two dialects of Apma. These observations are supported by informal conversations where speakers of Suru Kavian, Suru Rabwanga, and Suru Rabwanga have frequently told the first author that they consider Suru Kavian to be a distinctive language, separate from the other two varieties.

Suru Kavian only has about 250 speakers (Emil Tauwal, personal communication, 22 January 2010); this is in comparison to the approximately 7550 speakers of Suru Rabwanga and Suru Mwerani combined (7800 total Apma speakers minus 250 Suru Kavian speakers). [Figure 1](#) shows that the present Suru Kavian area is flanked by Raga speakers to the north and Suru Rabwanga speakers to the south. The geographical range of Suru Kavian speakers is therefore relatively restricted. The Suru Kavian territory actually used to be larger, extending all the way from Namaram on the west coast across to Levondo on the east coast. Also a significant number of outsiders now live in the Suru Kavian area, which places additional strain on the vitality of this endangered variety. Prior to testing we expected that the endangered status of Suru Kavian, evidenced by low overall speaker numbers and an influx of non-speakers into the area, would be correlated with poor comprehension of this variety by outsiders, and with good comprehension by Suru Kavian speakers of the other varieties. It is in this context that we conducted intelligibility tests.

## Method

We wanted to test intelligibility across three varieties of North and Central Pentecost to see how well children could understand each other, because some pre-school and primary classrooms have mixed linguistic populations and a child's ability to understand the language(s) spoken at school is important for academic success. Although we focus in this paper on the specific tests we carried out in North/Central Pentecost, the method described herein is transferable to other communities in Vanuatu. Indeed, given the government's present support for vernacular language usage in the early years, and the likelihood that classrooms will be linguistically heterogeneous, we feel that the Ministry of Education would benefit from rolling out similar tests across the country in order to understand classroom language dynamics and address potential problems before they become entrenched. The authors needed several weeks to design the tests. This was done with the cooperation of native speakers of the varieties involved, and with the invaluable assistance of Andrew Gray, who has comparative knowledge of all of Pentecost's language varieties (cf. Gray [2012]).

It took two weeks for two linguists to carry out these tests in the field, and a further week to input the results and analyse them. If the Vanuatu government were to borrow the existing test and adapt it for Vanuatu's 100+ vernacular languages, and if teams of trained government employees were despatched to each part of the country to conduct the tests and analyse the results, then the process would be much less time-consuming.

We tested Suru Kavian; Raga, its neighbour to the north; and Suru Mwerani, its neighbour to the south. We were particularly interested in testing how well Suru Kavian was understood, since this variety is threatened, while the other tested varieties are not. We decided not to use Suru Rabwanga as a test language because it is 99% cognate with Suru Mwerani, speakers of Suru Mwerani and Suru Rabwanga are known to understand each other fully, and we wanted to keep our test to a reasonable length. We also included Bislama as a test language because we were interested in knowing how well children of different ages could understand this common language of communication. Comprehension rates of Bislama can also shed light on the nature of the sociolinguistic environment because if a child can understand a lot of Bislama this suggests they are hearing less of their own language and more of other languages, including Bislama. Therefore we tested four language varieties in total.

## Designing the test

We had to take a number of factors into consideration when designing the test. For example, we wanted participants who could not read or write to be able to take the test. We had a limited amount of time to collect our data, so we wanted short, efficient tests that could easily be carried out in the field. Also it should be taken into consideration that the authors are not native speakers of the test languages. We opted for word intelligibility tests rather than testing intelligibility of whole texts.

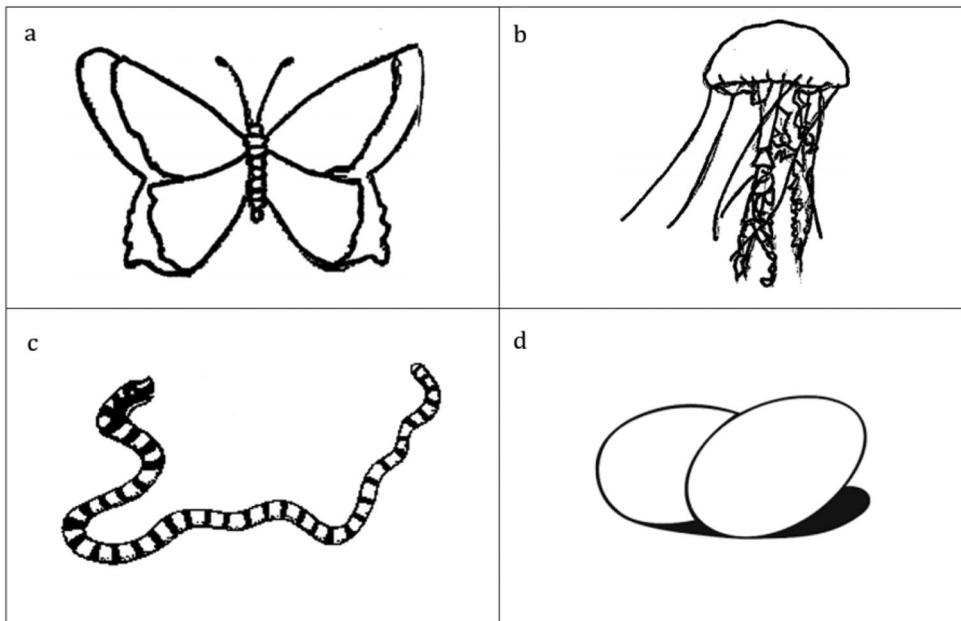
An advantage of testing isolated words is that the influence from context on the understanding of a word can be excluded. This allows us to draw conclusions about the role of individual word characteristics for intelligibility. For example, we wanted to see whether cognates (genetically related words) played a role in predicting intelligibility. That is, a participant may not have heard a word before but may be able to understand it by virtue of a certain degree of similarity between the test word and the same word in his or her L1. Non-cognates, in contrast, are pairs of words that are not genetically related. A non-cognate would presumably only be understood by a participant if they had already heard that word before. By analysing non-cognates separately from cognates, we could therefore draw conclusions about the role of exposure in intelligibility. That is, one would expect that cognate words might be understood without prior exposure, while non-cognate words would only be understood if participants had heard the words before. The list of words we used, with cognacy relationships indicated, is included in the [Appendix](#). For a more detailed description and explanation of the rationale for our testing, see Gooskens and Schneider (2016).

We tested children between the ages of 5 and 12, using a picture-pointing task. In this task the participants listened to recorded words in the test languages. For each test word they were shown a card with four pictures, of which one depicted the test word (see [Figure 2](#)). The cards were bound together in a small spiral A5 picture book. The researchers noted down whether the participants selected the picture that correctly depicted the test word. The responses could easily be corrected on the spot, even by the second author, who did not speak any of the test languages.

We restricted ourselves to nouns for the picture-pointing task, because it can be difficult to create simple drawings for other word classes.

We used a semi-crossed design. There were 40 test nouns in total; each participant listened to 20 nouns, 5 in each language, and never listened to the same noun twice. We used a design with eight different versions as shown in [Table 1](#). The languages in versions 1–4 were presented in the mirrored order of the languages in versions 5–8. The participants from each village were divided equally across the eight versions.

The validity of such an approach is demonstrated in Gooskens and Schneider (2016) where, in a separate test involving adult participants, we show that there is a high correlation between the results of the picture-pointing task and a second task involving word translations. Test validity was further



**Figure 2.** Example of a card used for the picture-pointing task. The target word is 'egg' and the correct answer is picture 'd'.

**Table 1.** Design of the experiment. The numbers refer to word number.

	Picture-pointing task								
	Version				Version				
	1	2	3	4	5	6	7	8	
Nouns 21–25	BI	RA	SK	SM	Nouns 1–5	RA	SK	SM	BI
Nouns 26–30	SM	BI	RA	SK	Nouns 6–10	SK	SM	BI	RA
Nouns 31–35	SK	SM	BI	RA	Nouns 11–15	SM	BI	RA	SK
nouns 36–40	RA	SK	SM	BI	Nouns 16–20	BI	RA	SK	SM

Note: SK = Suru Kavian, SM = Suru Mwerani, RA = Raga, BI = Bislama.

confirmed by the fact that we found a high correlation between adults' self-assessment of language ability and their performance on the actual task.

### Conducting the test

We conducted our testing in villages located in the 'heart' of three linguistic areas. By choosing these sites, we aimed to test people who were more likely to conduct daily activities fully in their own vernacular, and less likely to have extensive exposure to other vernaculars. (The results may have been different if the tests were conducted in more peripheral language areas; more research is required.) Thus our chosen test villages were Loltong (for Raga L1 speakers), Waterfall (for Suru Mwerani L1 speakers), and Tanbok (for Suru Rabwanga L1 speakers). Since the Suru Kavian area is so small, we based ourselves in Namaram but visited other smaller hamlets in the hinterland so as to locate as many Suru Kavian L1 speakers as we could. Nevertheless, the entire Suru Kavian area has many immigrants from North and Central Pentecost and so unlike for the other language areas, it was not possible for us to operate from a genuine Suru Kavian 'heartland'. Note also that although Suru Rabwanga was not included as a test language because it is so similar to Suru Mwerani, we still wanted to test Suru Rabwanga speakers to see how well they could understand the languages spoken in their neighbourhood.

In each location we approached the principal of the local school and explained the objectives of our project. Principals then approached individual teachers, and teachers then asked for student volunteers to participate. The principal would then arrange for a place for us to sit with the children. Our preference was to test the children in a location where they were not isolated from their teacher and peers, so that they would feel comfortable. Testing locations included classrooms, common areas near to classrooms, and under a mango tree in the school grounds. The general fieldwork situation is described in detail in Gooskens and Schneider (2016).

Before the experiment we obtained the following information for each child: gender, age, current village of residence, native dialect, mother's and father's native dialect, and educational attainment to date. We told children which languages they were going to hear, but we did not inform them of the ordering of languages, that is, which language they would hear first, second, and so forth. The 20 test words were preceded by a test session of 4 words so that the participants could get used to the task. This trial session was repeated when it was occasionally necessary. The participants were given the opportunity to ask questions before starting the real test.

Next, the testing session began. The experiment could be completed within five minutes. All participants listened to the test words via headphones connected to an MP3 player. A second set of headphones was also hooked up to the MP3 through a splitter. In this way the first author was able to listen to the test words as well and therefore keep track of which word a participant was listening to at a particular moment. The participants listened to a set of 20 words (5 in each language). The recording of each word was followed by a pause of five seconds during which time the participants were shown a picture of the target word and three distractors (see Figure 2). The participants had to point to the picture that depicted the word that they had just listened to. One of the authors noted down whether the participants pointed to the correct picture. After the pause, there was a beep and the next word was played. The first author turned to the next picture card in the book after each beep.

Because the children had to choose one picture from a set of four, there was a 25% chance that they could answer correctly just by chance. On the other hand, it was not anticipated that the children would achieve 100% accuracy, even when hearing words in their own L1, due to inevitable performance errors. This is explained in more detail in the sample population section.

Table 2 summarises information about the children between the ages of 5 and 12 that we tested in each village: Loltong (Raga L1), Namaram (Suru Kavian L1), Tanbok (Suru Rabwanga L1), and Waterfall (Suru Mwerani L1). We tested the fewest children in Loltong, and the most in Waterfall. Also, we tested any child who lived in the area, regardless of whether they were L1 speakers of the language indigenous to the area or not. For example, in Tanbok we tested 23 children; of these, 21 were native speakers of Suru Rabwanga. In three of the four villages, the children tested usually spoke the language indigenous to the area as an L1. However in Namaram, only 17/30, or 57%, of the children spoke Suru Kavian as an L1. These figures reflect similar proportions in the adult population: in Loltong, 22/27, or 81% of adults we tested, were L1 speakers of Raga. In Tanbok and Waterfall, the proportion of L1-speaking adults that we tested was 31/36 (86% of the Tankbok population) and 32/39 (82% of the Waterfall population), respectively. In contrast, only 26 adults of 45 in Namaram, or 58%, were L1 speakers of Suru Kavian. The figures here reflect the fact that for a variety of reasons, many outsiders have moved into the Suru Kavian area in recent years (cf. Schneider under review).

Table 3 extracts from Table 2 information about only those children who are L1 speakers of the language indigenous to the village they live in. Table 3 therefore excludes participants who may have only moved into a village recently. It also provides more detailed information about the linguistic background of the children’s parents. Table 3 shows that fathers are more likely to speak the native language of the village than the mothers are. This can be explained by the fact that Pentecost communities are patrilocal: upon marriage, it is the woman who moves to the man’s village. In 3 of the 4 villages, at least 70% of children we tested had two parents whose L1 matched the L1 of the village. Again, however, this figure is much lower in Namaram: only 9 out of 17, or 53% of children, had two Suru Kavian L1-speaking parents. Children in Namaram therefore live in a cross-linguistic nexus where not only Suru Kavian, but also Raga, Suru Rabwanga, Suru Mwerani and Bislama are regularly spoken.

Since one aim of this paper is to investigate the influence of exposure on intelligibility, we henceforth focus on the group of children in Table 3. The children in Table 3 are native speakers of the L1 of their village. If we were to include the data from all the children in Table 2, we would not know whether it was language difference or lack of exposure that caused difficulties in comprehension. See the section “Findings” for more detail.

**Table 2.** Summary of data collected for all children (5–12 years).

Place (target language)	All children between 5–12 years			
	N	Native language	Mean age	Mean years at school
Loltong (RA)	16 4 M 12 F	16 RA	8.0 (5–10)	1.7 (0–7)
Namaram (SK)	30 22 M 8 F	17 SK 4 RA 1 SM 8 SR	9.0 (6–12)	2.3 (0–7)
Tanbok (SR)	23 9 M 13 F 1 unknown	21 SR 2 SM	9.2 (7–12)	2.4 (1–5)
Waterfall (SM)	39 20 M 19 F	39 SM	8.5 (6–12)	2.2 (0–6)

Note: Language of the village indicated in parentheses: RA = Raga, SK = Suru Kavian, SR = Suru Rabwanga, SM = Suru Mwerani, M = Male, F = Female.

**Table 3.** Summary of data collected for all children (5–12 years) who are also L1 speakers of the language (in parentheses) of the village.

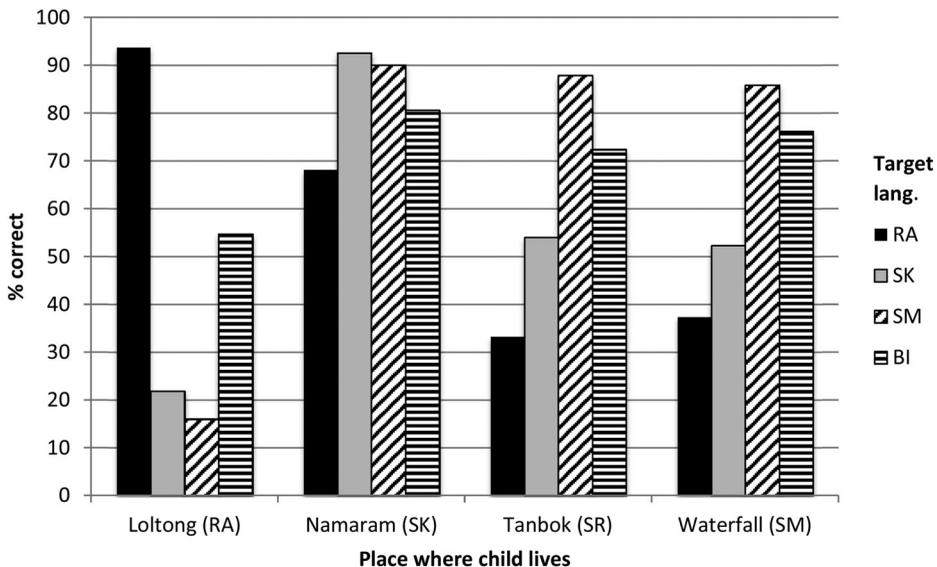
Place (target language)	Children between 5 and 12 years who speak the language of the village				
	N	Native language father	Native language mother	Mean age	Mean years at school
Loltong (RA)	16 4 M 12 F	15 RA 1 outside P	14 RA 2 outside P	8.0 (5–10)	1.7 (0–7)
Namaram (SK)	17 13 M 4 F	14 SK 1 RA 1 BI 1 outside P	9 SK 3 RA 2 SM 3 SR	9.2 (6–12)	2.4 (1–7)
Tanbok (SR)	21 7 M 13 F 1 unknown	18 SR 2 RA 1 SM	15 SR 1 RA 5 outside P	9.1 (7–12)	2.3 (1–5)
Waterfall (SM)	39 20 M 19 F	34 SM 1 outside P 4 unknown	30 SM 1 RA 4 outside P 4 unknown	8.5 (6–12)	2.2 (0–6)

Note: RA = Raga, SK = Suru Kavian, SR = Suru Rabwanga, SM = Suru Mwerani, BI = Bislama, Outside P = An indigenous language spoken outside Pentecost (on another island), M = Male, F = Female.

The data in Table 3 show that the Raga-speaking children we tested in Loltong were the youngest with a mean age of 8.0, and they had the fewest years of education (1.7 years). The children in Namaram were the oldest, with a mean age of 9.2, and they had spent the most time in school (2.4 years). However, such variations in age and education are difficult to avoid, and the overall dataset is large enough to provide a reasonable basis for comparison across villages.

### Findings

Figure 3 provides a snapshot of how well the children we tested could understand the four target languages. The reader is reminded here that since children were asked to choose 1 picture out of 4, there was a 25% chance that they could simply guess the correct answer.



**Figure 3.** The ability of children (5–12 years) who are L1 speakers of the language (in parentheses) native to their village to understand four different target languages. RA = Raga, SK = Suru Kavian, SR = Suru Rabwanga, SM = Suru Mwerani, and BI = Bislama.

One may question why the children do not achieve a score of 100% when being tested in their native language. In a testing situation, particularly with young children, a variety of factors can contribute to listener errors. Some children were shy in the presence of the authors, two foreigners who clearly looked and sounded different from the other adults in their lives. Some children may have been distracted by their peers. And performance errors are an inevitable reality.

Children in the village of Loltong could understand very little Suru Mwerani or Suru Kavian. On the other hand, they understood on average 93.8% of their own language in the intelligibility test. This is a very high score, and it reflects the fact that Loltong is a solid Raga-speaking area, that all but one of the children tested have two Raga-speaking parents, and that Raga is a relatively homogeneous language, which helps to solidify children's linguistic knowledge.

Suru Rabwanga-speaking children in Tanbok and Suru Mwerani-speaking children in Waterfall tested very similarly to each other. In both villages children understood very little Raga, and a little more than 50% of the Suru Kavian words they heard. Tanbok children actually performed equally well to Waterfall children in understanding Suru Mwerani ( $t = -.369$ ,  $df = 58$ ,  $p = .713$ ), even though Suru Mwerani is not their native variety. However, as previously noted, the differences between the two dialects are minimal. Both populations of children live in areas where their native variety has a relatively secure status in the community (cf Table 2). Furthermore, most children in both villages have two parents who speak the native variety of the area as an L1 (cf Table 3). In both villages, the native variety is well established, but not as well established as Raga is in Loltong.

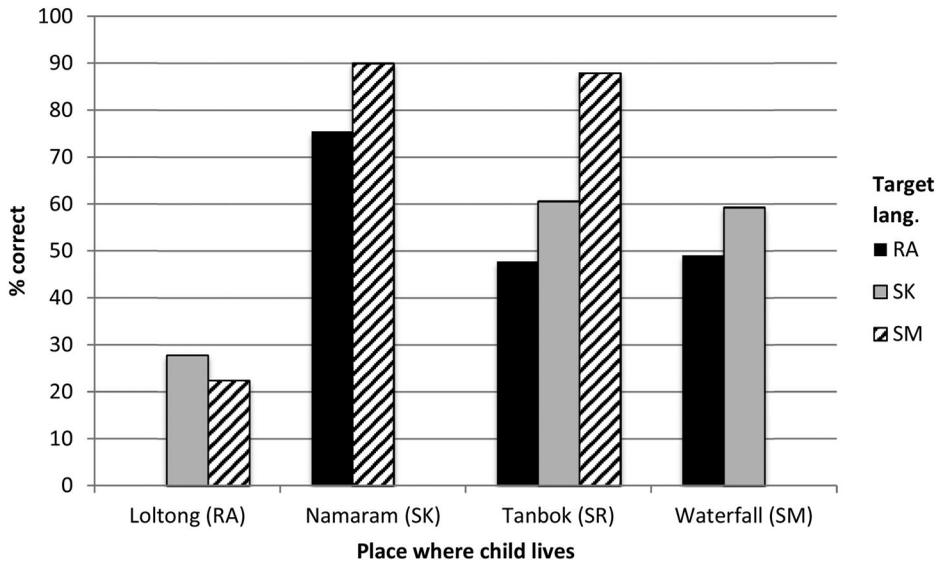
Although Tanbok and Waterfall children understood Suru Kavian at about the level of chance, Suru Kavian-speaking children residing in Namaram understood 90.1% of the Suru Mwerani words that they heard, and 92.6% of the Suru Kavian words. They also understood 68.2% of the Raga words, which is almost twice as high as the Suru Mwerani and Suru Rabwanga children's understanding of Raga. An independent sample *t*-test revealed that the difference between the Namaram children's comprehension of Raga and the Waterfall and Tanbok children's comprehension of Raga was significant at the .01 level. These scores suggest that Suru Kavian children receive a high degree of exposure to not only their own but also to other language varieties. We return to this point below.

Of the four villages, Suru Kavian children also have the best comprehension of Bislama (although in general the differences between results are not statistically significant).<sup>1</sup> This reflects the fact that Namaram is a multilingual place, and Bislama is used more frequently there to communicate across language groups. Loltong children understood the least amount of Bislama. This may be due to their younger age relative to the children in the other villages. But since Raga is such a strong language, children in Loltong probably have less exposure to this lingua franca. By the time they become adults, however, Raga speakers have an excellent understanding of Bislama. This is evident from the comprehension scores of Raga adults vis-à-vis Bislama, which are not reviewed in this paper.

Figures 4 and 5 break the data down into cognate and non-cognate groups, respectively. While children may understand cognate words in another variety simply by virtue of the similarity across codes, they presumably would only be able to understand non-cognates through exposure. Therefore, by examining cognate versus non-cognate data we can gain a better understanding of the reasons behind children's ability to understand other varieties. Note that no bars are shown for children's comprehension of cognates versus non-cognates in their own language as a language is notionally 100% cognate with itself.

We tested the significance of the differences between cognates and non-cognates with a paired samples *t*-test at the .01 level. In Loltong, children had a poor understanding of other languages, regardless of whether or not the words in those languages were cognate with Raga words. The difference between Raga speakers' comprehension of Suru Kavian cognates versus non-cognates was not significant, nor was there a significant difference between Raga speakers' comprehension of Suru Mwerani cognates versus non-cognates.

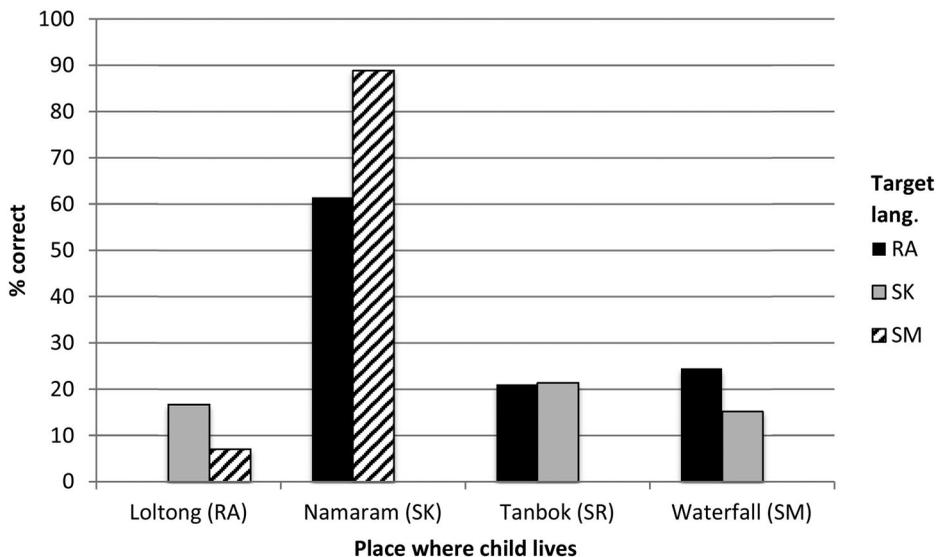
In Waterfall, children were much better at understanding cognates than non-cognates for both Raga and Suru Kavian (to the level of statistical significance). Similarly, the performance of Suru



**Figure 4.** *Cognates*: Comprehension of children (5–12 years) who speak the language (in parentheses) of the village. RA = Raga, SK = Suru Kavian, SR = Suru Rabwanga, and SM = Suru Mwerani.

Rabwanga-speaking children was affected (to the level of statistical significance) by shared cognacy with Raga and Suru Kavian.<sup>2</sup> In both Tanbok (Suru Rabwanga) and Waterfall (Suru Mwerani), it is clear that while children's recognition of cognates facilitates their comprehension, their actual degree of exposure to other languages is relatively low. This is borne out by their low comprehension of non-cognates.

Relative to other locations, the Namaram children were the star performers. Using an independent samples *t*-test at the .01 level, we tested the significance of the differences between Suru Kavian speakers' understanding of cognates and non-cognates in the other three languages, and the



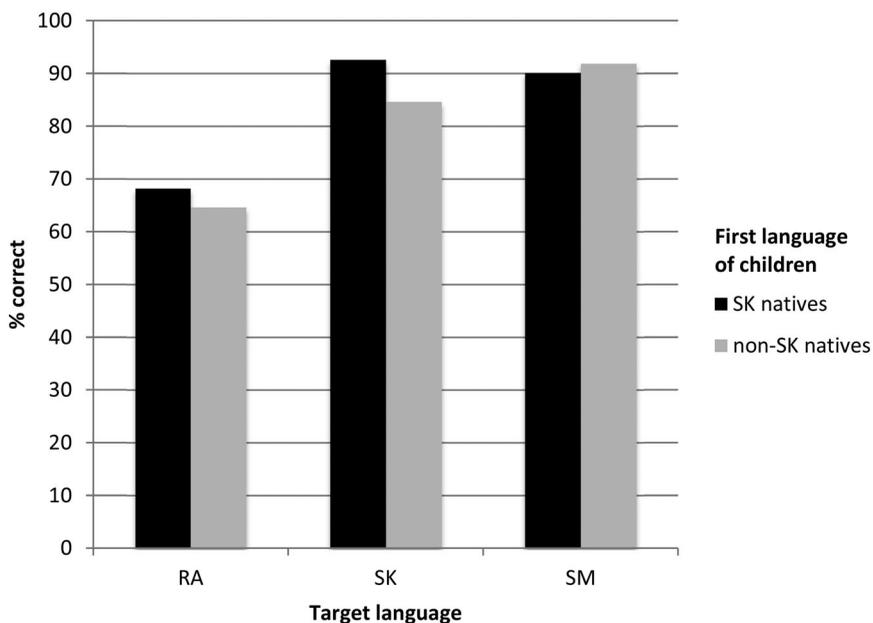
**Figure 5.** *Non-cognates*: Comprehension of children (5–12 years) who speak the language (in parentheses) of the village. RA = Raga, SK = Suru Kavian, SR = Suru Rabwanga, and SM = Suru Mwerani.

understanding of speakers of the other three languages' understanding of Suru Kavian. The differences were significant. Suru Kavian children were able to recognise 88.9% of the Suru Mwerani non-cognate words, and 90% of the cognates. This contrasts with Waterfall children's comparatively lower comprehension of 59.3% of Suru Kavian cognates, and 15.2% of the non-cognates. Suru Kavian children in Namaram also understood 75.5% of cognate Raga words, and 61.5% of the non-cognates. In contrast, Raga children understood just 27.8% and 16.7% of Suru Kavian cognate and non-cognate words, respectively. The reason for Suru Kavian children's high rate of comprehension of non-cognates could only be due to the high degree of exposure they have to these other languages.

### Ramifications for educational language planning

In places such as Lolong, Tanbok, and Waterfall, which have largely homogeneous linguistic populations, the choice of which language to use in the classroom is an easy one. Lolong children can be taught in Raga, and Waterfall and Tanbok children can learn in either Suru Mwerani or Suru Rabwanga.

However, in a village such as Namaram, where the student population natively speaks three different L1s, this choice is more fraught. Since Namaram is located within a traditional Suru Kavian area, and since there are more Suru Kavian L1 children than other L1 children (at least according to our sample, as shown in Tables 2 and 3), then Suru Kavian should ideally be the language of instruction. However, what is evident from Figure 6 is that while Suru Kavian L1 children understand both Suru Kavian and Suru Mwerani at a level above 90%, the same success rate does not apply to those children in Namaram who speak other languages as their L1. Non-Suru Kavian speakers understood 91.9% of the Suru Mwerani, but only 84.6% of the Suru Kavian. This latter figure is high, but overall, more students from all language backgrounds understand Suru Mwerani better than any other variety. One wonders, then, whether it would not be fairer for all students if Suru Mwerani (or Suru



**Figure 6.** Comprehension by Namaram children (5–12 years) of three varieties heard in Namaram. Dark and light bars distinguish between children who speak SK as a first language, or not. RA = Raga, SK = Suru Kavian, and SM = Suru Mwerani.



**Figure 7.** Posters of animals and plants, with identifying words written in French and Suru Rabwanga. (All schools in Vanuatu are designated as either francophone or anglophone; this one is francophone.)

Rabwanga) were used in the classroom, rather than Suru Kavian, as it would benefit the most children.

Indeed, this is exactly what is happening in one Year 1 classroom that we visited. The student body is made up of children from three L1 backgrounds: Suru Kavian, Suru Rabwanga, and Raga. Although Namaram is located within the traditional Suru Kavian area, the teacher herself is a native speaker of Suru Rabwanga, and this is the variety that she primarily uses in her teaching. (The Vanuatu government tries to place teachers into areas where their own vernacular is natively spoken; however, this is not always possible.) Nevertheless, this teacher uses all of her linguistic wherewithal to give her Year 1 students maximum exposure to a wide variety of languages and to support them in their learning. Figures 7–9 are examples taken from this classroom. They demonstrate the literacy support provided for French and Suru Rabwanga (Figure 7), Bislama and Suru Rabwanga (Figure 8), and Suru Kavian and Bislama (Figure 9).

The students in this classroom are fortunate to receive such a rich diversity of linguistic input, and indeed this is reflected in their comprehension levels. If the objective of the government's policy of vernacular language teaching in pre-school and primary school is to facilitate children's acquisition of literacy and academic development, then the choice of an L1 that all students know well is a good one.

However, for small and highly endangered language communities such as Suru Kavian, the effect of teaching Suru Kavian L1 children in another variety simply contributes to dialect loss. From the perspective of linguistic conservation, the massive exposure that Suru Kavian children have to Suru Rabwanga in the classroom will surely have a negative impact on Suru Kavian. Mühlhäusler (1996) provides case studies of similar situations elsewhere in the Pacific Rim, where the teaching of literacy



**Figure 8.** Posters of body parts and plants: Identifying headings written in Bislama and Suru Rabwanga; details written in Suru Rabwanga.



**Figure 9.** The cover of a birds book used in the classroom: cover page written in Suru Kavian at the top and Bislama at the bottom.

in one variety has resulted in the loss of more vulnerable varieties. He gives as examples the dominance of Mbauan Fijian over other Fijian dialects (Mühlhäusler 1996, 226–228) and the loss of dialectal diversity in the Kâte language of Papua New Guinea (Mühlhäusler 1996, 234–235).

The Suru Kavian community is well aware of this danger, and has fought unsuccessfully for its children to be taught in their own L1. Faced with imminent dialect loss, the community is now planning to build a special school for Suru Kavian children only. There are certainly other language communities in Vanuatu facing a similar dilemma. The Ministry of Education's policy to favour the dominant vernacular in any given classroom has therefore unwittingly created a situation where the most vulnerable varieties are in even greater peril. In order to maintain educational parity, and to mitigate against further endangerment, the construction of new schools dedicated exclusively to certain linguistic groups may be the only way forward for small endangered language and dialect communities such as this one.

## Notes

1. An independent sample *t*-test revealed that between Waterfall, Namaram, and Tanbok there was no significant difference in children's understanding of Bislama. Also the difference between Loltong and Tanbok did not reach significance level ( $t = -1.800$ ,  $df = 35$ ,  $p = .08$ ). However, in Loltong, children's understanding of Bislama was significantly worse than in Namaram and Waterfall ( $p < .01$ ).
2. There are no results for Suru Rabwanga children's comprehension of Suru Mwerani non-cognates because in our wordlist there was only one non-cognate word across the two closely related dialects, word #26 in the [Appendix](#). The Suru Mwerani recording of this word had to be excluded from the experiment. See Gray (2016) for more information.

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## Appendix

### Wordlist

Cognacy relationships are indicated by numbers in parentheses. Words are transcribed using the conventional orthography of each language. Of note: Raga 'g' is generally pronounced as the voiced velar fricative [ɣ]. Raga 'v' is occasionally devoiced. The digraphs 'vw', 'bw', and 'mw' are pronounced as labialised fricatives, stops, and nasals, respectively, in all varieties. Double vowels indicate length. The digraph 'ng' denotes a velar nasal, and 'ts' in Suru Rabwanga and Suru Mwerani can be pronounced as either [ts] or [tʃ].

### Nouns

	English	Bislama	Raga	Suru Kavian	Suru Rabwanga	Suru Mwerani
1	<i>old woman</i>	olfala woman	bwatmetua (1)	asi tabwas (2)	atsi tebwet (2)	atsi tebwet (2)
2	<i>fly</i>	flae	lango (1)	lang (1)	leng (1)	leng (1)
3	<i>village</i>	vilej	vanua (1)	veni (1)	vini (1)	vini (1)
4	<i>dog</i>	dog	wwiriu (1)	kuli (2)	kuli (2)	kuli (2)
5	<i>men's house</i>	nakamal	gamali (1)	wunis (2)	kamel (1)	kamel (1)
6	<i>egg</i>	eg	idolin manu (1)	undelin bweeil (1)	dulun bwihil (1)	dulun bwihil (1)
7	<i>shark</i>	sak	bageo (1)	beke (1)	beke (1)	beke (1)
8	<i>ant</i>	anis	butubutu (1)	busbus (1)	butbut (1)	butbut (1)
9	<i>conch shell</i>	pupu sel	taiva (1)	tevi (1)	tsivi (1)	tsivi (1)
10	<i>taro</i>	taro	bweta (1)	bwet (1)	bwet (1)	bwet (1)
11	<i>grass</i>	gras	bwatbwanea (1)	wavelih (2)	wawilih (2)	wawilih (2)
12	<i>water</i>	wota	wai (1)	sileng (2)	sileng (2)	sileng (2)
13	<i>hill</i>	hil	vusi (1)	rep (2)	rep (2)	rep (2)
14	<i>rope</i>	rop	gao (1)	kaawa (1)	kaawa (1)	kaawa (1)
15	<i>Malay apple</i>	nakavika	gaviga (1)	kavik (1)	kavik (1)	kavik (1)
16	<i>rat</i>	rat	garivi (1)	koup (2)	temwa (3)	temwa (3)
17	<i>flying fox</i>	flaengfokis	bwaratu (1)	bwaras (1)	bweret (1)	bweret (1)
18	<i>pig</i>	pig	boe (1)	kavi (2)	bo (1)	bo (1)
19	<i>kava</i>	kava	malogu (1)	seni (2)	sini (2)	sini (2)
20	<i>snake</i>	snek	teltele (1)	teltel (1)	teltel (1)	teltel (1)
21	<i>fence</i>	fenis	ara (1)	kooh (2)	koo (2)	koo (2)
22	<i>mosquito</i>	moskito	namu (1)	tabwaken (2)	tabwaken (2)	tabwaken (2)
23	<i>pawpaw</i>	popo	uhi (1)	bwarurit (1)	bwarus (1)	bwarus (1)
24	<i>forest</i>	dakbus	utevono (1)	leewakina (2)	katraba (3)	katraba (3)
25	<i>centipede</i>	milpat	bwanseresere (1)	bwanseese (1)	bwanseese (1)	bwanseese (1)
26	<i>banyan</i>	nambangga	ramute (1)	wale (2)	wale (2)	baga (3)
27	<i>bamboo</i>	bambu	bua (1)	vaskubu (1)	vatkubu (1)	vatkubu (1)
28	<i>bird</i>	pijin	manu (1)	bweeil (2)	bwihil (2)	bwihil (2)
29	<i>nose</i>	nus	halan davina (1)	ngosin (2)	ngusun (2)	ngusun (2)
30	<i>knife</i>	naef	bua (1)	bu (1)	bu (1)	bu (1)
31	<i>people</i>	pipol	sinombu (1)	taris (2)	tarut (2)	tarut (2)
32	<i>chicken</i>	faol	toa (1)	madeede (2)	mwadeede (2)	mwateete (2)
33	<i>stone</i>	ston	vatu (1)	vas (1)	vet (1)	vet (1)
34	<i>wave</i>	wef	navo (1)	nap (1)	nap (1)	nap (1)
35	<i>cliff</i>	klif	bahara (1)	bas (1)	bas (1)	bas (1)
36	<i>sweat</i>	swet	mamaono (1)	datuwan (2)	tatsuwan (2)	tatsuwan (2)
37	<i>coconut palm</i>	kokonas	niu (1)	ni (1)	kul (2)	kul (2)
38	<i>teacher</i>	tija	vagahi (1)	sasarakan (2)	sesesrakan (2)	sesesrakan (2)
39	<i>back</i>	bak	gatiguna (1)	tekun (1)	tsukun (1)	tsukun (1)
40	<i>urine</i>	pispis	mere (1)	mesin (1)	misin (1)	misin (1)