

EVALUATION OF THE LOCAL LANGUAGES LITERACY PROJECT
IN THE SOUTHERN SUDAN:
SECOND IMPACT EVALUATION REPORT

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SUMMARY

This report presents the results of the second impact evaluation of the Local Languages Literacy Project in the Southern Sudan conducted in November and December of 1981. Background, process, and outcome data were collected by two investigators on eight primary school classes representing the Bari, Lotuho, Nuer, and Zande languages. Two comparison classes (one Bari and one Lotuho) not using the new project vernacular literacy materials were among the eight classes investigated. The Nuer and Zande groups had not been investigated last year for the first impact evaluation and represent two of the three "Cycle 2" languages for which materials are currently being developed.

The data collected among the Bari and Lotuho classes generally replicated with an expanded empirical base the findings of the first impact evaluation. It was found that there are serious obstacles to the teaching of literacy to primary school children in the Southern Sudan, largely ineffective methods are used to teach literacy skills, and the literacy skills attained by most pupils using the new project materials through the end of Primary 3 remain at a quite low level. However, the literacy project continued to appear to be having some positive impact on the literacy development of children who would not normally have access to vernacular reading materials in primary school.

The data collected from the Nuer and Zande schools have added some important new information to the above findings. First, the one modification made to the Cycle 2 materials designed to encourage meaningful reading activities appear to have been successful in demonstrating the importance of the use of contextual information in reading comprehension. Second, it was found that the Zande pupils who had used the new project materials through Primary 1 demonstrated what appeared to be a clear superiority in literacy skills relative to the other groups investigated. Possible explanations for this finding are offered in this report as well as plans to collect additional information to determine the factors associated with literacy skills acquisition among the Zande children.

The major recommendations offered for enhancing the development of literacy skills in the rural areas of the Southern Sudan include the provision of more interesting and meaningful reading materials for the primary school pupils, an emphasis on class activities which demonstrate the functional uses of literacy, and the creation of dissemination of vernacular reading materials to the larger village community in order to create an atmosphere conducive to the development and maintenance of literacy skills. It seems clear that the creation of vernacular reading materials and their use in primary schools is an essential step in the furtherance of literacy in the region. It is also clear, however, that much additional work needs to be done if these children are to become truly literate in their mother tongue.

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I. INTRODUCTION

The purpose of this report is to present the findings of the second impact evaluation of the local languages literacy project in the Southern Sudan. This project, undertaken by the Southern Regional Ministry of Education of the Sudan in cooperation with the Summer Institute of Linguistics (SIL), has as its major goal the development of literacy skills in the Southern Sudanese languages spoken by a majority of the inhabitants of the Region and the use of several of these languages as media of instruction for the early years of primary education throughout the Region. A more detailed description of the origin, rationale, objectives, and history of the project is presented in the original proposal submitted by the Regional Ministry of Education and SIL to the U.S. Agency for International Development as well as in the reports by Cowan and Cziko (1980), Cziko (1980), and Cowan (1980). Since the evaluation described in this report is a continuation of the first impact evaluation, frequent references will be made to the first report (Cziko, 1981). For readers without access to the first impact evaluation report, its summary is included as Appendix A.

The remainder of this report consists of four principal chapters. The second chapter provides a description of the evaluation study including the evaluation design and the instruments and data collection procedures. The results chapter presents the evaluation findings, including the background, process, and outcome data analyses. The fourth chapter describes the Juba University College of Education-CIDA plan for making reading materials available in the Region. The fifth and sixth chapters provide recommendations and suggestions for further research.

II. DESCRIPTION OF EVALUATION

The purpose of this evaluation is described in the first impact evaluation report (Cziko, 1981, p. 2). However, since both the design and instruments used for this second impact evaluation differed somewhat from those employed for the first impact evaluation, these are described below.

A. Evaluation Design

For the first impact evaluation, which took place during November/December 1981, two Bari and two Lotuho Primary 2 classes were compared, one class of each pair having used the new project literacy materials (referred to as a project class), the other not (referred to as a comparison class). A complete description of the evaluation design used for the first impact evaluation report is given in Cziko (1981, pp. 3,4).

For the second impact evaluation, it was decided to follow up these same Bari and Lotuho classes at the end of Primary 3. However, since some modifications in the design of the literacy materials had taken place for the so-called Cycle 2 languages (at least partly due to the workshop held by Cowan in Maridi in October 1980 described in Cowan, 1980), it was felt that it was imperative to collect information on the impact that these modified materials were having on the acquisition of literacy skills. Therefore, Primary 1 project classes using trial editions of the Nuer and Zande materials were also visited, observed, and tested. Although it was not possible to collect similar data from Nuer and Zande comparison classes at this time, it was felt that the data collected from the Nuer and Zande project classes in itself would provide valuable information on the effectiveness of the Cycle 2 modifications and considerably broaden the base of our evaluation. In addition to the six classes mentioned above, information was also collected from two additional Bari and Lotuho classes not included in the first impact evaluation. Therefore, data were collected from a total of eight classes. The four Primary 3 classes

followed up from the first evaluation were Rejaf East (Bari project), Bungu (Bari comparison), Hiyala (Lotuho project), and Loronyo (Lotuho comparison) Primary Schools. The two Cycle 2 classes were the Primary 1 classes of primary schools in Nasir West (Nuer) and Yambio (Zande). The two additional Cycle 1 classes consisted of a Primary 3 project class in Rejaf West (Bari) and the Primary 2 project class of Torit East Primary School (Lotuho). Information was collected toward the end of the school year in November and December 1981 by Cziko (Bari and Lotuho classes) and Cowan (Nuer and Zande classes).

Because of time limitations, we were unable to visit Raga, where the testing of the third Cycle 2 language (Kresh) is taking place. Jocelyn Clavenger reported that the IRL language officer and the two literacy inspectors who wrote the first three primers with SIL consultant Rick Brown were testing Books 1 and 2. Because of a teachers' strike, they were unable to begin before August 1981, and hence had only begun Kresh Book 2 when our visit was made in November. SIL consultant Julie Van Dyken had made one supervisory visit of about 15 days. The students had been divided into two groups on the basis of native speaker ability, one group being comprised of native speakers, and the other of non-native speakers. The two literacy officers were teaching the respective groups under the supervision of the language officer. Regrettably, the only person who might have supplied us with detailed information about plans for expanding Kresh instruction in other schools around Raga in 1982, Julie Van Dyken, was in Nigeria at the time of our visit.

B. Instruments

A number of instruments were developed for the collection of background and outcome data. To collect background information, the same questionnaire that was used for the first impact evaluation was again used to interview the director and teachers at each school. For the four Bari and Lotuho classes that were included in the first evaluation, only that information which had

changed since last year was recorded (e.g., new teachers, class enrollments, Primary 3 curriculum and materials).

The instruments developed for the collection of outcome data involved the creation of measures of the reading ability of both project and comparison pupils in their respective mother tongue. For pupils in Primary 2 or 3, a writing test was also developed and administered. The literacy tests developed for each of the classes are described below for each of the four languages included in the evaluation.

1. Bari Tests

The Bari literacy test battery was made up of three principal parts. The first part was a test of word skills composed of four subtests. The subtests were (a) Vowel Words, (b) Consonant Words, (c) Known Words, and (d) Unknown Words. The Vowel Words subtest involved reading aloud 10 two-syllable common Bari words containing the 10 vowels of the Bari language. Since only six letters (graphemes) are used to represent these 10 vowels (the tense-lax distinction not being indicated for four of the vowels), this subtest required the pupils to apply their knowledge of Bari vocabulary to decode each word. For each of the ten items of Vowel Words subtest, the vowel had to be read in one way only (either tense or lax) to make a Bari word, and the word had to be correctly read for the pupil to pass the item. One-syllable nonsense words, each containing one of the 19 consonants of Bari, made up the Consonant Word subtest. For this subtest, the pupil was scored on whether or not he read the consonant correctly, ignoring what was read for the vowel sound. The Known Words subtest consisted of 10 words used in Books 2 and 3 of the new Bari literacy materials while the Unknown Words subtest consisted of 10 words not contained in Books 2 or 3 of the materials. The latter two subtests were the same that had been used for the first evaluation in 1980 and pupils were required to read aloud the entire word correctly. These four subtests therefore comprised 49 items.

The second principal part of the battery involved reading aloud a story of 52 words and answering six comprehension questions based on the story. These questions included some which referred to information stated explicitly in the text of the story as well as others which required the inferring of information implicitly included in the text.

The last part of the battery involved a dictation of a short passage consisting of a total of three sentences and 16 words. These words were all included in Books 2 and 3 of the new Bari literacy materials.

2. Lotuho Tests

The Lotuho literacy test battery was also made up of three principal parts. The test of word skills comprised four subtests, viz., (a) Vowel Words, (b) Consonant Words, (c) Known Words, and (d) Unknown Words. The Vowel Words subtest consisted of five nonsense words each containing one of the five vowels used in the Lotuho language. The Consonant Words subtest contained 27 nonsense words, each containing one of the 27 consonants of Lotuho. The Known Words subtest included 10 Lotuho words from Books 2 and 3 of the new Lotuho literacy materials while the Unknown Words subtest included 10 words not contained in these same materials.

The second principal part of the Lotuho literacy test battery involved reading aloud a story of 52 words and answering eight comprehension questions based on the story. As for the Bari test, these questions referred to information both explicitly and implicitly stated in the reading passage.

The last part of the Lotuho battery involved the dictation of a short passage consisting of a total of three sentences and 20 words. These words were all included in Books 2 and 3 of the Lotuho literacy materials.

3. Nuer Tests

Both the Nuer and Zande literacy tests were developed in the field during Dr. Cowan's visit. They were modeled after the Bari and Lotuho test batteries.

the first subtest consisted of 12 nonsense syllables which contained letters the students had been exposed to in the primer. The purpose of this subtest was to gain a general measure of the students' decoding ability. The second subtest comprised a list of 20 words, 10 of which were 'known words,' i.e., they were drawn from the lessons the students had studied up to the testing dates (Lesson 45 for the Nuer primer, Lesson 49 for the Zande primer). The other 10 words were 'built' words, i.e., containing letters the students had been taught, but which had not actually been used in previous lessons. (The word bok, 'book,' was used in both tests, and although it is never used in the primer, it does appear on the title page.) The final subtest consisted of a short passage in which all of the previous 20 test words appeared. The original Nuer passage, which was 56 words long, had to be drastically revised after testing revealed it was much too difficult for the pupils. The revision was then pretested, using three adults and a literate sixth grader before continuing the testing. The passage was followed by six comprehension questions; the answers to two of these were not directly stated in the passage, but could be inferred from the content. The children read all of the various subtests aloud in the order described above (nonsense words, 20 test words, comprehension passage), and were then asked the six comprehension questions.

4. Zande Tests

The Zande test had exactly the same format as the Nuer test, the major differences between the two being that the Zande test had 15 nonsense syllables and the comprehension passage was 84 morphemes long. The disparity in length is virtually unavoidable if one is concerned, as the tester was, with creating passages in all languages that have roughly the same number of prepositions. Since Zande uses a large number of monosyllabic morphemes, which are represented as free-standing 'words' in the Zande script, an overall word count of a passage containing approximately an equal number of prepositions as found in the Bari, Lotuho, and Nuer passages would be higher for Zande.

C. Data Collection

Four principal procedures were used to collect the background, process, and outcome data. Most of the background data obtained from Rejaf East, Bungu, Hiyala, and Loronyo Primary Schools were collected by the Bari (Sejario Latansio) and Lotuho (Massimino Allam) language officers (employees of the Regional Ministry of Education in charge of inspecting project schools and supervising project teachers) during the 1980 school year. This information was updated during the November/December 1981 evaluation visits by Cziko. Background information on the additional Bari and Lotuho project classes evaluated in 1981 was also collected at this time. Background data were collected for the Nuer class at the school in Nasir and for the Zande classes at Yambio school by means of the same questionnaire used for the Bari and Lotuho schools. The SIL consultants and the IRL language officers completed the questionnaires soliciting the assistance of school officials whenever this was possible. At the writing of this report, only the background data from the school in Nasir were available. However, the quality of student attendance from the time the Nuer school opened in June 1981 is extremely accurate and comprehensive.

For the two Bari and Lotuho classes which were evaluated for the first time for the present report, we attempted to collect information on the teachers, pupils, curriculum, and materials of each school with particular emphasis on the project literacy classes under study. This information was obtained via interviews with teachers, school directors, and from available school records. However, as described below, some of this background information was often impossible to obtain (e.g., pupil attendance data) or of doubtful reliability (e.g., in some cases discrepancies existed between what the teacher or director described as the language of instruction for a certain class and what was actually observed in the classroom). In other cases, the director and/or teachers were absent at the time of our visit. Nevertheless, the background

data which were obtained do provide useful information on the context of primary education in the rural Southern Sudan and indicate ways in which the eight classes visited differed from each other.

Process data were collected by observing vernacular class lessons at seven of the eight schools visited (the project teacher at Rejaf West was on sick leave at the time of our visit). As was done for the 1980 impact evaluation, these data were obtained by tape recording and taking notes while observing a vernacular literacy lesson assisted by the language officer or SIL personnel familiar with the language who was able to provide the evaluators with explanations and interpretations of the class activities.

Finally, the outcome data for the Bari and Lotuho schools were obtained using the literacy tests described above. All reading tests were administered individually to a sample of pupils from each of the eight classes evaluated. These were P3 pupils at all of the Bari and Lotuho schools (except Torit East where P2 pupils were tested) and P1 pupils at the Nuer and Zande schools at Nasir and Yambio. All reading tests involved oral reading and the oral answering of reading comprehension questions. These tests were administered by the respective language officer or SIL associate who was fluent in the local language and all responses were recorded on audio tape. The scoring of these tests either took place at the time of administration (using the recordings to verify the scoring when necessary) or at a later time from the recordings and was done by persons fluent in the language being tested. The dictation test was group administered to all Bari and Lotuho classes except Rejaf West. The dictation text was read to the pupils three times: first, completely through with no pauses for writing; second, with pauses after progressively larger groups of words during which time the pupils were instructed to write what they had heard; and third, one final time for the pupils to check and correct what they had written. All pupils present in the vernacular class at the time

of the testing were given the dictation test. In addition to the literacy tests, all pupils who were individually tested were asked three questions: (a) "Why do you come to school?"; (b) "Why do you want to learn to read and write?"; and (c) "What do you read or write outside of school?" Pupils' answers to these questions were also recorded on audio tape for subsequent translation, classification, and analysis.

At Nasir West Primary School, the students had been grouped, on the basis of past performance, into four ability levels. It was the judgment of the SIL consultant that only the top two groups would stand a chance of successfully completing the test. For this reason, all of the children tested were selected from those two groups. The children were tested individually in a teacher's room at the school. Each pupil was seated beside either the SIL consultant or the language officer. The evaluator, Cowan, sat on the other side of the table, in the center of which was positioned the tape-recorder. The child was first asked the three questions: "Why do you come to school?"; "Why do you want to read and write?"; and "What will you read and write outside of school when you know how?" Next, he was asked to read the nonsense syllables and the 20 test words. Following this, he was told to read the story aloud, and after he had finished, the examiner put the six comprehension questions to him. The entire protocol was tape-recorded by the consultant, and the SIL consultant, who did most of the interviewing, transcribed the pupils' oral reading errors. Due to the fact that the SIL consultant possesses virtually native speaker competence in Nuer, and because all of the children tested read at such a slow rate, it was possible to make very accurate transcripts of the oral reading errors during each interview. Three hundred sixty-five errors were recorded. Their breakdown according to type is shown in Table 8.

The Zande children tested at Yambio Primary School were examined using the same procedure. There were three classes formed, once again, on the basis

of ability. Only the top two levels were examined, most of the children (9 of 12) coming from the better class. The interviews were recorded by SIL literacy consultant, Joyceln Clavinger, and the IRL Language Officer, Bullen, attempted to make a running record of the children's oral reading errors during the test. Due to an oversight on Cowan's part, one irregularity occurred in the protocol: the first seven children were allowed to read the comprehension passage twice, once silently and once aloud. This does not appear to have greatly increased the comprehension scores of those children; indeed an inspection of the data indicates that the major differences were due to level. However, these children did have the benefit of two readings which may have improved their performance.

III. RESULTS

A. Background Data

1. Bari and Lotuho Schools

General data on the Bari and Lotuho schools included in the evaluation, except Torit East, is shown in Table 1 while information on the curricula and materials used in these five schools is included in Table 2. Since only a very brief visit was made of Torit East Primary School and since the regular vernacular teacher was not present at the time of our visit, no systematic background data were collected from this school (although a class observation was made and 10 Primary 2 pupils were individually tested). The background information collected for the vernacular classes in Rejaf East, Bungu, Hiyala, and Loronyo primary schools should be considered along with the data which were collected in 1980 (see Cziko, 1981, Tables 1 and 2). Unfortunately, some important background data such as school attendance were often unavailable; missing information is represented by a dash in these tables.

As can be seen from Table 1, fairly wide variation existed among these five schools on several dimensions, including number of enrolled pupils and proportion of trained teachers, while the five schools were more similar with respect to teacher-pupil ratio, teachers' teaching experience, and the proportion of Primary 6 pupils who were reported to have passed the Primary School Leaving Examination in January 1981. Among the five individual classes evaluated, noticeable differences existed for enrollment (Rejaf East had four times as many P3 pupils as Rejaf West), the proportion of female pupils (from none to a maximum of 42%), and, of course, the presence of vernacular reading instruction in the curriculum and the availability of vernacular reading materials for teachers and pupils. Neither of the two comparison schools were teaching vernacular reading to these classes in 1981. With the exception of the new vernacular reading materials for the four project classes, Bari catechisms

Table 1
Background Data

Variable	School				
	Rejaf East (Bari Project)	Rejaf West (Bari Project)	Bungu (Bari Comparison)	Hiyala (Lotuho Project)	Loronyo (Lotuho Comparison)
School Data					
Pupils enrolled in 1980:					
P1	94	31	22		39
P2	59	30	21	--	31
P3	48	12	35	29	25
P4	39	12	20	--	24
P5	35	0	25	--	16
P6	9	0	32	--	16
Total	284	85	155	--	151
Teacher/Pupil ratio	1:28	1:21	1:26	--	1:25
P6 pupils in 1979	39	--	--	--	42
Above pupils passing Leaving Examination	(15%)	--	--	--	21 (50%)
First day of class in 1981	5/11	7/15?	8/15	7/15	7/12

Table 1 (cont'd)
Background Data

Variable	School				
	Rejaf East (Bari Project)	Rejaf West (Bari Project)	Bungu (Bari Comparison)	Hiyala (Lotuho Project)	Loronyo (Lotuho Comparison)
General Teacher Data					
Number of teachers	10	4	6	9	6
Above teachers with regional mother tongue ^a	6 (60%)	3 (75%)	5 (83%)	8 (89%)	4 (67%)
Education (years):					
Median	--	--	--	10	8.5
Range	--	--	--	7 - 12	7 - 9
Trained teachers ^b	8 (80%)	0?	3 (50%)	4 (44%)	4 (67%)
Experience ^c (years):					
Median	8.5	--	6	6	8
Range	1 - 39	--	1 - 36	2 - 28	2 - 29

Table 1 (cont'd)
Background Data

Variable	School				
	Rejaf East (Bari Project)	Rejaf West (Bari Project)	Bungu (Bari Comparison)	Hiyala (Lotuho Project)	Loronyo (Lotuho Comparison)
Primary 3 Reading Teacher Information ^f					
Mother tongue	Bari	Bari	Bari	Lotuho	Acholi
Education (years)	11	7	12	8	--
Training:					
TTC ^d	yes	no	no	yes	no
SIL ^e	yes	yes	no	yes	no
Experience ^c (years)	32	9	1	28	3
Experience: P3 (years)	7	4	1	--	--
Primary 3 Pupil Information					
Enrollment:					
Total	48	12	35	29	25
Males	28 (58%)	11 (92%)	20 (57%)	26 (90%)	25 (100%)
Females	20 (42%)	1 (8%)	15 (43%)	3 (10%)	0 (0%)

^aRegional mother tongue refers to Bari in Bari schools and Lotuho in Lotuho schools.

^bTrained teachers are defined as teachers with at least some teacher training college attendance.

^cExperience refers to years of working as a primary school teacher.

^dA yes in this row indicates some attendance at a teacher training college.

^eA yes in this row indicates participating in SIL teacher training for use of the project materials.

^fThis teacher was the vernacular literacy teacher for project classes and the English teacher for the comparison classes.

Table 2
Primary 3 Curricula and Materials

Subject	Minutes/ Week ^a	Language of Instruction	Teacher's Materials/ Language	Pupils' Materials/ Language
Rejaf East School (Bari Project)				
Arabic	40	Arabic	CME/ Arabic	None
English	240	English	None	None
Mathematics	240	Bari	None	None
Religion	40	Bari	Catechism/ Bari	Catechism/ Bari
Science	40	English	Missionary/ Bari	None
Vernacular	360	Bari	Project/ Bari	Project/ Bari
Total	960			

Table 2 (cont'd)
Primary 3 Curricula and Materials

Subject	Minutes/ Week ^a	Language of Instruction	Teacher's Materials/ Language	Pupils' Materials/ Language
Rejaf West School (Bari Project)				
Arabic	180	--	--	--
Arts & Crafts	90	--		--
English	315	--	--	--
Geography	90	--	--	--
Mathematics	270	--	--	--
Religion	45	--	--	--
Vernacular	180	Bari	Project/ Bari	--
Total	1170			
Bungu School (Bari Comparison)				
Arts & Crafts	40	English	None	None
English	400	English	None	None
Geography	80	English	None	None
History	120	English	None	None
Mathematics	240	English	CME/ Arabic	None
Religion	80	English	Bible/ English	None
Science	80	English	None	None
Total	1040			

Table 2 (cont'd)
Primary 3 Curricula and Materials

Subject	Minutes/ Week	Language of Instruction	Teacher's Materials/ Language	Pupils' Materials/ Language
Hiyala School (Lotuho Project)				
English	225	English	OUP/ English	None
Mathematics	225	English	RME/ English	None
Religion	225	Lotuho	None	None
Science	90	English	None	None
Vernacular	270	Lotuho	Project/ Lotuho	Project/ Lotuho
Total	1035			

Table 2 (cont'd)
Primary 3 Curricula and Materials

Subject	Minutes/ Week	Language of Instruction	Teacher's Materials/ Language	Pupils' Materials/ Language
Loronyo School (Lotuho Comparison)				
Arabic	90	Arabic	None	None
Arts & Crafts	90	English	None	None
English	450	English	Oxford/ English	Oxford/ English
Geography	90	English	None	None
Mathematics	270	English	RME/ English	None
Physical Education	90	English	None	None
Religion	180	English	None	None
Science	90	English	None	None
Total	1170			

Note. Abbreviations used to specify materials refer to their source, i.e., RME = Regional Ministry of Education (Juba); CME = Central Ministry of Education (Khartoum); OUP = Oxford University Press.

for Rejaf East, and English materials for the Loronyo pupils, no other educational materials were available to the pupils in these five classes. Finally, among the five Primary 3 reading teachers, two project teachers had had some teacher training at a college or institute while the remaining project teacher and two comparison teachers had not. All three project teachers, however, had received IRL/SIL training on the use of the new vernacular literacy materials.

To summarize, as cautioned in last year's evaluation report, the background information collected from these five schools indicated that the two comparison schools cannot be considered control schools in any strict sense of the word since there were found several noticeable differences among the five Bari and Lotuho schools and Primary 3 classes from which background information was obtained. However, the factors which appeared to favor the two project classes over the two comparison classes which were described in last years' evaluation report (see Cziko, 1981, p. 12) seem to have evened out somewhat with the most apparent differences between the project and comparison classes appearing to be due to the literacy project itself.

2. Nuer and Zande Schools

The background data for the school being used as a test cite for the Nuer materials are presented in Tables 3 and 4. Nasir West school is roughly equivalent to schools like Rejaf East and the Lotuho comparison school, Loronyo, on some variables, e.g., teachers with mother tongue. Although there are more teachers at Nasir West than at many of the comparison schools, the percentage of trained teachers is considerably lower--27%. The number of subjects offered at Nasir West is also smaller, with the result that more time is spent on them than at the project schools. The SIL consultant, Marian Farquhar, explained that she had just begun to offer some limited English instruction three days a week as a response to student requests. In terms of enrollment, Nasir West appears to be slightly larger than many of the project schools. Interestingly, the

Table 3
Background Data

Primary 1 Curricula and Materials Nasir West School: Nuer Project					
Subject	Minutes per Week	Language of Instruction	Teacher's Materials	No. Pupils with Materials	No. of Pupils in Class
Arabic	240	Arabic	First Arabic Book	0	89-110
Math	240	Arabic	Arithmetic Book	0	89-110
Nuer	480	Nuer	Nuer Primer	45	89-110
Religion	240	Arabic	Koran	0	89-110

Table 4
Background Data

General Teacher Information Nasir West School: Nuer Project	
Number of Teachers	15
Above Teachers with Original Mother Tongue	9 (60%)
Trained Teachers	4 (27%)

availability of a teacher's materials apparently exceeds that found in most project schools. The number of minutes devoted to vernacular instruction (see Table 8) represents two 60-minute periods per day: one before the mid-morning breakfast and one after. Attendance fluctuated considerably from one period to another. Many children who attended the pre-breakfast class did not return for the later period.

B. Process Data

1. Bari and Lotuho Schools

Literacy classes were observed and recorded for all of the Bari and Lotuho classes except for Loronyo (the teacher being absent at the time of our visit). Since the Primary 3 class at Rejaf East was divided into two separate groups for literacy instruction, literacy classes were observed for both of these groups. These classes were conducted in the vernacular for the four project classes and in English for the one comparison class observed (Bungu).

As was observed in 1980, the project teachers in general closely followed the instructions of the teacher guide for the lesson they were presenting and the same general findings discussed in last year's report were found again in 1981. Once again, practically all classroom activities involved the teacher and the entire class with few interactions between teachers and individual pupils and virtually no interactions between teachers and small groups of pupils or among pupils themselves.

Classroom activities in all classes observed consisted primarily of group reading and repetition of syllables, words, and sentences (often unrelated sentences). At the four project schools there was also some practice in spelling and writing individual words and in the making up of new sentences containing words included in the lesson. The only observed activity which clearly involved reading comprehension was the answering of reading comprehension questions based on the lesson's story which each pupil read individually and

silently. The entire class at the comparison school consisted of repeating four English sentences written on the board. These sentences were: "A man and a woman a boy and a girl are walking. They are walking to a house. A tree is near the house. The man and the woman are walking around the house." These sentences were either read aloud by the entire class with the teacher pointing to each word as they are read aloud by individual pupils (both volunteers and non-volunteers) who came up to the chalkboard and pointed to each word as they read. These activities lasted for about 20 minutes until it was decided to use the remaining class time to administer the dictation test. There was no evidence that the pupils understood the meaning of these sentences, although the teacher did review the meaning of the word house at the beginning of the lesson.

As noted last year, a great deal of time was spent in both the project classes and comparison class by the teacher in writing syllables, words, and sentences on the chalkboard. In the case of the four project classes, what was written on the chalkboard was always already printed in the pupils' books.

In one of the project classes observed, the teacher never called the pupils by name and it appeared that he did not in fact know their names. In the other classes observed, teachers also often simply pointed to pupils to select them for individual reading activities, although they did on occasion use the pupils' names.

It was also observed that in general the project pupils appeared to read more fluently in the literacy class than they did during the individually administered oral reading tests. It is not known whether this was due to being familiar with the materials of the class lesson, anxiety caused by the testing situation, or a combination of these or other factors.

2. Nuer School

Three different lessons were observed at the Nasir West School. As stated earlier, there were about 96 pupils who regularly attended the literacy classes. The SIL consultant, Marian Farquhar, devised a unique solution to deal with these large classes. She recruited two untrained teacher helpers from the school. One was a woman who had been trained by the SIL consultant before the civil war, and who was literate in Nuer. The other, a man, was a messenger, who had learned to read Nuer in the church literacy class. The SIL consultant divided the entire class into four ability groups. The IRL literacy officer, Simon Kun Puoc, teaches the highest level going, the SIL consultant (who, as pointed out earlier, is bilingual in Nuer and English) teaches the next highest level, and the two teacher helpers teach the two lower levels. The teacher helpers learn some procedures simply by watching the IRL officer teach some lessons, such as the letter lessons, to a combined class made up of all four groups, and they also periodically are supervised by the SIL consultant. Pupils could move up to a higher group or be asked to join a lower group whenever the IRL language officer or the SIL consultant felt this was appropriate, and, indeed, the consultant observed this happening several times during his stay.

a. Teaching the "letter" lesson. The procedure used for presenting each new alphabetical symbol ('letter') follows a given sequence, which the teacher works through in five steps which are intended to present the new letter and contrast it with known sequences. This is a laborious process which requires writing the letter and contrasts (represented in five boxes in the primers) on the board, and having the students read them aloud in chorus and, to a limited extent, individually. Only steps one and five actually contain meaningful material. In general, one cannot avoid the impressions expressed in Cziko's (1981) report, that this activity, which is the cornerstone

of the method, is time-consuming and boring. Only a small percentage of the students (the better ones, who may already be able to read the letter) are capable of maintaining their concentration for the 30 to 50 minutes that may be expended on this lesson. Attention wanders during the time that elapses while the teacher writes each new box on the board (the chalkboard at this school was so slick that many of the letters were not discernible from the back of the room) and during the endless choral repetition after the teacher or a student has read whatever sequence is on the board. The teacher often does not deviate from one order of presentation, so after two or three repetitions, it is possible to memorize each box and repeat an entire sequence with one's eyes closed.

At Nasir West, the letter lesson is taught to all four ability groups, which then break up into their individual groups and work on whatever lesson they have reached. While Cowan was there, he watched the entire student population being taught letter lesson 42. As soon as this was finished, the students reassembled in their individual groups. Only the most advanced group continued working on lesson 42. Group 2 dropped back to the lesson they had been working on, lesson 19, and the other two groups worked at even lower levels. (This pattern is not followed at Yambio School. There the three groups work at different speeds, and no joint meeting takes place. This may have something to do with the superior results obtained at Yambio to be discussed later.)

b. Teaching the story (comprehension passage). The reading lesson observed using the comprehensive passage at Nasir West School was with the most advanced pupils—Group 4. There were 12 children in this group. The procedure was as follows: Books were passed out to the children. The teacher had the children divided into small subgroups of four students each. Each subgroup first read aloud in chorus the five boxes in the letter drill page.

When each subgroup had finished, the teacher told the class to read the story silently. They did this, closing their books to indicate when they were finished. When all but one student had finished, the teacher informed the class that he was going to ask them some questions about the passage. In the first question, he called on one boy, who answered it correctly. The entire class blurted out the answer to the next question before the child called on had an opportunity to answer it. When all of the questions had been answered, the teacher split the class into two groups and the entire story was read aloud in chorus, sentence by sentence, alternating from one group to the other. The choral reading was then repeated, but this time, one group read half of the passage, and the other group the remaining half. There followed another choral reading, where the first group had the half that had been assigned to the other group previously, and vice versa. The rhythmic chanting quality of this choral reading was devastatingly monotonous and unnatural, in the sense that it did not appear to approximate the true patterns of stress and pauses characteristic of the few Nuer readers that Cowan heard. The earlier comment made by Cziko ". . . the sounds of the words and the rhythm in which they were repeated seem to be given much more importance than the meaning of the words and the communicative function of literacy" (1981, p. 14) served to be born out. When the choral reading was finished, the teacher called on individual children to read. The entire lesson consumed one hour and ten minutes.

c. Teaching the "context clue" drill. The only innovation developed and incorporated in the Cycle 2 materials as a result of the reading workshop held in Maridi in November of 1981 was the "context clue" drill. This is essentially a cloze exercise, the purpose of which is to show children that different levels of contextual information are available in the text to decipher words they may not yet have encountered. The original plan, as specified

in Cowan (1981, pp. 24-25), was that the context clues for lessons 1-25 would focus on syntax; for lessons 25-50, the choice of items to fill the exercise would be semantically determined, and that from lesson 51 on, the alternatives for the cloze items would be graphemically (visually) similar. Initial reports from the SIL consultants and IRL officers at the testing sites in Nasir and Yambio indicated that these context clue drills were extremely popular with the children. At the Nasir West School, the IRL language officer provided a demonstration of how these units are taught. For the purposes of this demonstration, one adjustment was made: instead of teaching the lesson from the books, as is normally done, the lesson was taught from the chalkboard to all four levels.

The teacher began by writing the frame (a sentence with one word deleted and replaced by a blank), and the three possible choices (words) on the board. He then turned to the children and said: "I want someone to read this and put one of these three words--the one that is the right (correct) one--in the blank space." Almost all of the entire group (48 children) raised their hands. There was visible excitement in the room, many children calling out "quäär, quäär, quäär!" ("teacher, teacher, teacher!") and snapping their fingers in an attempt to get the teacher to choose them.

The teacher, Simon Kun Puoc, was extremely skillful and was obviously well liked by the students. He had developed an effective technique for handling the various outcomes of the students' attempts. Frequently a child would read the sentence and simply substitute a word in the blank that was not one of the three alternatives arrayed below in the sentence. In this case, the teacher would respond: "Okay. Is that word (says the word that the child has substituted, e.g., 'cow') one of these three words here? Is it this one?" (pointing to the first word). The class, or at least part of it, would respond: "No." "Is it this one?" (same response). "Is this one 'cow'?"

(same response). "No, it isn't any one of these here." Then he would proceed to call on another student. As soon as a sentence was read with the correct alternative, the teacher would take pains to first ask the class if the answer was correct, usually saying something like, "Did Col (the child's name) get it right?" Upon receiving an affirmative answer, he would go back and take up each alternative and demonstrate that the context of the sentence excluded it as a possible substitution. Initially, the teacher read the alternatives to the children, inserting them into the blank, reading the entire sentence, and then asking: "Is this Nuer? Can we say this in Nuer?" The predictable response from the class would be laughter and a chorus of "No." Later, at Cowan's suggestion, the teacher changed the procedure and had the children volunteer to read the incorrect alternatives; then he would substitute them into the blank and ask the children if the result were acceptable in Nuer. This latter procedure seems to be more desirable, since even though it extends the lesson somewhat, it nonetheless solicites wider participation.

3. Zande School

The Zande school at Yambio has an edge over the testing site for the Nuer materials in terms of available resources. There is only one trained teacher at Nasir West School, whereas there are three at Yambio. The decision was made to group the students by ability and to assign the two best teachers to the two highest groups and the other to the most elementary class. The SIL consultant, Alice Van Bergen, then monitored all classes and recorded the effectiveness of the materials. All three classes worked consistently with their teachers at the pace determined by the teachers at the time of the consultant's visit. The lowest group was still on the first book, the middle group on Book 2, lesson 29, and the top group was reading lesson 49 in Book 3. The consultant observed three different kinds of lessons at Yambio which were taught in the two advanced classes.

Perhaps the biggest difference between the procedure for teaching the letter drill witnessed in Nasir and the one used in Yambio was the extra emphasis placed on syllabification. The teachers in Yambio tended to complete the letter lesson in about 35 minutes, which is probably the maximum amount of time that can be devoted to this lesson without making it deadly dull. There was still too much choral repetition and virtually no meaningful activities associated with the presentation of the letter lessons, but the consultant witnessed some effective word attack teaching in the functor drills. When the students had trouble reading a bisyllabic word, the teacher would write the word on the board, cover the second syllable with his hand, and have them read the first syllable. Then he would reverse the procedure and have the children read the second syllable, whereupon he would then present the entire word and the children would be able to read it. This procedure was extended effectively to trisyllabic words beginning at the left and uncovering the new syllables and amalgamating them in succession from left to right, e.g., for bakere, 'great,' the teacher begins, 'ba'; the children repeat this, then the teacher reads 'ker'; the children repeat; the teacher reads 'ba ker,' and the children repeat; the teacher then uncovers the last syllable, 'e,' reads it, and the children repeat. The pupils are then asked to read the entire word.

The other major difference seen at Yambio was more individual participation. Although the individual classes are about the same size at both testing sites, there seems to be more provision for individual reading in the Zande classes. This is no doubt due to the fact that there are more trained teachers at Yambio and the Zande children have better overall reading proficiency; hence, individual participation does not consume as much time as it does at Nasir.

C. Outcome Data

1. Bari and Lotuho Literacy Tests

The results of the Bari and Lotuho literacy tests are presented in Tables 5 and 6 and in Figures 1 and 2. Figures 1 and 2 show the effect size (ES) of

Table 5
Bari Literacy Test Results

Test ^{b,c}	School ^a		
	Rejaf East (Project)	Rejaf West (Project)	Bungu (Comparison)
1. Vowel Words (10)			
<u>M</u>	8.2	7.4	9.1
<u>SD</u>	2.7	4.0	1.7
<u>ES</u>	- .52	- 1.00	--
<u>n</u>	20	11	15
2. Consonant Words (19)			
<u>M</u>	14.5	14.4	16.1
<u>SD</u>	4.2	5.8	1.2
<u>ES</u>	- 1.33	- 1.42	--
<u>n</u>	20	11	15
3. Known Words (10)			
<u>M</u>	9.4	8.4	9.0
<u>SD</u>	1.1	2.0	1.2
<u>ES</u>	.33	- .50	--
<u>n</u>	20	11	15
4. Unknown Words (10)			
<u>M</u>	6.6	5.9	7.2
<u>SD</u>	3.3	3.6	2.6
<u>ES</u>	- .23	- .50	--
<u>n</u>	20	11	15
5. Total Word Skills (49)			
<u>M</u>	38.8	36.1	41.4
<u>SD</u>	10.3	14.7	5.1
<u>ES</u>	- .51	- 1.04	--
<u>n</u>	20	11	15
6. Story Words (52)			
<u>M</u>	44.2	42.2	45.0
<u>SD</u>	14.2	14.5	10.4
<u>ES</u>	- .08	- .27	--
<u>n</u>	20	11	15
7. Reading Comprehension (6)			
<u>M</u>	3.2	2.4	2.7
<u>SD</u>	1.7	1.2	1.4
<u>ES</u>	.36	- .21	--
<u>n</u>	21	11	15
8. Dictation (16)			
<u>M</u>	15.0	--	13.7
<u>SD</u>	1.4	--	1.5
<u>ES</u>	.87	--	--
<u>n</u>	24	--	28

^a Primary 3 pupils were tested at Hiyala and Loronyo; Primary 2 pupils were tested at Torit East.

^b Numbers in parentheses indicate the maximum possible score for each test variable.

^c M = arithmetic mean, SD = standard deviation, n = group size; effect size (ES) was computed by subtracting the mean of the comparison group from the project group mean and dividing this difference by the standard deviation of the comparison group.

Table 6
Lotuho Literacy Test Results

Test ^{b,c}	School ^a		
	Hiyala (Project)	Torit East (Project)	Loronyo (Comparison)
1. Vowel Words (5)			
<u>M</u>	4.2	4.9	2.9
<u>SD</u>	1.7	.3	2.7
<u>ES</u>	.48	.74	--
<u>n</u>	20	10	7
2. Consonant Words (5)			
<u>M</u>	19.8	18.6	9.6
<u>SD</u>	7.7	4.5	9.2
<u>ES</u>	1.11	.98	--
<u>n</u>	20	10	7
3. Known Words (10)			
<u>M</u>	9.0	9.1	3.3
<u>SD</u>	2.2	2.2	4.3
<u>ES</u>	1.32	1.35	--
<u>n</u>	20	10	7
4. Unknown Words (10)			
<u>M</u>	7.3	6.3	2.9
<u>SD</u>	3.3	2.9	4.9
<u>ES</u>	.90	.69	--
<u>n</u>	20	10	7
5. Total Word Skills (52)			
<u>M</u>	40.4	38.9	18.6
<u>SD</u>	14.0	9.2	19.1
<u>ES</u>	1.14	1.06	--
<u>n</u>	20	10	7
6. Story Words (53)			
<u>M</u>	43.2	43.1	15.7
<u>SD</u>	16.7	11.5	25.5
<u>ES</u>	1.08	1.07	--
<u>n</u>	20	10	7
7. Reading Comprehension (8)			
<u>M</u>	6.0	4.7	1.4
<u>SD</u>	2.6	1.9	2.5
<u>ES</u>	1.84	1.32	--
<u>n</u>	19	10	7
8. Dictation (20)			
<u>M</u>	14.9	7.2	3.2
<u>SD</u>	6.6	7.0	5.9
<u>ES</u>	1.98	.68	--
<u>n</u>	22	42	17

^a Primary 3 pupils were tested at Hiyala and Loronyo; Primary 2 pupils were tested at Torit East.

^b Numbers in parentheses indicate the maximum possible score for each test variable.

^c M = arithmetic mean, SD = standard deviation, n = group size; effect size (ES) was computed by subtracting the mean of the comparison group from the project group mean and dividing this difference by the standard deviation of the comparison group.

Figure 1. Effect sizes of literacy test performance comparing Bari project schools (Rejaf East and Rejaf West) to comparison school (Bungu)

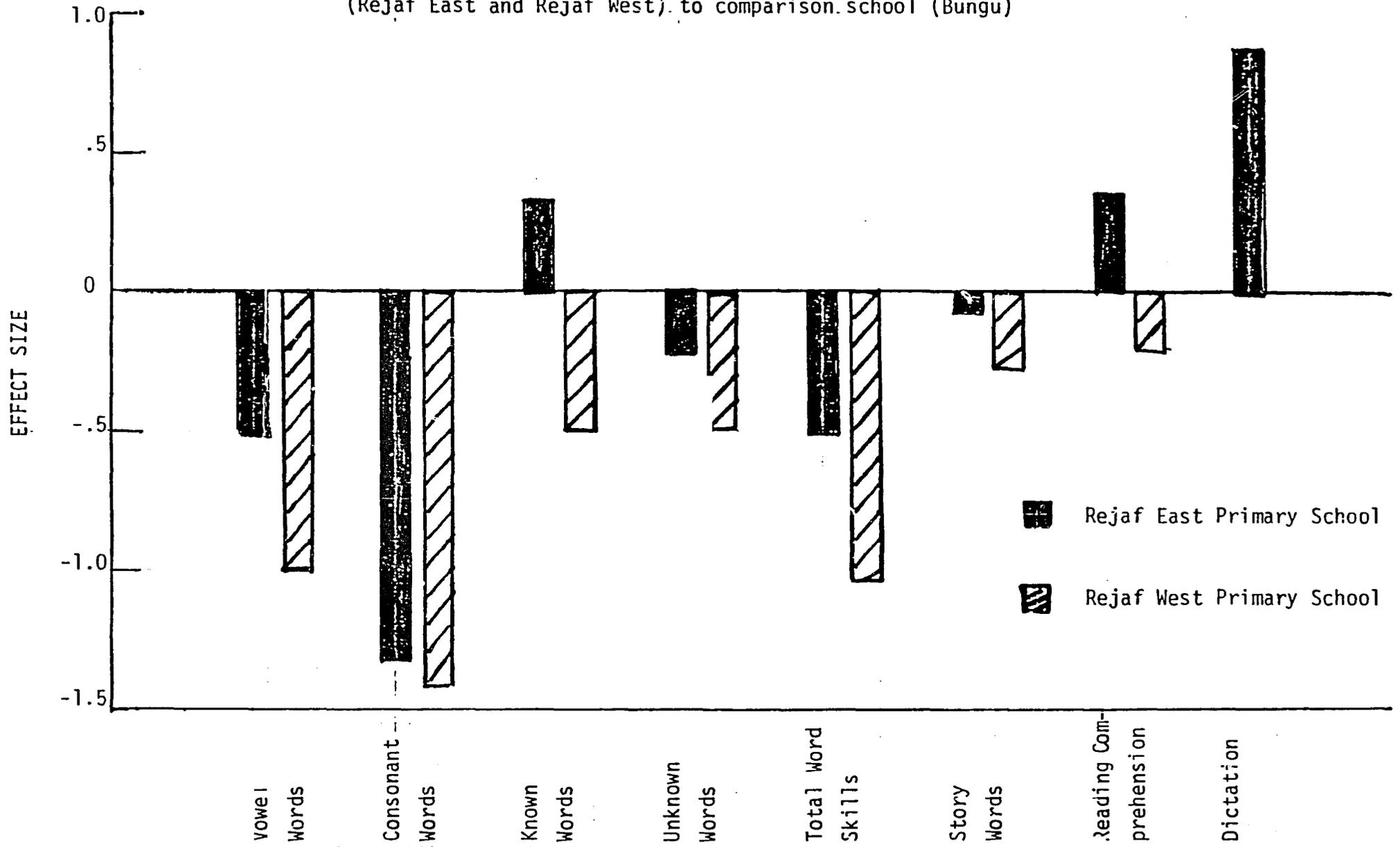
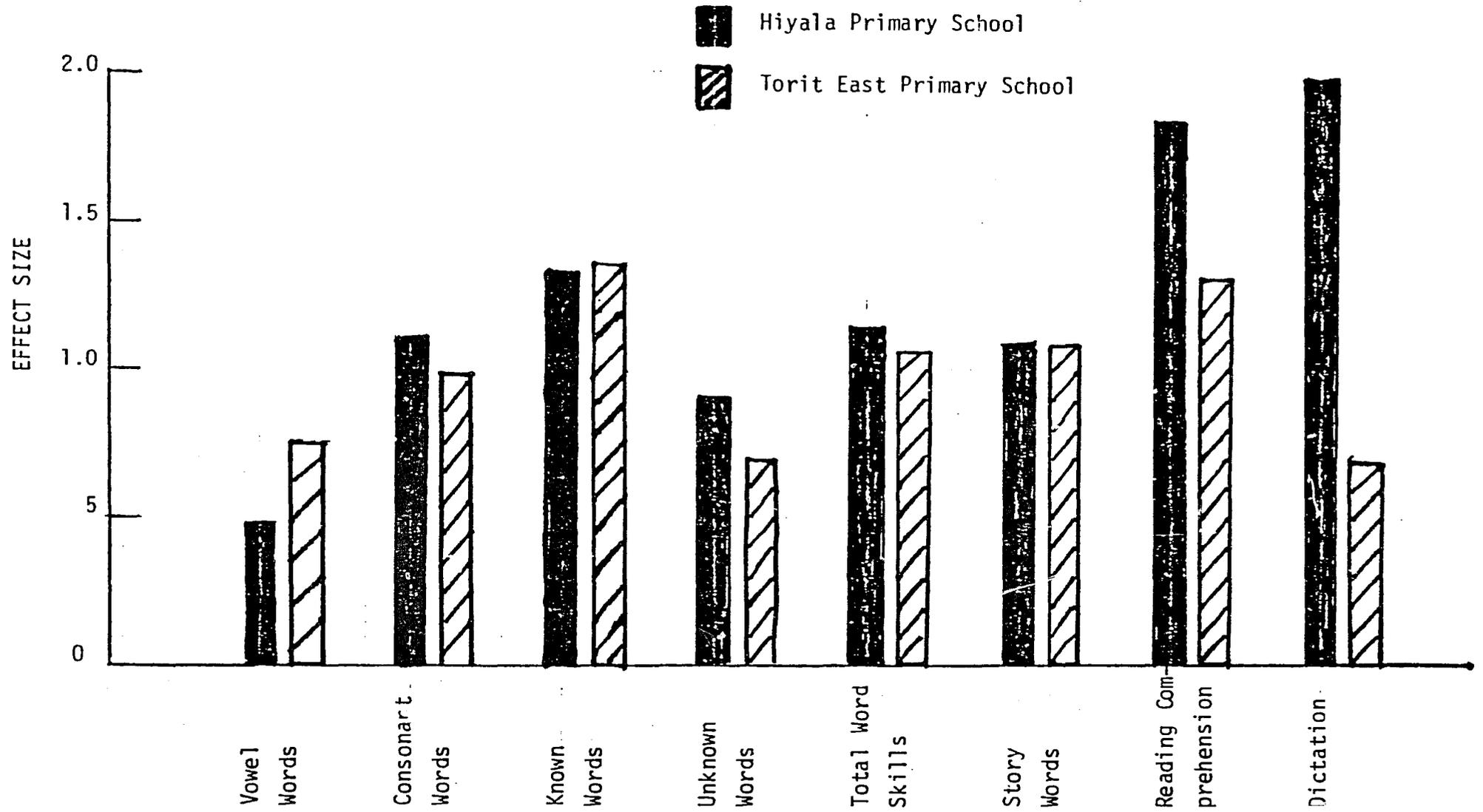


Figure 2.

sizes of literacy test performance comparing Lotuho project (Hiyala and Torit East) to comparison school (Loronva)



the project classes on the eight literacy measures compared to their respective comparison class. Effect sizes were calculated by subtracting the mean of the comparison group from the mean of the project group and dividing this difference by the standard deviation of the comparison group. A positive effect size indicates that the project class was superior to the comparison class while a negative effect size indicates that the comparison class was superior. An effect size with an absolute value of .5 or greater can be considered indicative of an important difference (Minium, 1978, p. 96).

For the Bari schools, examination of Figure 1 reveals that Rejaf East scored above the comparison school (Bungu) on only three of the eight literacy measures while Rejaf West performed worse than the comparison class on all of the eight measures. The finding that the comparison performed better than the two Bari project classes on most of the literacy tests is particularly intriguing in view of the fact that the P3 pupils in Bungu Primary School did not receive any Bari literacy instruction in 1981 (since all literacy instruction involved English reading and writing). They did, however, have Bari reading materials during P1 and P2 (although not the new project materials) and they had apparently retained a large part of the Bari literacy skills they had acquired during P1 and P2.

Among the Lotuho pupils (see Table 6 and Figure 2) the two Lotuho project classes outperformed the comparison class (Loronyo) on all eight measures of literacy skills with all effect sizes of .5 or above. Of the two Lotuho project classes, Hiyala performed better than Torit East on six of these measures while Torit East scored slightly higher than Hiyala on the remaining two measures.

It should be kept in mind that the pupils tested at Torit East were in P2 while the other two classes tested were in P3. This suggests that the pupils of Torit East have acquired literacy skills at a much faster rate than the

students in the other two schools. Although we can only speculate on why this is the case, the fact that the town of Torit is much more developed than the rural villages of Hiyala and Loronyo is very likely related to the relative success of these pupils. In contrast to the villages of Hiyala and Loronyo where children are very unlikely to see anything written outside of school, Torit (which became the provincial capital of Eastern Equatoria in 1981) has at least some signs with written English and/or Arabic and one can also find canned foods and other packaged goods in the market and shops with printed labels. It is also fairly certain that some of the Torit East pupils come from higher socioeconomic backgrounds than pupils of the other two schools. Finally, it should be mentioned that the P3 vernacular teacher at Torit East complained that on the day his pupils were tested, many of his best students were not present in class since they were making preparations for the visit of the head of the regional government which took place the following day.

Both the Bari and Lotuho test results are fairly consistent with the results obtained in 1980. In both 1980 and 1981 the Lotuho project schools clearly did better on the Lotuho literacy tests than did the comparison school while among the Bari schools the project schools did not generally do better than the comparison school. These findings were obtained in spite of the fact that there was considerably less than perfect overlap between the pupils tested in 1980 and those tested in 1981 in the four classes which were involved in both evaluations. (Although we sought to retest in 1981 all pupils who had been individually tested in 1980, attendance inconsistency made this impossible. Of the 14 pupils who were tested individually in Rejaf East in 1980, only 5 (36%) were again individually tested in 1981 with the addition of 15 pupils who were not individually tested in 1981. For Bungu, Hiyala, and Loronyo schools the percentage of P2 pupils individually tested in 1980 who were again tested individually in 1981 at P3 was 83%, 22%, and 44%, respectively.)

Therefore, if we assume (as appears to be the case) that most primary schools in the Southern Sudan have no or very limited amounts of pupil materials for use in teaching vernacular literacy skills, then the difference between the Lotuho project and Lotuho comparison groups in performance on the Lotuho literacy tests could be taken as some indication of the impact of the literacy project. However, as noted last year and seen again in this report's findings, the relatively good performance of the Bari comparison group suggests that what makes a difference is the availability and use of vernacular literacy materials by the pupils and there is as yet no clear evidence that the Cycle 1 materials are superior to the older materials that had been used by the Bari comparison group (Bungu) at P1 and P2.

In fact, the generally superior performance of the Bari comparison group in the total absence of vernacular literacy instruction during P3 indicates that the materials and method used for this group in P1 and P2 may have some important advantages over the new project Cycle 1 materials and methods. As described in last year's evaluation, one of the major differences between the two materials and methods is the teaching of letter names and sound blending to decode written words to their spoken forms. This would suggest that the drills and format of the new Bari and Lotuho materials designed to teach a decoding or "word attack" are not as effective as the more traditional techniques of teaching letter names and the sounds represented by each letter.

The overall literacy skills of the Bari and Lotuho project groups appeared to remain quite low. Very few of the Bari or Lotuho pupils tested demonstrated literacy skills that went beyond basic word recognition and word attack skills. Although it is Cziko's impression that there was in general a slight improvement in these skills over last year, pupils continued to have considerable difficulty reading most words which they had not already studied, including common short words made up of letters with which the children should have been well familiar.

Since only a few Lotuho pupils demonstrated fairly fluent oral reading skills with good comprehension, it appears that the majority of the project pupils tested have acquired at best some basic decoding and word recognition skills but are weak in reading comprehension skills. It may well be that the high repetition rates of a relatively small number of words and the slow rate of introducing new words into the Bari materials noted by Cowan (1980) are at least partly responsible for this since the children are not given much opportunity to develop skills for decoding new words. Considering the amount and type of vernacular materials these pupils have available to them, the type of instruction they receive in school, and their very limited or non-existent exposure outside of school to demonstrations of the functions of literacy, we would predict that under present conditions the overwhelming majority of the pupils in these Bari and Lotuho classes will not achieve true functional literacy and that the few who do will not keep these skills for long given the almost total lack of vernacular reading materials in the rural areas of the Southern Sudan. Recommendations to improve this situation are included in Chapter V.

2. Nuer Literacy Tests

Table 7 shows that the performance of the Nuer children was not particularly spectacular. A generally decreasing trend is evident in the percentages of the nonsense syllables (72%), known words (67%), unknown words (25%), and number of comprehension questions (27%) correctly answered. One possible interpretation of this is that, at the time the test was administered, the children had gained some minimal facility in recoding symbols into sound (evidenced by the children's performance on the nonsense syllables), but that they were still unable to apply this to new words, and hence were largely dependent upon recognizing known words in order to read with comprehension. Two findings tend to support this interpretation. First, the Pearson product-moment correlation between the number of known words correctly read in the

Table 7
Nuer Literacy Test Data: Nasir West Primary School

A.	Number of Pupils Tested	21
B.	Average Age	9 yrs. 8 mos.
C.	Average Number of Days Attended Class (Total = 115 days)	87
	Range	78 - 112
D.	Mean Number of Nonsense Syllables Correctly Read (12)	8.7
	<u>SD</u>	3.0
	Range	1 - 12
E.	Mean Number of Known Words Correctly Read (10)	6.7
	<u>SD</u>	2.6
	Range	2 - 10
F.	Mean Number of 'Built' Words Correctly Read (10)	2.5
	<u>SD</u>	2.8
	Range	0 - 8.5
G.	Mean Number of Words in Passage Read Correctly (56)	33.4
	<u>SD</u>	12.3
	Range	11 - 50
H.	Mean Number of Comprehension Questions Correct (6)	1.6
	<u>SD</u>	1.3
	Range	0 - 4

Note. Numbers in parentheses indicate the maximum possible score for each test.

tests and the number of comprehension questions correctly answered is quite high: $r = .72$. Secondly, the performance of the children in the oral reading test mirrors the classic symptoms of poor readers found in studies like Weber's (1970) and Neville and Pugh (1977).

Whenever the children encountered a word that they did not immediately recognize, they would adopt one of two strategies: most of the time they would substitute a word which physically resembled the one they could not read. Table 8 shows the bases of these substitutions. The overwhelming majority fall into categories 1, 3, 4, and 6. As might be expected, of these four error types, the most common was the retention of the initial consonant (and/or vowel elements). The child attempts to read a word (the 'target'), but is unable to process more than the first few segments, and simply creates a meaningful word that has sound which matches those that he has recoded. The match can also be on the basis of final elements of the target word (type 3), or a simple vowel (type 6). With monosyllabic words, the child may simply misread the medial vowel (type 1). Certain high frequency functors which differ only by the absence or presence of a single element and make perfectly good sense may be interchanged, e.g., /ken (negative/past/3rd singular) is read /kenε (negative/past/3rd sing., sentence initial) or a single element will be united (type 7). Slightly over 14% of the substitutions occur with words which have no visible similarity to the target word.

What is critical for the interpretation of this data is that only about 2% of the substitutions make any semantic sense. Sometimes a substitution would make partial sense for part of a clause, but not for the entire sentence. For example, a high frequency substitution (10 tokens) was the word 'man,' 'mother,' for mee, 'when,' in the sentence,

Mee	cε	ben	/ken	kuäär	gaak	kε	jε
When	3rd sing. past	come	neg. 3rd sing. past	teacher	scold	with	her

Table 8
Nuer Oral Reading Errors

Error Type	Total	% of Total Number of Oral Reading Errors
1. Internal Vowel Change ken → kǎn rɛk → rɔk	34	9.3
2. Substitution tee gat kuäär bithde	53	14.5
3. Final Element(s) Retained ɛlɔŋ → kɔlɔŋ { (C) (V) C } pi → ki wec → rec kuäär → raar	65	17.8
4. Initial Consonant Retained bakeɪ → bǎ guath → gua bok → bom	86	23.5
5. No Attempt	45	12.3
6. Single Vowel Retained rɛk → ɛ yöö → nɔŋ kuäär → cǎŋ	52	14.2
7. Difference of one V or C (Includes deletions and epenthesis) /ken → /kene kuäär → käär wecdien → wecien	29	7.9
8. Other	2	.6

'When she came, the teacher did not scold her.'

The substitution results in a meaningful first clause, since *man ce ben* means "(the) mother came." But the remainder of the sentence cannot be continued, since a conjunction like *ke ne*, 'and' would have to be inserted before the negative morpheme to preserve grammaticality. The result of this substitution would be a grammatical sentence: 'mother came, and the teacher didn't scold her.' But this sentence would then be meaningless in light of the preceding context, since the story is about two girls, one of whom, Nyaluaak, has lost her school books and is afraid that the teacher will scold her for this when she arrives at school. The subject of this sentence is Nyaluaak; there is no mention of a mother anywhere in the story. In general, all meaningful and grammatical substitutions are of this type. The substitution maintains grammaticality for the extent of one or more adjacent constituents, e.g., 'paths,' *dupkien*, 'their paths,' is substituted for *wecdien*, 'their village,' in the phrase: *ke yoo* (because) *kam* (between) *wecdien*, (village/their) *kam* (and) *rek* (town) 'between their village and the town,' *dodien*, 'another,' is substituted for *wec*, 'village,' in the noun phrase *wecdien*, 'their village;' *guil*, 'look at,' is substituted for *gol*, 'skirt/go around,' in the verb phrase *pi gol*, 'skirt the water.' Although these substitutions produce grammatically and semantically acceptable alternatives, one cannot help noticing the similarity in terms of common letters between the target words and the substitutions, and it is difficult to avoid the conclusion that the primary basis for substitution is the recognition of a few letters in each word that the child cannot read.

The other strategy manifested by the Nuer children was simply to remain silent whenever they encountered a word that they could not sound out. This is generally considered to be a classic symptom of weak readers. Very rarely did a child ever back up and attack a sentence again in an attempt to make use of previous context to decipher a problem word. Taken together, these two

strategies argue that the Nuer children are extremely "word oriented," and have yet to develop proficiency in word attack skills. Moreover, they seem unable to make effective use of context in reading.

Pearson product-moment correlations were computed to determine possible relations between performance on different levels of the test and attendance. These were all fairly low: (a) attendance and comprehension score, $r = .51$, (b) attendance and nonsense syllables, $r = .40$, and (c) attendance and known words, $r = .11$.

3. Zande Literacy Tests

Due to the projected short duration of Cowan's stay at Yambio, testing on a scale comparable to that undertaken at Nasir was not contemplated. It was hoped that there would be time to develop a reasonably adequate Zande reading list similar to the one undertaken by Cziko in 1980, which could be used for comparison evaluation in 1982. Other than that, Cowan had planned to observe several classes and collect process data. However, these plans were changed when the performance of the first class observed revealed a dramatic contrast with what the consultant had seen in Nasir. The unavoidable impression was that the Zande pupils were reading with far greater facility than the best Nuer pupils in Nasir. The contrast was so striking that it cried out for an explanation, particularly since both test populations were, to a large extent, matched, i.e., they had both begun school at the same time, had been assigned to classes according to their ability, and were roughly at the same level in their primers. There was, one very significant difference. The Zande children had been allowed to take their primers home after school for about five weeks prior to Cowan's visit, whereas the Nuer children had access to their primers only for the two periods they were in school. The possibility that the Zande children's superior performance was due to extra exposure to reading outside of class was an obvious hypothesis.

In order to determine whether our impression of the Zande pupils' proficiency was justified, and to discover whether the children were indeed reading outside of class, Cowan allocated different testing tasks to the IRL and the six personnel present. The IRL language officer, Bullen, and the SIL consultant, Jocelyn Clavinger, administered the Zande reading test described earlier to individual students while the consultant, IRL Office John Baptist Asan, and SIL consultant Alice Van Bergen performed spot tests with pupils in each of the top two classes. The procedure for the latter test was as follows: we asked the entire class three questions: (1) How many of you read your books at home? (2) How many of you receive help with your reading at home from your parents? and (3) How many of you who don't have parents who can read are asked by them to demonstrate how well you read and write regularly? In the top class (21 children), 11 children claimed that they received help regularly from their parents, six children claimed that they read by themselves regularly, and 20 children claimed that their parents required them to demonstrate what they had learned in school regularly. One child said that she had not read ahead because she doesn't have a primer. In the second group, all 14 children present that day claimed to do some reading in their books at home. Eight out of 14 children claimed to have read to the end of the primer.

Next, we asked individual children how far beyond the primer lesson taught that day that they had read. As each child responded with the number of a lesson, he or she was asked to turn to the comprehension passage for that lesson, to read it aloud, and then to answer the comprehension questions that followed it (these were asked orally by the teacher). The oral reading errors were recorded as well as the number of comprehension questions correctly answered. Of the 19 children in the top group, 17 were able to read at least one lesson beyond the currently completed lesson (lesson 49). Two children attempted lessons which were too difficult for them, and were unable to read

the story completely. The breakdown of the lessons attempted by the students and number of comprehension questions answered successfully is shown in Table 9. Note that over 25% of the students were capable of reading 12 to 15 lessons beyond where the class actually was in the primer, and 77% of the class was capable of reading at least three lessons beyond the lesson just completed. In the next lowest class, Group 2, 50% of the students were able to read four lessons beyond what was currently being taught, and 60% were able to read three lessons beyond the current lesson. The mean oral error rate for this class was higher than the top group (Group 1, $\bar{M} = 3$; Group 2, $\bar{M} = 5.2$), and the children in this class tended to block (refuse to persist when they couldn't read a word) more frequently than the children in Group 1.

One is inevitably tempted to combine the results of these spot tests with the results of the reading tests administered by Jocelyn Clavinger and Bullen (Table 10) to 12 Zande children and make some comparison with the Nuer children tested in Nasir. Strictly speaking, such a comparison is specious, since there is no way of determining whether the tests devised for the Nuer and Zande children are in any way equivalent. Nevertheless, the small sample of children tested by Jocelyn Clavinger and Bullen achieved much higher scores on all parts of the test than the Nuer children did on their test. Table 11 shows that basically the same types of errors occur with some exceptions. As one might expect in a language which contains a lot of initial consonant clusters comprised of velars and bilabial stops or nasals and a homorganic stop, like Zande, an epenthetic vowel /a/ will be inserted in reading, e.g., error type 2. Similarly, initial segments will be deleted: error type 1.

It is difficult not to conclude that the Zande children are reading better than their Nuer counterparts. If this conclusion is in fact true, the difference between the two groups could be attributable to one or more of the following factors. First, and most obviously, the Zande children have a more

Table 9
Zande Spot Reading Test

A.	Group 1	Sex	Lesson Attempted ^a	No. of Questions Correctly Answered
	Student 1	male	50	All
	Student 2	female	50	3 out of 4
	Student 3	male	50	All
	Student 4	male	51	All
	^b Student 5	female	52	3 out of 5
	Student 6	male	52	All
	Student 7	female	53	All
	^b Student 8	female	54	3 out of 4
	Student 9	female	55	All
	^b Student 10	male	56	All (considerable difficulty)
	Student 11	male	56	All
	Student 12	male	57	All
	Student 13	female	59	Fails to complete passage
	Student 14	female	59	Fails to complete passage
	^b Student 15	male	61	All
	Student 16	male	62	4 out of 5
	^b Student 17	male	62	3 out of 5
	Student 18	male	63	All
	Student 19	male	64	All

^aThere are 64 lessons in the primer.

^bThese children had some trouble with the story. Their reading was slower and more halting than that of the other children and they made more than the average number of errors (3).

Table 10
Zande Literacy Test Data: Yambiò Primary School

A.	Number of Pupils Tested	12
B.	Mean Number of Nonsense Syllables Correctly Read (15)	13.8
	<u>SD</u>	1.8
	Range	10 - 15
C.	Mean Number of Known Words Correctly Read (10)	9.8
	<u>SD</u>	.4
	Range	9 - 10
D.	Mean Number of 'Built' Words Correctly Read (10)	8.2
	<u>SD</u>	2.7
	Range	1 - 10
E.	Mean Number of Words in Passage Read Correctly (84)	81.2
	<u>SD</u>	2.7
	Range	72 - 84
F.	Mean Number of Comprehension Questions Correct (7)	5.3
	<u>SD</u>	1.8
	Range	3 - 7

Table 11
Zande Oral Reading Errors

Error Type	Total	% of Total Number of Oral Reading Errors
1. Deletion of Initial Consonant(s) gbe → be ngbarago → {gbarago barago}	7	12.3
2. Epenthetic Vowel mbi → mabi gbe → gabe	11	19.3
3. Final Element(s) Retained ngbarago → rungo bere → mere	7	12.3
4. Initial Consonant Retained oro - ora bayugupai - bapu	12	21.0
5. Deletion of Medial Consonant gunde → gude bambiko → bakiko	3	5.3
6. Epenthetic Consonant gbe → ngbe	5	8.8
7. Substitution	3	5.3
8. Retention of Single C or V nda → du	2	3.5
9. Internal Vowel Change bere → bire	1	1.8
10. No Attempt	6	10.5

literate environment. Because they are allowed to take their books home, the possibility for additional reading outside of class exists (and is taking place, if we are to believe the children's reports), whereas the Nuer children's reading experience is confined to two periods at school each day. Second, the Zande school has more trained teachers. Consequently, the children can receive more individual instruction in their ability groups. As pointed out earlier, in Nasir, all of the children are for some period of the day taught by one teacher. It is very possible that less actual learning is taking place in these classes than in the smaller groups, where attention may be more focused. A third possibility is that the tests are not of equal difficulty. More time was spent developing the Nuer than the Zande test. Fourth, the inconsistent procedure used in administering the Zande test to the first seven children may have elevated their scores somewhat. Fifth, there is always the possibility that the difference in the sample sizes of the two groups tested may have contributed to the difference in performance. Had there been more time, the testing of more Zande children might have brought down the overall performance level of that group. And finally, the frequency with which words are recycled in the Zande primer may be greater than in the Nuer primer, making the former easier to read.

We are inclined to believe that a combination of the first two factors has resulted in the Zande children becoming better readers than the Nuer children. Obviously this conclusion deserves further investigation. Still, we feel justified to point out the important implications which arise from the comparison of the Zande and Nuer children. In our past reports, we have argued that a crucial difference in the setting of this project and other literacy endeavors is that the rural Sudanese children have little or no exposure to the written word outside of school (Cowan, 1981; Cziko, 1981). The difference in reading between the Zande and Nuer children suggests that the single most

important factor in promoting literacy may be an increased exposure to reading materials outside of school and the encouragement and assistance they report receiving from their parents. This implies that the effectiveness of the current program could be increased dramatically by the institution of three policies: (a) allowing the children to take their books home, (b) encouraging them to read outside of school, and (c) creating a more literate climate in the community through the dissemination of books and pamphlets in the local languages which contain subject matter of interest to adults and children. The Juba University College of Education—CIDA plan described in Chapter IV may be a way to implement the latter recommendation.

4. Pupil Interviews

Answers to the three questions asked of those students who were individually tested were categorized for analysis. In answering the first question, "Why do you come to school?" the majority of the Bari and Lotuho pupils in all the schools except Hiyala gave "to learn" as the principal reason, with reading or writing most commonly claimed as the particular skills they wished to learn. Among the Hiyala pupils, however, almost half of the pupils interviewed gave "becoming civilized, wise, and/or clever" as their reasons for attending school. Only one of the Bari and Lotuho pupils gave an employment-related reason for attending school, and a total of five students reported that they felt obligated to go to school. Both the Nuer and Zande children seemed to be somewhat confused by the first question. The Nuer and Zande children seemed to be somewhat confused by the first question. The Nuer children gave different answers, ranging from "my brother brought me," to "I want to know all things they teach in school, because some day I will be a big chief." The majority, 8 of the 18 Nuer children who responded, and 10 of the 12 Zande children simply said "to learn."

For the second question, "Why do you want to learn to read and write?" most pupils reported that they wanted to become literate so that they could

become important (often referred to as being a "big man"), civilized, knowledgeable, clever, or "like you" (referring to the relative wealth and status Cziko and the Lotuho language officer, Massimino Allam, who conducted the interviews). A fair number of employment-related reasons were also given at the three Lotuho schools. The Lotuho pupils also gave relatively more education- and wealth-related reasons for learning to read and write than did the Bari pupils. The Nuer children gave widely varying answers. Five children said they wanted to be able to read the Bible. The remainder gave answers ranging from "So that when I see something that is written, I can read it," to "So that I can have respect for my clan." The Zande children, on the other hand, were split evenly in their responses. Six children said simply "to know," but five said "to be a person of the future." This may be interpreted as meaning to be someone who is knowledgeable and who thus has a better opportunity to improve his life. One child said "I want to be able to read so that if my father dies in a far place and writes me a letter to tell me about it I'll be able to understand it.

Finally, when asked, "Do you read or write outside of school?" answers varied widely from school to school. All the pupils interviewed at Hiyala and Torit East replied that they did read or write outside of school, while only one-fifth to one-third of the pupils in the remaining schools reported doing so, except for Rejaf East, where half of the pupils interviewed said they did read or write outside of school. Among the materials reported as being available at home to read, school books (the new vernacular reading materials used at the project schools) appeared to be the most popular, followed by religious materials in the vernacular language or in English. The question put to the Nuer and Zande children differed slightly due to the fact that these pupils were all in P1. The actual phrasing of the question was: "What will you read or write when you learn how to?" Again, the Nuer children gave quite varied

responses. Four children said that they would read "some books." Two said that they would read the Bible. Three children said that they wanted to be able to write a letter or whatever they felt like. One said that he would get a job with his knowledge and writing would help him in this; and five children gave responses which were more appropriate for the second question: two said they would become pastors and teach their people, and three said that they would become teachers. Eleven of the Zande children said that they would read the books they had in school, and one simply maintained that he would write the Zande language.

IV. THE JUBA UNIVERSITY COLLEGE OF EDUCATION-CIDA PLAN

For some time, it has seemed to us, as outside observers, that the literacy project would have a very limited chance of success unless a more literate climate could be created in the rural villages. The prospects for this happening seemed remote, since the SIL manpower resources are barely adequate for the primary school project. Some excellent efforts by SIL consultants to teach Sudanese writers how to produce materials had been initiated by Claudia Scott and continued by Wanda Pace in the form of writers' workshops held at Wau. Unfortunately, the products of these workshops were so limited (10-20 copies) that there was little likelihood of their making any substantial impact on individual communities.

Prior to our arrival in Juba, we had discussed how additional resources outside the SIL/IRL commitment might be mobilized, and decided that the College of Education at Juba University might be one possibility. Upon our arrival, we met with Professor Roy Davis, Dean of the College of Education, and solicited his suggestions. Professor Davis was very receptive to the idea of the College of Education assisting the literacy project. He suggested that the new program he was developing in primary education might be one way of accomplishing this. Furthermore, he indicated that the new Development Studies Center being established under the auspices of the Canadian International Development Agency (CIDA) might assist in the production and development of additional literacy materials. Thanks to the assistance of Roy Davis, Dick Bergman and Wanda Pace, a meeting was arranged for November 25th, at which a proposal for involving the College of Education and the Development Studies Center in the literacy effort was developed. Attending that meeting were J. Ronayne Cowan, Dick Bergman, Roy Davis, Wanda Pace, John Baptist Assan (IRL literacy officer), Edward Mandeson (IRL literacy officer), Dr. John Scoggan, Director of the Development Studies Center, and Ms. Peggy Teagle, Field Coordinator of the Development Studies

Center. What follows is a description of the proposals developed at that meeting.

Dr. Davis explained that within the four-year B. A. course at the College of Education, he was in the process of introducing a one-year diploma in primary education. Teacher educators and primary teachers would be recruited for this program, some of whom may not be secondary school graduates. This program is intended to begin in March of 1983. In order to assist the literacy project, Dr. Davis proposed that selection of candidates for this program be weighed heavily in favor of speakers of the languages presently taught in the literacy program, and those for which literacy materials are to be developed in the future. As part of the course requirement, the students in this program would produce supplementary materials in the various regional languages which would then be distributed to various communities. Dr. Davis estimated that about 20 students per year would be graduated from the program.

More immediately, Dr. Davis proposed to identify native speakers of languages targeted for the IRL/SIL literacy project currently enrolled in the B. A. program and have them produce supplementary literature in these languages as part of the Principles and Practices of Education course. SIL would assist by providing input about specific orthographies and any other technical expertise required. The materials written by these students would then be produced by the Materials Production Unit of the Development Studies Center.

The CIDA sponsored Development Studies Center has been established to promote rural development in the Southern Sudan. The Center will have printing equipment by April of this year. As part of a five-year rural development project, Dr. Scoggin and Ms. Teagle have targeted a number of communities where they will concentrate their efforts, and literacy will be instrumental in fostering the goals of their project. Working with Dr. Davis and his students, they plan to produce around 2,000 copies of materials for dissemination

in each of the communities identified for the project, and from September to mid-December of this year, they will begin distributing project materials and studying the effects of the program. The collaboration of IRL, SIL, the College of Education, and the Development Studies Center means that various sites which are already a part of the IRL/SIL project can be brought into the scope of CIDA's rural development project. If, for example, Zande speakers are among Dr. Davis's students, communities like Yambio could reap the benefits of this collaboration as early as the fall of 1982. Communities further removed from the CIDA project areas may also profit from this cooperative arrangement, provided that native speakers of the languages in those communities are enrolled in Dr. Davis's course and that SIL is able to assist in transporting the literacy materials written by these students and subsequently printed at the Development Studies Center.

V. RECOMMENDATIONS

In this section we offer a number of recommendations which we strongly believe would improve the effectiveness of the literacy project in fostering the development of skills in the Southern Sudan. These recommendations are based not only on the information presented in this report but also on information and impressions gathered during prior visits to the Southern Region as reported in Cowan (1980), Cowan and Cziko (1980), Cziko (1980), and Cziko (1981).

1. We believe that a concerted effort must be made to introduce meaningful activities into the reading materials of the type suggested in Cowan (1980). Observations of Nasir and Yambio indicate that one innovation of this type which has been incorporated in the Cycle 2 materials--the Context Clue Drill--is well received by teachers and students. We recommend strongly that the other innovations agreed to at the Maridi Workshop be incorporated into all Cycle 1 and 2 materials as soon as possible. In his discussions with Joycelyn Clavinger, Cowan was told that the SIL/IRL revision teams were committed to the following innovations, for Zande, Nuer, and Kresh, all of which are contained in Cowan's (1981) report: (a) the creation of alphabet books; (b) the revision of the letter drill to make it more meaningful as an activity, (see Cowan, 1981, p. 23 and Appendix B); (c) the creation of supplementary story books which will be used as soon as the students have reached lesson 25 (see Cowan, 1981, pp. 26-28) and (d) the creation of a meaningful drill which will either supplant or supplement the existing "functor" lesson. These drills will take the form shown in Appendix A of Cowan's 1981 report where the child has to read four sentences, two of which accurately reflect what is illustrated in the accompanying picture. Appendix B of this report shows some examples for Nuer. This activity forces the children to read all four sentences, which are structurally similar, and understand them, in order to make a decision about

the picture. It is an enjoyable activity which stresses the fact that reading is for meaning.

2. The comparison of the Zande and Nuer children's reading abilities constitutes a compelling argument for instituting a policy whereby the children are allowed to retain their primers outside of school. The potential benefits from such a policy far outweigh objections such as possible expenses incurred due to lost or damaged books. Although it seems clear that allowing pupils to bring their books home will not in itself guarantee the development of fluent reading skills (since the Bari and Lotuho project pupils were also allowed to take their books out of school), it is the only way which most of these pupils can have contact with literacy outside of school and the only way by which their parents and other family members can become involved in and stimulate the education of these children. We urge that this policy be instituted by all Cycle 1 and 2 languages, and that it apply to both the primers as well as the supplementary story books.

3. We urge that the cooperative plan between IRL/SIL, the College of Education of Juba University, and the CIDA project be vigorously pursued. Such a joint effort could potentially provide vernacular-language materials for the teaching of other subjects within the primary school (which are desperately needed) as well as create a climate of increasing literacy which would reinforce and give added purpose to school literacy instruction.

4. Although a number of teacher training workshops were held for Cycle 1 languages from December 1980 to September 1981 in Rumbek, Wau and Juba, these were all run or supervised by SIL personnel. Nothing has been done to make IRL personnel capable of running teacher training workshops on their own. This is an area that needs attention, but it is difficult to see how much can be done if more SIL personnel are not recruited for the literacy project. The progress of the entire project may be seriously impeded as of July 1982, when

both Julie Van Dyken and Joycelyn Clavinger are scheduled to go on leave, Joycelyn indefinitely, Julie for at least three months. Releasing Wanda Pace from her position at Juba University to work on the project will not fill this gap adequately.

5. The only reasonable solution to the problem of large classes is to break them up into smaller groups. Where there is a lack of trained teachers and an abundance of pupils, the approach taken by Miriam Farquhar--recruiting and training teachers' aides--seems to be better than letting one teacher handle 40 to 100 students. We recommend that some attention be devoted to developing a procedure for training teachers' aides. Obviously, Mariam Farquhar would be a valuable resource person for this.

6. Finally, we recommend the establishment of a demonstration school at Maridi, where teachers from different language backgrounds could observe an expert teacher executing lessons correctly. In the morning, teachers would receive a preparatory lecture describing a specific teaching technique, and then would watch an expert teacher demonstrate that technique in an actual class. After the lessons, there would be time for discussion and questions. In the afternoon, the teacher trainees would try out the technique on their colleagues and be critiqued by the teacher training course supervisor and the master (demonstration) teacher. We recognize that there are certain logistical problems associated with this proposal, but we believe the potential benefits to be derived from it in terms of increased teacher competency justify its serious consideration.

VI. SUGGESTIONS FOR FURTHER RESEARCH

Over the past two years, the authors have learned a very great deal about the implementation and impact of an ambitious project designed to provide vernacular literacy skills to primary school children in what is clearly one of the poorest, most isolated, and linguistically complex areas of the world. We hope that this report and the preceding ones have been successful in communicating a major part of what we have learned and have provided information useful to those involved in this project and to others planning to implement a project like it.

However, as is most often the case with research in the social sciences, our research has raised a good deal of questions in addition to providing possible answers to others. Surely, the low level of literacy skills achievement among the Bari, Lotuho, and Nuer children taking part in the literacy project should come as no surprise given the context in which these primary schools function. We also doubt that many would contest our belief that providing increased opportunities for the functional use of vernacular literacy skills both inside and outside the classroom would do much to foster the development of these skills. What is surprising, however, is our finding that most of the children of the Zande school appear to be making remarkable progress in acquiring vernacular literacy skills compared to the other three language groups. For this reason, we believe that the most potentially useful research that remains to be done on the literacy project would be an attempt to discover the factors that are associated with the relative success of the Zande children and their implications for the rest of the project.

One way of investigating this phenomenon would be to continue study of both the Zande and Nuer children who were included in this evaluation, broadening the data base by including children from additional schools as the project materials are distributed more widely, and deepening the data base by collecting

information on the uses of and exposure to literacy outside of school, family support and encouragement for school learning and literacy development as well as on teacher, instructional, material, and attendance variables and the influence of the IRL/SIL-Juba University-CIDA plan if implemented. The basic research design could be one of "natural variation" in which natural variation in the above-mentioned variables is used to attempt to explain variation in the attainment of literacy skills and school achievement. Focus on the Nuer and Zande pupils seems warranted due to the apparently large degree of variability in their attainment of reading (generally high for the Zande and lower for the Nuer) which does not seem present among the Bari and Lotuho groups.

Findings from such a study could have important practical implications for the IRL/SIL project as well as add to our general understanding of the social, home, school, and pupil variables which influence the acquisition and use of literacy in the rural third world. As an example of possible practical implications for the literacy project, finding that parental support for reading and the availability of vernacular reading material outside of school have a strong positive relationship to literacy achievement would suggest that involvement of parents in the teaching of their children should be pursued and that supplementary reading materials of general interest should be provided in conjunction with the other activities of the literacy project. While we are fully aware that undertaking such research would inevitably meet many problems due to the lack of resources in the area, we feel that the present push for literacy and improved primary education in the Southern Sudan provides a unique opportunity for us to gain a deeper understanding of the developing role of education and formal education in one of the least developed areas of the rural third world.

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APPENDIX A

Summary of Cziko, 1981

This report presents the results of the first impact evaluation of Local Languages Literacy project in the Southern Sudan conducted in November and December of 1980. Background, process, and outcome data were collected focusing on two Primary 2 project classes (one Bari and one Lotuho) using the new project materials and two Primary 2 comparison classes (also one Bari and one Lotuho) not using the new materials.

The background data revealed that there are serious obstacles to the teaching of literacy skills to elementary school pupils in the Southern Sudan. Among these obstacles are a lack of educational materials, trained teachers, and contact with and use for literacy skills outside of school. The process data showed that largely ineffective methods were used to teach literacy skills in the two comparison classes and, to a slightly lesser extent, in the two project classes. These methods consisted almost entirely of repetitive reading drills with little or no emphasis on meaning. The outcome data suggested that the general reading ability of all four classes examined was quite poor, certainly far below the level typically achieved by children in the US at the end of Grade 1. However, the literacy project appeared to be having some positive impact on the literacy development of children who would not normally have access to vernacular reading materials in primary school.

The major recommendation offered for enhancing the impact of the project is to provide more interesting and meaningful reading materials for the pupils and to conduct class activities which focus more on the functional uses of literacy. Given the almost total lack of exposure of these children to situations where literacy is used outside of the classroom, it would appear essential that the function of literacy as a communicative tool be clearly demonstrated inside the classroom if these children are to become literate in any meaningful sense of the word.

APPENDIX B

While in Nasir and Yambio, Cowan proposed an alternative to the "functor" drill used in all primers. At the seminar in Meridi, he argued that the present drill has no theoretical justification for materials designed to teach native speakers to read their own language. At best, it might have some marginal usefulness for teaching a language to non-native speakers, and indeed it bears a strong resemblance to the structural pattern drills (sometimes presented with boxes around the various constituents in the sentence which is to be focused on) found in English as a Second/Foreign Language materials and foreign language materials. This argument fell on deaf ears, largely because within the SIL group in the Sudan, there is, understandably, a strong philosophical commitment to all elements in the "official" SIL approach to producing literacy materials. And, indeed, the alternative functor drill devised by Rick Brown in the Appendix of Cowan (1980) does not represent any marked deviation from the original format for this exercise. Even though this report presents quite compelling evidence that many of the basic components of the SIL design, in particular the letter drills and the rate of vocabulary introduction in the stories, are in serious need of revision, if the pupils for whom the primers are intended are to master even basic decoding skills, we suspect that the SIL field personnel will be reluctant to discard the functor drills entirely. We therefore propose that the alternative exercise described here be included as a supplement to the functor drills.

The exercise we are proposing is modeled on drills currently used in many English reading series. Its aim is to emphasize that there is a purpose behind reading sentences -- to extract the mean of what is written on the page. The exercise involves reading four sentences which are arrayed beside a picture. Only two of the four sentences actually describe what is depicted. An example could be:

Sentences

The monkey is on the top of the barn.
 The monkey is beside the barn.
 Jok is sitting in front of the barn.
 Jok is sitting beside the barn.

Picture

Picture of a Nuer cattle barn (hut) with a man sitting beside it, and a monkey on the roof.

It is important that two sentences actually match what is shown in the picture, since the students should feel obligated to read all four sentences. If they anticipate finding only one correct answer, then they will probably not attempt to read any of the remaining sentences, once they have found a sentence that matches something portrayed in the picture. At least two illustrations should fit on one page.

We fully appreciate that the introduction of such drills adds another element of difficulty to the production of the primers. One obviously needs a reasonably skillful artist to draw the pictures, and the project at present doesn't have one. We spoke with Dick Bergman about this, and urged him to obtain an SIL artist for at least a period of six months to a year for the production of illustrations needed for these drills and those required for the supplementary story books.