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THE EFFECTIVENESS OF INDIVIDUALIZED INSTRUCTION AS A FACTOR IN INCREASED COMPETENCE IN READING COMPREHENSION IN UGANDAN PRIMARY SCHOOLS

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THE EFFECTIVENESS OF INDIVIDUALIZED INSTRUCTION AS A FACTOR IN INCREASED COMPETENCE IN READING COMPREHENSION IN UGANDAN PRIMARY SCHOOLS

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CHAPTER I

STATEMENT AND DEFINITION OF THE PROBLEM

Introduction

No one area of the school curriculum has been scrutinized more carefully than reading. Over four thousand researchers have explored the field in the past century. The great mass of research examines the efficiency in reading comprehension of the student who is using English as his native tongue. A small minority of reports are available for those who are attempting to learn English as a second language.

The bulk of these reports have dealt with the initial stages of learning to read up to the third year of exposure to orthography. In addition some work has been completed at advanced levels. Very little seems to be concerned with the intermediate learner, i.e., the one who has progressed beyond word and sentence reading but who may have not developed fluency even within a controlled vocabulary.

Most of the above investigations have been confined to those whose English is secondary to one of the European languages. What is more, they have been conducted in an English speaking environment. The amount of scientific research which has been successfully completed in a non-English and/or non-European milieu is negligible.

Carrying this proposition one step further, superimpose all of the above conditions on an African setting and the evidence will show that reliable data is virtually non-existent.

The need for definitive educational research in the countries of the world appears limitless. The emerging nations of Africa are no exceptions in this search for direction. The best modi operandi for the implementation of educational innovation are often unknown procedures in politically stable states. Each successful application is carefully read in the hope that some replicable patterns may have been established. Very little documentation is often available, however, on how to effect change in developing countries.

The study which follows attempts to communicate the procedures structured in an effort to produce educational innovation in a developing country in Africa. Its contribution to the general field of reading research, though original, may appear to be limited when compared with other studies. Nevertheless, when viewed as an exercise in the field of educational innovation in a developing country, its contribution is unique.

Statement of the Problem

The purpose of this study was to see if the reading comprehension of Ugandan children at the sixth year level

could be appreciably accelerated and made more effective by the use of an individualized reading program as represented by the Science Research Associates Reading Laboratory IIA (Parker, 1958a) over a period of one school term of three months.

The study was specifically designed to test the following research hypotheses:

1. There is a difference between the level of reading comprehension of pupils in the control group using the standard syllabus, i.e., the New Oxford English Course, East Africa, Book 4, (French, 1958c) and the level of reading comprehension of pupils in the experimental group using the Science Research Associates Reading Laboratory IIA (Parker, 1958a) in favor of the latter group.

2. There is a difference in the level of reading comprehension of pupils from urban, rural or mixed school population because of the geographical origin of the group members.

3. There is a difference in the level of reading comprehension of pupils due to the interaction of the method of instruction and the school location.

In addition, the study was designed to provide some answers to questions raised by educators and observers in the field. The questions were as follows:

1. Are African children able to manipulate and to use materials designed for individualized instruction which involve self directive and self corrective techniques of evaluation?

2. Are African teachers able to manage instructionally the demands of a highly individualized program, set in the framework of a highly structured syllabus with a time-table geared to whole class instruction?

3. Are materials with a North American cultural bias suitable for use in the Ugandan school situation?

Importance of the Study

Although English is the official national tongue of Uganda, it is normally spoken as a second language to the tribal vernaculars employed by almost all of its citizens. During the past half century instruction in the English language has been an established part of the syllabus of the primary school. Since there have been problems with low standards of competency in the language in addition to other problems inherent in thinking and working in a foreign dialect, the government has considered the teaching of English as one of its major priorities in reformulating a new primary school syllabus.

One of the major problems related to teaching at the secondary school or college level has been the limited

comprehension skills of those students who must read in the English language. Poor comprehension has not only manifested itself in the post-primary institutions but more importantly to a greater degree in the upper classes of the primary school as well. Despite the increase of both emphasis and time spent on the teaching of English and its use as a medium of instruction at the upper levels, progress is extremely slow. Therefore the problem of coping with twentieth century English textbooks is one of the major contributory factors to retardation in learning.

Up to the present time, no known study of reading comprehension involving African children in an African setting is available in professional research literature.

At the same time, no standardized test using a controlled vocabulary is available to measure the level of reading comprehension of African children at any level.

The author has been a staff member of Namutamba Teacher Training College in Kampala, Uganda since 1965. He has been concerned with problems germane to the teaching of reading generally for a number of years. More specifically after studying and teaching children in the Buganda region of Uganda, the following observations were made:

Children in Uganda appear to behave like children in any other part of the world. First, their physical growth

follows similar organic patterns although perhaps at a different rate of maturation. Secondly, if we had culture-free test instruments and could define more precisely the varying dimension intelligence, undoubtedly we could substantiate the claim that the mental ability of Ugandan children is equal to that of their non Ugandan peers. Thirdly, these children demonstrate a complete range of affective behavior which includes crying, laughing, fear, anxiety and all the rest. Lastly, their unique social behavior reflects the same influences of environment as does that of children of other continents. An undernourished, poverty stricken child in Singo County, Mubende District of Uganda, will in all probability display similar learning difficulties due to protein deficiency as would a child suffering the same condition in Appalachia, U.S.A.

One of the stated aims of primary education in Uganda is to prepare the child, i.e., the primary school leaver, for constructive and participatory living in a new nation in the twentieth century Africa. The need for reading with understanding seems incontestable when considering the obvious requirements for comprehending governmental notices, medical and agricultural advice, bulletins on educational opportunities and the news of the day. The end result or goal, according to the Syllabus for Primary Schools (1965),

is that by the end of primary education, pupils should be able to read any material written in simple English. In spite of this statement, the problem of pseudo-literacy has been cited again and again, beginning with the Castle Report (Education in Uganda, 1963). Children are completing the primary school course, but still do not comprehend simple written instructions in English.

Within any normal group, a wide range of difference in achievement and ability exists. Modern pedagogical thought is aware of this statistically proven disparity among learners and plans teaching materials, including texts, to compensate for this variety.

Accepted instructional procedure usually dictates a division of any class into learning groups. According to Strang (1964), Dawson and Bammon (1959), McKee (1948 and 1956), and many others, the number usually observed is three. A small percentage of the children who are of high ability and who can cope with more accelerated work are placed in a group of their intellectual peers. Another small percentage are considered low achievers and are grouped accordingly. The majority of the class is assigned to the larger middle group.

The assigned work for these intellectually disparate groups when treated in the traditional manner provides simplified, factual recall for the slow moving group and a challenging series of exercises involving inferential or

other advanced forms of creative thinking for the fortunate few in the brightest ranks. The large middle group is often given a collection of simplified challenges from their brighter friends and/or some lengthened items and examples borrowed from their slower moving colleagues.

This teaching technique can often work quite well and may lead the teacher, who has prepared it, to believe that he has satisfied the aims of reaching every child in the class.

In many of the textbooks used for teaching English as a second language, the method of grouping as outlined above is seldom suggested. The only exception to this is when pupils are advised to do extensive reading, i.e., reading which supplements the usual class work, and they are encouraged to read material that is comfortable for them. In spite of this acknowledgement by the authors of these texts that second language learners differ in ability and achievement, the course books, including the New Oxford English Course, East Africa, Book 4 (French, 1958c) make no provision for differentiating learning experiences among the learners. The underlying theory seems to be that when all children are exposed to the same basic material, they will master only that material rather than be able to read other materials as well.

The result of this whole class approach is that some children master the reading skills quickly, others a bit more slowly and a few never seem to be able to handle them at all. Some children are learning to read English in this system but they do not appear to be coming close to realizing their potential. Since they never become involved in the reading process, even the best children have difficulty in adjusting to the demands of further training and higher education.

If there is a class teacher who is imaginative, inventive and has the initiative, one need not be concerned with the fate of the group. But even in the well taught classroom which is grouped, there is always room for improving the learning situation for each individual pupil especially where the act of reading is involved. In spite of this narrowing of the achievement range by grouping, there remains, if we believe in individual differences at all, a considerable spread among the ten to fifteen individuals within each of the groups. There also exists a management problem of what to do with the other two groups while the teacher is working with the third.

Many of these problems can be overcome and the deficiencies of the textbook can be counterbalanced by the employment of intelligent, highly trained teachers, capable of thinking quickly and efficiently. Most Ugandan teachers

today have completed six or seven years of primary education and less than four years of post primary training. (Uganda, 1967). The suggested class size in upper primary classes is 40 youngsters. (Primary School Syllabus, 1965). Given these teachers with their limited training and teaching experience plus overcrowded school rooms, the inevitable must be accepted. The typical teacher has neither the training nor the time to develop the differentiated materials of instruction necessary for the typical primary class.

The following statements are offered in summary. Ugandan children are like children elsewhere and the educative process and response in Uganda seems to be similar to that of other cultures. Most Uganda teachers at present have limited background and have received rudimentary training in comparison with teachers trained in North America. The goal of Ugandan education is to provide the nation with a well informed citizenry which is literate in English, the official national language. The present syllabus in English is not bringing about this permanent literacy.

With the foregoing statements in mind, it was posited that the situation could be improved by the transposition of a self teaching, highly individualized program of reading instruction designed for learners of English as a native

language to a classroom where English was the second language.

Limitations

The study was limited to six (primary six) classrooms in three primary (elementary) schools in Mubende District, Uganda and covered the period from May to August 1968.

Procedures

Treatment Group I called the experimental group, was limited to three primary six classes totaling 102 children at the outset of the study in May 1968. For the children in Treatment Group I the medium of instruction in English reading was the Science Research Associates Reading Laboratory IIA (Parker, 1958a).

Treatment Group II called the control group, was also limited to three primary six classes also totaling 102 children at the outset of the study in May 1968. For the children in Treatment Group II, the medium of instruction in reading was the standard syllabus of the New Oxford English Course, East Africa, Book 4 (French, 1958c).

The two groups were equated on the basis of matched scores obtained on a test developed by the author for that purpose. Every child was matched with another whose raw score was within $\pm$ 1 of his own raw score and then randomly reassigned within the pairing to restructured primary six classes.

At the conclusion of the second term of the school year, after forty-eight forty minute periods of formal instruction in reading, the reading achievement was measured and an inventory was made of the collected and selected observations of the educators involved in the study. Two tests of reading achievement were used.

A multi classification analysis of variance was used to evaluate the differences between Treatment Group I and Treatment Group II. This was completed for each of the two measuring instruments.

The specific steps involved in conducting this study and investigation were as follows:

I. Preliminary Applications of the Reading Laboratory
   A. Selecting of the Reading Laboratory IIA
   B. First trial in primary seven
   C. Second trial in primary seven

II. Designing the Study
   A. Selecting of primary six as the target class
   B. Presenting the proposal to the Government of Uganda

III. Construction of the Testing Instrument
   A. Selecting of the lexical and syntactical items
   B. Choosing the suitable question format
   C. Standardizing the instrument

IV. Selection of the Sample Population

A. Determining of the suitable schools

B. Administering of the test instrument

C. Rank ordering the population with matching

D. Reassigning to restructured classes

V. Conduct and Supervision of the Program

A. Assigning teachers to the primary six classes

B. Designating student teachers to the program

C. Training the teachers and the student teachers

D. Equalizing time devoted to each treatment group

E. Limiting major difference between treatment groups to medium of instruction of reading

F. Devoting equal time in each group to reading and non reading English language activities

G. Adhering to lesson plans and methods recommended for the materials of instruction

H. Equalizing amount of supervisory time in each treatment group

VI. Appraisal of reading achievement and other observed behavior in August 1968 and analysis of the data

A. Administering of the reading test based on the controlled vocabulary of the New Oxford English Course, East Africa, to the entire sample population

B. Administering of the Science Research Associates Power Builder Follow-up No. 2 from the S.R.A. Reading Laboratory IIA to the entire sample population

C. Soliciting of observed behavior reactions from educators involved in the study through the medium of unstructured interviews

D. Analysis of the data

1. Comparing the reading scores of the total sample in Treatment Group I and the total sample in Treatment Group II as recorded for the test based on the N.O.E.C., East Africa

2. Comparing the reading scores of the total sample in Treatment Group I and the total sample in Treatment Group II as recorded for the test based on the Power Builder Follow-up No. 2 of the S.R.A. Reading Laboratory

3. Evaluating the subjective data unable to be quantified

Definition of Terms

Science Research Associates Reading Laboratory IIA. A boxed kit of individualized reading materials structured for different grade levels and prepared for the middle elementary

grades in schools in the United States where English is the native language of the learners as well as the medium of instruction (Parker, 1958a).

New Oxford English Course, East Africa. A series of six English textbooks designed for African children in schools in East Africa (French, 1958). English is the second language for all of these children.

New Oxford English Course, Uganda. A recent revision of the teacher's notes of the first three books of the New Oxford English Course, East Africa. These notes and some children's materials were specifically designed for children in Ugandan schools (Watt-Wyness, 1966, 1967).

Primary School. The Ugandan equivalent of the elementary school in the United States. Children begin in primary one and terminate in primary seven. Classes are designated as primary one, primary two, etc.

Stream. One section of a particular class. A double stream primary six class means that the primary six class is divided into two groups of children.

Timetable. The structured daily schedule in any school in Uganda.

Syllabus. The course of study to be followed in a subject laid down by the Ministry of Education of the Government of Uganda. The collection of all the syllabi is sometimes referred to as "The Syllabus" for a particular level of education.

Headmaster. The common designation for the head of a primary school or secondary school in Uganda.

Principal. The designation for the head of a college or university in Uganda.

Education Officer. An educational leader whose prime responsibilities lie with the administrative side of operating the system. The Chief Education Officer works in the Ministry of Education. The District or Area Education Officers carry out their duties in the field.

Inspector of Schools. An educational leader whose main function is the supervision of instruction and curricula. There are inspectors for each subject area as well as for special functions of the national educational system in Uganda. There is an inspector for primary school English as well as an inspectorate staff for the teacher training colleges.

Abbreviation of Terms

For the sake of clarity attention is called to the terms which follow and their abbreviations. The abbreviations presented here are used extensively throughout the text.

Church of Uganda: C.U.

District Association School: D.A.S.

Roman Catholic: R.C.

United Muslims of East Africa: U.M.E.A.

Science Research Associates: S.R.A.

New Oxford English Course: N.O.E.C.

Reading Laboratory IIA: Reading Lab

Plan of the Study

Chapter II will review the literature relevant to the teaching of language and the development of instruction since 1875. The procedures and development of the study will be examined in Chapter III. Any analyses will be documented in Chapter IV while all implications and recommendations will be made in Chapter V.

CHAPTER II

THE HISTORY OF UGANDA AND THE DEVELOPMENT OF LANGUAGE TEACHING

Geographical Considerations

The Republic of Uganda, whose president is Dr. A. Milton Obote, is located in East Central Africa and is bisected by the equator. Rwanda and Tanzania border it on the south, Congo, Kinshasha is on the east, the Republic of the Sudan is on the north and the Republic of Kenya is in the north-east. (See Appendix A).

The country lies at an altitude of between 3000-6000 feet which gives it a most pleasant and temperate climate. These factors coupled with an ample rainfall support intensive cultivation throughout most of the country. The country's area is in the neighborhood of 94,000 square miles (about the size of Wyoming). Because of ideal growing conditions, the agricultural sector of the economy predominates with the cotton and coffee crops forming the base for Uganda's export potential. During the last few years the government has been encouraging diversification, attempting to shift emphasis from the two crops mentioned above. As a result sugar, tea and tobacco are now assuming a larger share of export value. An embryonic livestock

industry is continuing to grow as government scientists and agriculturalists cooperate to overcome the ravages of the tsetse fly (Dostert, 1968).

Industrially the country seems to be heading first for self sufficiency in order to stem the drain of valuable trade dollars. Secondly, Ugandan manufacturing potential appears to be aimed at providing products needed by its neighboring trading partners and fellow members in the East African Community, the region's equivalent of the European Common Market. Two of the main natural resources, hydroelectric power potential and copper reserves are being exploited to the fullest at the present time with expansion being planned for the future.

It is estimated that the population of the country is approximately 8,000,000 with a census being planned for 1969 (Golenpaul, 1969). There are three major ethnic groups in the country.

The Africans, who represent 98% of the total, come from three general tribal groupings. The majority are Bantu who live in the southern portion of the country. The Nilotics and Nilo-Hamites occupy the north and the south-east Uganda. Anthropologists have not been able to date the migrations of these groups but it is generally placed as after A.D. 1000 (Dostert, 1968). Four kingdoms of Bantu known as Buganda,

Busoga, Butoro and Bunyoro became established in what is now known as the Republic of Uganda.

Europeans came to Buganda in 1862 looking for the source of the Nile River. Protestant and Roman Catholic missionaries arrived within two years of each other beginning in 1877 and soon began to carry the Gospel to the other kingdoms. Religious wars shook the country in the late 1880's. The country was then being administered by the British East Africa Company but in 1894, because of the internal strife and poor management, the British Government decided to administer first Buganda, and later the other kingdoms, placing them under Her Majesty's protection (Golenpaul, 1969). Few Europeans were encouraged by the Colonial Government to settle in Uganda and this left the way open for Africans to establish themselves as successful farmers. They cultivated the two crops, coffee and cotton, which had been previously introduced to the colony by the British. Uganda was generally recognized as the richest British colony in Africa. The limited white settlement helped to produce a racial situation in which there has been little bad feeling between European and African, a condition which does not prevail in some other African countries.

One large minority group in the population is combined, for the sake of convenience, under the heading of Asians.

The majority of this group are descendants of workers imported from India in the early part of the century to build the Kenya-Uganda Railway. Asians live mainly in the capital, Kampala, and other cities and towns where they dominate the economic picture in their roles as merchants and shopkeepers. Others have formed cores of workers in the civil service and in technical fields (Blomstrom, 1965).

Independence has been a difficult road for Uganda over the years because of the necessity of forming a government to control not only the four kingdoms but the rest of the country as well. The British attempted to do just that in 1953 and this led to the eventual exile of the Kabaka (King) of Buganda who would not permit the undermining of his position. The people of Buganda resented the British high-handedness in government and a long period of political unrest followed. Eventually the Kabaka returned and the British set up a system of ministerial government with African representation in the Legislative Council. Finally, on October 9, 1962, the country gained complete independence (Dostert, 1968).

The 1962 constitution granted local autonomy to the four kingdoms with federal status which led to eventual difficulty. The new 1966 constitution abolished the kingdoms and established the country as a republic under a strong executive branch.

Language Instruction

"One November day in 1879, a young native came to the Mission (of the White Fathers) and asked to be taught reading. The next day he returned with a friend and after, two others joined the class." (Lwanga, 1962).

Henry Stanley, a famous explorer and missionary visited what is now the Republic of Uganda in 1875. He met the Kabaka (King) of the Baganda, the dominant tribe of the area and was impressed by what he saw and heard. He thought that the new country offered a promising field for missionary activity. In his letters to the Church Missionary Society, the missionary arm of the Church of England, he urged that missionaries be sent to East Africa to cultivate these virgin lands and spread the Gospel by educating the local people. (Uganda 1962-1963, 1964).

Before missionaries, education was carried on privately within tribal groups. There were many variations from tribe to tribe, but basically, education for the majority of children was learning a pattern of accepted economic, social and political behavior from the parents and other adults in the community. (Scanlon, 1964).

In answer to Stanley's appeals, the C.M.S. sent its first representatives who reached the interior in 1877. They set up a mission on a hill close to the palace of Kabaka Mutesa I at Mengo. One of their number, Alexander Mackay,

had come well equipped with a printing press (Scanlon, 1964). By 1879, the press had been set up and was producing publications. The Journal of Mr. G. Litchfield reveals that he started printing and got 150 sheets of advanced reading lessons printed on one side (Proceedings of the C.M.S., 1880-1881).

The first book printed was the simple primer, Amateka. Missionaries encouraged reading so that the individual could read the scriptures. First, the missionaries had to develop an orthography for the local language, and then translate the Bible (Scanlon, 1964).

"Many young men now have been taught Swahili into which the scripture had been translated," reported the Proceedings for the Church Missionary Society (1879-1880). King Mutesa I had openly given permission for the chiefs and their followers to learn reading. Primers using English characters for the Swahili alphabet were published.

By 1882, the first Gospel, that of St. Matthew, was published in Luganda (Annual Report, 1931). Kings, chiefs and the common people were eager for instruction. Great numbers desired to read. In 1882, according to Mackay, about 50 young men whose average age was 20 years, had been taught to read. Some of those also learned to write (Proceedings of the C.M.S., 1882-1883).

By the following year, a vocabulary of 15,000 words in addition to fables and proverbs had been catalogued. O'Flaherty, whose letters are recorded in the Proceedings (1883-1884) was amazed at the quickness of the majority of the learners and he exclaimed that few English persons could have learned so quickly.

While all of this Protestant activity was going on, in 1879, the Roman Catholics, not to be outdone, dispatched Father Lourdel to establish a White Fathers Mission. The new Mission was set up on a hill close to that of the Church Missionary Society and also near the Kabaka's Palace (Brittain, 1963).

The two missions were not particularly friendly with each other, and in fact there were many quarrels between the leaders. As a result, when they taught Christianity they tended to divide the people (Brittain, 1963). Thus two separate systems and philosophies of education and teaching emerged.

Progress was interrupted in both camps because of the fickleness of Mutesa and his son Mwanga who ascended the throne upon the death of his father in 1884. Arab influences including the introduction of Islam became dominant at one point. This, coupled with a return by many of the populace to the excesses of paganism seriously curtailed

the missionary effort. Thus the evangelism which had been carried on through reading and writing the scriptures was also abrogated (Annual Report, 1931). Mwanga was reported as having said that, "After I am dead, the people may learn to read." (C.M.S. Reports, 1887-1888).

In 1897, however, Mwanga was deposed and exiled because of his irrational behavior. Not much has been written to enlighten us about the events of the five years between 1892 to 1897, however, it is obvious from the C.M.S. Reports (1893-1894) that remarkable progress had been made. The thirst for reading is well documented in that during 1893 between 35 and 40 thousand books and reading sheets were sold. The same journal for 1894-1895 reports that numerous classes were carried out daily at Mengo for new Christians to learn to read.

The White Fathers opened their first seminary in 1893, and it is recorded that their first pupils knew neither how to read nor write (Lwanga, 1962). By 1898 they were able to write that morning and evening classes stressing reading and writing Kiswahili, a little Latin and elements of Luganda grammar were taught. The latter appeared easy for the students (Annales de la Propagation de la Foi, 1898).

Meanwhile, in 1895, the first organized schools in connection with the C.M.S. were opened by lady missionaries (Annual Report, 1931).

According to a letter from Bishop Tucker, of the Anglican Church, the demand for the Mateka, the first reading book, was very large. Mr. Hattersley, the headmaster of the boys school went on to tell of the desire to read as manifested by one man who carried a 65 pound box for 34 miles, walked 12 miles to get another load and carried that for a further 35 miles. All this was accomplished in order to earn enough to buy a copy of the New Testament (C.M.S. Reports, 1898-1899).

In another letter written in Mengo Notes in October, 1900, the Bishop wrote to chiefs and parents urging them to educate their children. He promised that the Church would not only teach the Law of God, but other good things, such as reading, writing and arithmetic.

H. M. Stanley is also quoted as having written the Regents of Uganda that they were charged with the responsibility that children went to school regularly and learned to write (C.M.S. Reports, 1901-1902).

The next step after the establishment of day schools was the founding of secondary boarding schools to teach those who initially learned to read. The first of these was established in 1901, and soon there were many more (Scanlon, 1964).

It was during 1901 that the beginnings of the great debate as to the best language to be used as the medium of instruction in the primary and secondary schools of the

country (C.M.S. Reports, 1901-1902) posed the question whether or not Luganda should be the official language or should the several vernaculars be used.

Meanwhile, at Mengo, in the newly established boys school, a class of 15 out of 500 were already engaged in studying English. At Rubaga, as well, the fathers had acceded to the requests of their parishioners by teaching English as part of their daily program in the high school.

In 1902, the Seminary at Kisubi offered English, Swahili and Latin (Lwanga, 1962). By the next year the White Sisters were teaching reading, writing and scripture in the local vernaculars in the day schools (Annual Report, 1931).

The boys school at Mengo figures prominently in the available reports for the next few years. It was proposed at Mengo that an intermediate school be organized. Although the teaching medium would not be in English, a considerable portion of the syllabus would be study of that language (Mengo Notes, 1904).

A good deal of time was devoted to English, especially with the older boys (C.M.S. Gleaner, 1904). The information was apparently provided in a letter from C. W. Hattersley, the first headmaster of the school. In another letter the following year, this time recorded in the May, 1905

Intelligencer (C.M.S. Intelligencer), Mr. Hattersley speaks of the entire course of study. It included reading, writing, arithmetic, geography, physiology, drawing, music and singing. English was taught to all classes daily. In November of 1905, it was announced in the Intelligencer that all those who took instruction in English would pay three pice[1] a week.

Twenty five years had gone by since Mackay set up his press to print the Scripture in the vernacular. In the Gleaner of July 1906 an item reports that at King's School at Budo, the recently established secondary school, the students translate the Bible from Luganda into English.

Readers of the December 1906 issue of the Mengo Notes were reminded of the purpose of early education. (p. 186) "But the Bible means readers, and readers mean schools and schools mean teachers and teachers can only be trained in places specially designed for that object, and if the Bible is to be read, people must be taught how to read it. The possession of the power to read can only be given in the elementary school."

The June 1907 Intelligencer carries a letter by H. W. Weatherhead, headmaster of King's School, Budo. He stated

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1 pice - a former monetary unit of India used in Uganda at the time and equal to 1/64 of the rupee.

that English was the most important secular subject. Reading, translation and dictation were learned quickly, but he went on to add, that the colloquial forms were very difficult.

By 1910, a school was especially formed at Mukono to study English. The express purpose was to prepare students to take the entrance examinations for King's College, Budo (C.M.S. Reports, 1910-1911). In 1912, information was recorded that at the training school in Ngora, among the subjects was reading aloud in a foreign language (C.M.S. Reports, 1912-1913).

The spread of learning of English throughout the country was apparent. But at that point the beginnings of the conflict in the choice of media for instruction dominated the discussions of Dioscesan Councils and special education commissions.

Lwanga (1962) reports that in the schools of the White Fathers during this period, the medium of instruction was the vernacular, hence the name Vernacular School. A four year course gave instruction in reading, writing and other subjects to prepare for the seminaries. A Luganda grammar was initially published in 1913, and re-issued in subsequent years. Many of the terms were left in their Latin or English forms which made the transition to those

languages easier. The lack of textbooks in the vernaculars was a great obstacle to successful teaching.

Meanwhile, boys of standard VII were being prepared for the entrance examinations into King's School, Budo, the C.M.S. secondary school standard bearer. Two of the subjects were essay writing in both Luganda and English. English was very popular, but no one was allowed to learn it unless he had already been baptized and was of good character. It was expressed in March 1913 that there was a danger in teaching English to just anybody (Uganda Notes).

In August 1915, the Board of Education, at a conference at Budo, recommended to the Dioscesan Council of the C.M.S., that English should be taught at Budo, in the Normal School, in high and central schools, but not in the day schools. This meant a definite policy of "vernacular only" at the primary level (Uganda Notes).

Very little was recorded over the next ten years. To all intents and purposes, education continued on the same lines as laid down before 1915. Some schools apparently closed during World War I, as their entire student body enlisted in the cause of the Allied Powers (Annual Report, 1931).

The system of education of the White Fathers during this period consisted of a nine year program. Primary schools offered a course of three years in the fundamentals

of reading, writing and arithmetic. The Central School or Preparatory Course of one year prepared brighter boys to take their first steps in English as well as to pursue the other common subjects in the curriculum. The three year high school course included English as a subject of equal importance with arithmetic, geography, history, grammar, hygiene and drill. The last two years were spent at St. Mary's School, Rubaga, soon afterwards transferred to its present location at Kisubi. An all round education was offered here leading generally to clerical work and even to surveying and medicine (Annual Report, 1931).

"All of our children are not supposed to learn English," the same report went on to say (p. 18). Every type of education was to be encouraged. This included technical education, teacher training, and seminaries for native clergy. No mention is made of teaching English to girls although a full system of education according to the nine year plan mentioned previously was followed (Annual Report, 1931).

The Church Missionary Society's main effort during this period was the establishment of the Uganda Bookshop in 1920. School books, which previously had been in very short supply, were now available and were published in Kiswahili, the local vernaculars and English (Annual Report, 1931).

In 1923, the Secretary of State for the Colonies formed a committee to advise on the state of education (Harmon, 1952). In addition to this inquiry, a visit was paid to Uganda by the Phelps Stokes Commission in 1924 (Annual Report, 1931). Largely as a result of these investigations, a department of Education was inaugurated in 1925 (Annual Report, 1948). In order to give direction to the embryonic department, an advisory council comprising members of the various mission groups and other interested parties was established in 1925 (Annual Report, 1931).

One of the first deliberations of the new Department concerned itself with languages of instruction at various school levels. For the next eight years, the annual reports are filled with the continuing debate on the choice of a lingua franca for lower, intermediate and higher education.

The item of record which set off the debate, was the report of the African Education Commission sponsored by the Phelps Stokes Fund (Jones, 1925). It was mentioned that languages of instruction must be established in order that objectives of the curriculum might be met. Also stated was the fact that advanced pupils should have an opportunity to learn a European language. The members of the commission recognized the fact that few books were available in the vernacular languages in order to bring knowledge of health,

agriculture, home and family life, and recreation through reading lessons. Therefore, the group concluded that these subjects must be done in the European language for which books were on hand. What is more, the feeling was prevalent that the people of the country were eager to learn a European tongue. "The European language is not only the agency for acquiring information of the usual character; it is the means of uniting Africa with the great civilizationsof the world." (Jones, 1925, p. 19).

So, in 1925, it was mandated by the new Department of Education that English was to be the medium of instruction in all intermediate schools and institutions of higher grade (Annual Report, 1925). The report of 1926 contained the item that only three vernaculars were to be used in the lower schools (Annual Report, 1926). Only one year later, an announcement was made as to the consideration of Swahili as the lingua franca (Annual Report, 1927).

The Mill Hill schools abolished English to conform to the new Elementary Vernacular Syllabus. The schools suffered because the boys went elsewhere to learn English. Therefore, the Fathers were obliged to teach English in order to keep up their enrollment (Annual Report, 1927).

By 1928, the consideration of Swahili had led to its being adopted as the second language of instruction in all areas except Buganda (Annual Report, 1928). There was a

fear that as a result of this action and considering the Mill Hill experience of 1927, that there would be a general drop off in attendance. Apparently that did not occur (Annual Report, 1929).

Finally, in 1930, it was recorded that no English was taught in the elementary (primary)schools. The warning was forecast that it would be some years before adequate instruction could be given in the vernaculars and Swahili. To attempt to do English at the same time would be disastrous (Annual Report, 1930).

No sooner had the schools established their new language routine, when the Bishops of four of the missionary societies submitted a memorandum protesting the use of Swahili as the lingua franca. Their suggestion was to institute one of the local languages as the official one. The Advisory Council, after grappling with this thorny issue for six years, reiterated its earlier stand (Annual Report, 1931).

Rumblings could still be heard in 1932 about the use of Swahili as opposed to English, yet it continued to spread widely throughout the country (Annual Report, 1932).

But soon a new language policy was promulgated. The local vernacular was to be used in all districts as the medium for instruction for all subjects, except arithmetic, which would continue to be taught in Swahili (Annual Report, 1932). It was further mentioned in the same report that a

Swahili book could be read and understood after six months of study. On the other hand, an English book of the same difficulty would take six years. One protaganist voiced his despair by stating that it would be impossible for the supporters of English to hope to develop an African system of education with a European language.

One year later, the problem was apparently resolved temporarily in the establishment of a new primary course. This consisted of four years of primary plus two years of intermediate schooling. The latter two years had English introduced as a subject (Annual Report, 1933).

The period of 1934, 1935 and 1936 seemed to be relatively quiet, as little has been recorded which reflects any great change. In 1937, substance was added to support the earlier stand of the Advisory Council. In a new commission appointed by the Secretary of State for the Colonies, De La Warr and his colleagues were charged with the task of reporting and advising on higher education. The commission report stated categorically that the earlier stages of language are best conducted in the vernacular. Where no suitable vernacular existed, some common language must be taught. It went on to say that Swahili might be the answer. However, the committee added that there was a great shortage of books translated into the vernaculars. They warned that the teaching of English was not to be considered as a

substitute for the vernacular. But, they continued, English was the speech of the Commonwealth of Nations and instruction should begin in it during the third year of training of those who were destined for secondary education (De la Warr, 1937).

Speaking of the teaching of English, the committee judged that teaching is worthless if it failed to give children the will and ability to read books. These books, which should be read, dealt with history, geography and the social studies, particularly pertaining to African topics. They should be written in the modern idiom and be of literary value. A strong warning was issued against the use of classical English texts. The commission felt so strongly about pedagogy in the English language, that it recommended that special bursaries should be set up for overseas education. They also felt that the teaching of English was one of the main educational problems in Uganda (De la Warr, 1937).

In 1940, an African Education Committee was set up under Mr. H. B. Thomas. It was not possible to implement a number of the committee's recommendations due to the onset of World War II (Annual Report, 1938). However, the Outline Scheme for African Education (1944) was one result of the earlier report.

One proposal was to raise enrollment in African schools from 90,000 to over 247,000 within one decade, and to increase the numbers learning English from approximately 12,000 to 70,000 in the same period. It would mean moving from 14 per cent to 28 per cent of those enrolled. It was assumed that the language policy would be modified in 1948 to include those in Standard IV. It was also projected that the numbers cited above would increase as the earlier introduction of English succeeded and the plan modified (Outline Scheme for African Education, 1944).

Presumably, as a result of this forecasting, the Annual Report for 1944 mentioned that English deserved recognition as the inevitable lingua franca of the future, and recommended that it be taught in the Vernacular T.T.C.'s.

Another new policy was recorded in 1947 (Annual Report). On recommendation the main vernacular of an area was to be used as the medium of instruction through primary six. Local vernaculars were allowed in primary one and two, but by primary three the changeover should have been made. There was considerable doubt expressed about introducing English before primary five. Primary seven English instruction was to be intensified to allow for its use as a medium.

One year later, the department made a decision to revise their 1947 stand (Annual Report, 1948). Now it was decided that English might be taught as a subject in primary five and six. But, it was not to be used as a medium of

instruction in the primary school. A school could consider teaching English as a subject below primary level five if it could be shown to have no effect on the general education of the children. The language policy continued with the six vernaculars as previously.

In 1949, it was reported that all children were taught in one of the five vernaculars up to primary four. (Annual Report). In two schools, those for children of police and prison warders, the medium of instruction was Swahili. Except for one or two exceptions, no school used English as the lingua franca. In private schools, however, English had become the great attraction. As English was now taught in primary five and six of government schools, recent leavers often became the teachers for the non-public and non aided institutions.

During this post war period, new syllabi were published in order to more closely adhere to the langauge policies in effect at that time. Suggestions were made for teaching the vernacular which had implications for the eventual teaching and learning of English (Syllabus for Primary Schools, no date.)

In primary one and two, the object was to provide a lively approach which would be of considerable help if and when they began to work in English. As children would

have to study English for a few years before they could be expected to write more than a few sentences, it was necessary for children to write as much as possible in the vernacular in order to gain freedom of expression. The teaching of reading was to be based on a combination of sentence, look-say and phonic methods.

In the upper primary classes, i.e. primary three through primary six, it was recommended that reading be done in groups with many different books being used. It was strongly suggested that children read silently and that the reading period be followed by a period of questioning for comprehension.

With the introduction of English in primary five, the plan was put forward to follow the sequence of the story readers published by the Oxford Press. The children were expected to eventually reach a standard of reading three books a term (Syllabus for Primary Schools, no date).

By 1951, the report was made that English teaching was satisfactory, all things being considered. The reason cited for this success was due to the use of the readers mentioned above. Many schools had taken advantage of the special permission to begin teaching English in primary four and even primary three (Annual Report, 1951).

Meanwhile, the difficulties of teaching the vernaculars were brought to light in 1952 (Annual Report). The same

comments made as far back as 1913 were heard again. Very few texts in the vernacular were available. The complaint was that children from primary two to primary four wasted too much time reading a single reader over and over again.

There was a widespread desire for English to be taught earlier and to be used as the medium of instruction. The main difficulty in this was the lack of proper teaching staff. Secondary teachers were reported as saying that the level of English of those who gained entrance was far too low to understand academic and professional subjects; it was said that the story readers were good as teachers could quickly be trained in their use. But at the same time, the report concluded, there is a need for more research and experimentation, particularly in group methods. Also mentioned was the need to look into the correlation between oral and written composition (Annual Report, 1952).

The opponents of English as a medium of instruction added fuel to the fire in 1953 with a new commission report. In essence it said that English should be used in general education as well as in professional education. The committee recommended a gradual transition to English medium beginning in primary five for most schools. Those schools whose enrollment was multi-tribal, as in most urban schools, were to introduce English at the earliest possible stage (De Bunsen, 1953).

With the publication of the Annual Report at the end of 1953, it was obvious that the De Bunsen report had scored a victory, as it was announced that the policy of not teaching English below primary five was to be changed. It was hoped that methods of teaching English would be improved. However, it was stated that "Generally speaking, the teaching of English in Primary schools is less wasteful of time than it is in the secondary schools." (Annual Report, 1953, p. 39). It was hoped that improvement could be made in the use of group and activity methods.

The next year, a determined effort was made to improve the methods of English teaching. At the same time, the importance of the subject was emphasized in the minds of both the pupils and the teachers. Four special courses were held during the year for in service training of teachers in English (Annual Report, 1954).

This system continued until 1959 when a White Paper on English was published. This proposed that English should be introduced as a subject beginning in the primary one class, provided that enough teachers were available. (Scanlon, 1964).

One year later, a scheme for English medium was introduced in Kampala, supervised by a special center set up in Nakawa. The idea was to provide a balanced curriculum for primary one and to use this normal curriculum as a base upon

which English could be taught. The center also provided a training scheme for teachers who would carry out the program (Annual Report, 1960).

After independence, a new commission report was published (Education in Uganda, 1963). This report, called the Castle report, after the chairman, Professor E. B. Castle, decried the fact that permanent literacy was not being achieved by a high proportion of children. Once again, the cry was raised for suitable and sufficient reading materials in the vernaculars. At the same time, the plea was made to limit the number of vernacular languages for the purposes of school instruction.

English was recommended as the medium of instruction from primary one in urban schools. Otherwise it should begin in primary five and eventually in primary four. The teaching of English as a subject was suggested as beginning in primary one (Education in Uganda, 1963).

It was announced officially during the year 1963, that English would be taught as a subject from the primary one class and its use would extend further down the school than formerly. The consequent increase of English teaching necessitated replanning of all the old subject syllabuses. Six approved vernacular languages were recognized for purposes of instruction and their prime importance was stressed (Primary School Syllabus, 1965).

Summary

Europeans arrived in what is now Uganda in 1862. Within two decades Protestant and Roman Catholic Missionaries had begun to spread their Gospel throughout the country. In 1892, the British Government took over the protection of the country from the British East Africa Company after a long period of upheaval. The federal status of the heriditary kingdoms contributed to the general unrest of the country under British rule. Independence was proclaimed in 1962 but the new country faced the same problem of the autonomous states within its borders. The Constitution of 1966 abolished the kingdoms and established the Republic of Uganda.

Formal language instruction began with the advent of the missionaries. At first instruction was given in Swahili but within a short time the Faith was promulgated in the tribal vernaculars. A continual struggle and competition was recorded between the representatives of the two major Christian faiths. Elementary schools were organized first but by 1905, several high schools had been established. The beginnings of the great debate as to the language of instruction were apparent by this time. In 1925 a Department of Education was formed within the Protectorate Government and its yearly reports reflected the concern of the pro-

fessionals about the use of Swahili, vernacular or English. The controversy continued until 1963 when the Castle Commission (Education in Uganda, 1963) paved the way for the 1965 statement of a definitive language policy.

CHAPTER III

DEVELOPMENT OF THE STUDY

Introduction

The purpose of this study was to see if reading comprehension of Ugandan primary six children could be measurably accelerated and made more effective over a period of one school term of three months through the use of an individualized reading program as represented by the S.R.A. Reading Lab. The purpose of this chapter is to describe in detail the procedures used for implementing the study as indicated in Chapter I. It is organized and reported under the following major divisions:

1. A description of the two programs of teaching reading comprehension utilized in this study
2. A description of preliminary efforts toward individualized reading
3. A description of the formulation of the research problem
4. A description of the test development phase of the program
5. A description of the development of the experimental design
6. A description of the conduct and supervision of the experimental phase of the program

The S.R.A. Reading Laboratory IIA

The Reading Laboratory is one solution to the problem of individualizing instruction. The complete series of laboratory kits cover a 12 year reading program which is somewhat unique in that it presents materials which have been prepared on a multi-level principle. The stories or articles are graded according to their levels of difficulty. Each laboratory kit contains material at several different levels. This permits the child to begin reading at his own measured level of accomplishment and to progress as quickly as his own learning rate and capacity will allow him. When he is able to master one level of difficulty as measured by suitable self evaluation standards, he moves up to the next level of difficulty.

Therefore, within any one classroom, it is possible to discover six, seven or more groups of children working at various levels of difficulty. Within any one group, no two children are working at the same set of materials at the same time.

One of the basic premises of the laboratory approach is that the skills necessary for successful reading, or that the reading selection itself, can be ranked on a scale from easy to hard. It is also possible to find out at which point a child falls on the scale and to start him at that juncture. Then the child is allowed to continue at his own

rate of learning until he has mastered all the skills at that level. He is then able to move to a higher level where he will find more materials which continuously offer a challenge.

A major feature of the reading laboratory program is the use of self corrective materials to provide immediate reinforcement and motivation. It is generally agreed that from a psychological standpoint, maximum learning takes place when the learner is able to see the results of his effort. The more quickly that this occurs, the greater will be the incentive to achieve success on the next effort. Combined with the psychological factors, the laboratory offers solid grounding in many skills which have transfer value to other tasks, both in and out of the school situation (Parker, 1958b).

The Reading Laboratory concentrates on building skills in four areas.

The first, comprehension, attacks whole-part thinking, seeing relationships of both likeness-difference and cause-effect, sequence and organization and inference-conclusion. Secondly a major emphasis is placed on word study skills. These include recognition, analysis and vocabulary building. Thirdly, there is a section which encourages rapid reading through materials of increasing length and difficulty while holding the reader to a constant three minute time limit.

Finally, the Laboratory stresses the development of listening skills through the use of teacher read passages combined with more comprehension exercises (Parker, 1958b).

Teaching procedures for the utilization of the Reading Laboratory dictates the grouping of the children according to ability and/or achievement. The initial placement, according to a simple test, is later refined when the child becomes more involved in the laboratory situation and demonstrates the ability to cope with it. Each level of ability is color coded and the IIA laboratory kit contains 12 levels.

One child is chosen at each level to be a group leader, whose main responsibility is to distribute and to collect the reading materials for his group at the beginning and end of each period. The group leader keeps track of the material completed by each child and thus checks to insure that no pupil receives the same materials twice.

Each child is responsible for marking his own work after he has completed a reading assignment. When he has finished scoring his work he must calculate his percentage for correct responses from a specially prepared table and to enter all data on his personal progress table. This is a daily graphical record which contains not only his marks, but also the time spent in completing all of the reading, and writing, and responding.

There are three types of activities in the Reading Laboratory.

The first is the Power Builder. These are four page booklets, containing a short story, some comprehension exercises and a section on developing vocabulary skills, attacking and mastering new words. All of the short selections are non-fiction with a major emphasis on scientific topics. There is no time limit set, but it is expected that even the slowest child at the lowest color level will be able to complete one booklet in less than 45 minutes. As children gain more experience with the materials, their working time has a tendency to decrease considerably and steadily, often to less than 30 minutes per booklet. There are 120 different story booklets, ten at each color level.

A typical Power Builder lesson begins as the group leaders pass out booklets to their groups. Each child begins to read when he is ready. After reading he answers all of the 25 to 33 exercises and records his finishing time. He goes to the laboratory box, selects the appropriate answer card and returns to his seat to mark and to score. After calculating percentages and elapsed time, he completes his progress record before reviewing his work and correcting any errors. All materials are returned to the box and, if there is still some time remaining, he takes out a supplementary reading

book and reads until the end of the period. The teacher, who has prepared by studying the children's progress records the night before, circulates about the room and assists those whom he knows need the help. He does not necessarily check each child's work each day.

Rate Builders are short stories of two or three paragraphs in length. The story is followed by five to ten comprehension exercises. There is a time limit of three minutes placed on the children for completion of the Rate Builder. At first this is a great obstacle since children are not used to working against the clock. The teacher plays a major role during a Rate Builder period because he keeps the time, maintains the order, and helps to build morale. There are 120 Rate Builder selections. One period of Rate Builders is given each week as compared to three periods of Power Builders.

During a Rate Builder period the group leader passes out cards containing the stories and places them face down on the desk. He also distributes the booklets which contain the answers for all the Rate Builders in the laboratory. The teacher starts the children working at the same time. They read and answer the questions that follow. After exactly three minutes, time is called and the children score their work. Then they exchange cards with a member of their color group and the entire procedure is repeated. Three

Rate Builders are done during a period devoted to that activity. After completing the three cards, the children graph their results as they did for the Power Builders and the teacher moves about checking and commenting on the day's work.

The third set of activities is called Listening Skill Builders. Ten passages are available to be read by the teacher with comprehension exercises to be written by the children. Because of the material's extreme North American cultural bias, it was decided to eliminate the prepared materials for this experiment.

New Oxford English Course, East Africa, Book 4

The general plan of lessons from N.O.E.C., Book 4 is uniform throughout the book. Quoting from Teacher's Notes (French, 1958b, vi):

1. a period of Oral Presentation without books, to teach new vocabulary and constructions, and to revise old ones;
2. a section Get Ready for Reading to prepare the pupil for the new work and to give him confidence;
3. the actual Reading periods in which the story is read both silently and aloud; and

4. Seatwork:

Questions on the reading which require the pupils to re-read the story with renewed care and intelligence. Questions on words, which consolidate the new and revise the old vocabulary, and assist in the correct spelling. Questions on sentences, which give practice in the use of old and new sentence patterns. Exercises in composition, in which the pupils are led from the first to compose good model sentences, and later to express their own thoughts by means of sentence patterns they have become familiar with.

All children use the same course book and study the same thing at the same time. Instruction is therefore designated as whole class teaching. Training in reading skills, as such, is intensified in Section 10, almost at the end of the 12 section book.

Preliminary efforts towards individualized reading

The idea of the Reading Laboratory is not new to East Africa or to Uganda. There have been scattered reports of either its effectiveness or inadequacy. None of these efforts, however, has been sufficiently documented to offer guidance and direction in replications of any experimental

designs and/or situations.

Reading Laboratory IIA was introduced to a primary seven class in the Demonstration School of Namutamba Teacher Training College as a result of observations made during 1965-1966. The class in question was acknowledged to be weak in reading comprehension and was due to sit for the same Primary Leaving Examination (the nationally administered primary school terminal examination) in November 1966 as the primary eight class. Since the whole primary system was undergoing change at that time, primary eight was being phased out and the 1966 group was the last of the lot. Therefore children with seven years of schooling were expected to take the same examination as those with eight years of preparation. (After the examination was administered it was announced that a different pass mark would be applied for the two groups.) Therefore, it was hoped that the reading laboratory would be beneficial in helping to bridge the gap in achievement.

After some initial hesitation the pupils managed to cope quite well with the materials. Although no statistical correlations were attempted, the class profile on the externally set examination seemed to be distributed more normally than was expected.

After a subjective evaluation of the experience by the class teacher (now headmaster) Mr. Y. Kasule and the author, it was decided to introduce the laboratory to the 1967 primary seven class. It is recommended in the Teacher's Handbook (Parker, 1958b) to confine the use of the laboratory to a three month period for greater effectiveness. It had been observed that the 1966 group had been too highly pressured to finish in the three month suggested time limit. It was felt that by using the laboratory during the long middle term rather than the shorter third term, it would be possible to improve competency, to finish the suggested scheme and still to have time to review some of the regular materials from the standard syllabus. It would also be feasible to return to the laboratory a few weeks prior to the final examination for some intensive review.

During the initial presentation in 1966, Mr. Kasule had managed through demonstration, observation and practice to become quite familiar with the workings of the laboratory. By the end of the term he was able to organize, to administer, and, most importantly, to interpret the children's work. Because of this experience he was able to present the complete laboratory scheme to the 1967 group with little outside assistance.

Once again, in spite of the earlier introduction, the children were able to manage quite easily with the materials.

During this second trial with the laboratory, it was planned to construct a test capable of either measuring the achievement of the children before and after their exposure or as an instrument capable of giving definitive data at the conclusion of a planned research design. Unfortunately there was insufficient time available to develop either the experimental design or the measuring device due to the pressure and demands of regularly assigned duties.

Following the second administration of the Reading Lab, a subjective evaluation was held once again due to the lack of a statistical instrument. Mr. Kasule felt that the Laboratory could and should be used during the first term of primary seven in 1968. The children in 1967 had experienced no more difficulty in using the materials than their 1966 predecessors and perhaps its introduction could be moved back one more term. It was projected that the Reading Lab would better serve the needs of the children at the beginning of their final primary year. Children coming from primary six often have a great deal of material to cover and a concentrated reading program would serve them well in their involvement with advanced materials from their syllabus.

The Formulation of the Research Problem

At this time the observation was also made that the children in the Demonstration School experienced no more

difficulty in using the Laboratory in a second language situation than their counterparts in North America. Thus it was decided that the time had come to undertake an organized scientific inquiry. Almost all of the subjective judgements made in respect to the two trials seemed to indicate that the Reading Lab was accomplishing something. What was that something? Could it be quantified to demonstrate objectively the intrinsic value of the materials?

After careful deliberation a decision was reached to design and to carry out a controlled experiment in primary six during the second term of 1968, subject to the approval of the Ministry of Education. There were three main reasons for selection of primary six rather than primary seven.

First, as the experimental situation would be carried to schools other than the college demonstration school, it was doubtful whether the headmasters and/or class teachers would want to tamper with a primary seven class. Due to the imminence and importance of the Primary Leaving Examination, educators and parents are reluctant to substitute an unknown quantity for a syllabus which has the sanction of the Ministry of Education.

Secondly, children in primary seven had very little difficulty in using the Reading Lab, and it was obvious from the range of their achievement that there would be considerable overlapping with the next lower class. Perhaps

the Reading Laboratory IIA would be better suited for primary six. Why not try it at a new level?

Thirdly, it would be easier to construct a measuring device for testing primary six children since their range of achievement was not as broad as the upper-class. The experiment was placed in term two in order to allow enough time for any attempts at standardization of the test before administering it to the experimental population.

An attempt was made to interest Science Research Associates, publishers of the Reading Lab, to provide materials for the experiment. Unfortunately, this was rejected because of the limited nature of the proposal and the short lead time available for budget allocations.

The complete proposal was finally submitted to the Ministry of Education with the endorsement of the Inspector of Primary English in September, 1967. Approval given to go ahead was authorized by the Chief Inspector of Schools in early February, 1968. Following this, action was taken to begin discussions with the District Education Officer, Mubende, since the experiment was to be conducted in his area of jurisdiction. (See Appendix D)

Construction of the Testing Instrument

The first major problem faced in the research was the proper choice of a test instrument which was both valid

and reliable for testing reading comprehension. In the case of measuring achievement in reading English as a second language, the obstacle is almost insurmountable. This is a result of the fact that there is no standardized instrument in existence which is suitable for use in the East African situation. Added to this difficulty is the fact that there are few printed comprehensive texts which give direction in the science of second language test construction. One exception to this condition is Language Testing (Lado, 1961) which proved to be very helpful in developing the test instrument.

Thus, there was no alternative but to try to develop and to standardize a measuring device. This would serve to rank the experimental population in some rational sense of order as well as to provide an instrument for conducting various statistical procedures at the conclusion of the study. In turn, it would provide the researcher with data to test his various hypotheses.

One of the major premises of second language learning seems to be that the beginning learner adds few words to his vocabulary in a vicarious manner. He does not add words to his vocabulary by just hearing or seeing them. He must study them thoroughly. As he is seldom introduced to any type of word attack skills utilizing phonics he knows only what he has seen, spoken, and studied. Therefore it was

mandated that any valid test must include only those words, verbal structures and patterns within the experience of the children who would be tested. A strict control had to be maintained.

The materials for the present edition of the test were prepared by the author. All were reviewed at one time or another by a statistician, teachers of English as a second language, inspectors of schools, linguists, training college staff and students, primary school headmasters, teachers and pupils. On the basis of these continuing subjective evaluations, the test was carefully scrutinized and revised in succeeding forms. The present test is the fifth revision and makes no pretext as being the most refined version. However, it has been considerably changed from its immediate predecessor, the fourth revision, which was the first of the editions to be used with large numbers of children.

The items for the test are based on selections made from the vocabulary contained at the end of N.O.E.C., Book 3 (French, 1958a). The listing of the vocabulary is made in the accompanying volume, i.e., the Supplementary Book for Primary 4, N.O.E.C. Uganda (Watt-Wyness, 1967). Originally it had been planned to create two equivalent forms of the test. The original items selected were chosen in the following manner:

1. All items listed in the cumulative index of the above mentioned Supplementary Book were counted and a rough percentage of the total was calculated for each. There are approximately 1050 words introduced in the work up to the end of Book 3, N.O.E.C. (French, 1958a). Of the total, 516 are nouns which represents 48 per cent of the number. Verbs account for roughly 24 per cent. These percentages were computed for each part of speech and in the final test an attempt was made to apportion the frequency of use according to these calculations.

2. It was felt that a random sample of 10 per cent of the total items would provide sufficient depth and breadth for testing purposes. These would be distributed over two equivalent forms of the test. Thus of the 516 nouns, 52 were chosen by selecting every tenth noun on the list after arbitrarily selecting a starting point.

3. In planning the format of the test, the recommendation of people in the field was that a good portion of the comprehension items involve matching pictures with lexical units. When the selection of every sixteenth, (or twelfth, or tenth) word indicated one that was non-picturable, a coin was tossed for a chance selection of the word before (heads) or after (tails).

The test consists of four sections and is contained in Appendix B of this study.

The first section contains 30 picturable nouns in a simple word picture matching format. This is the easiest test for the majority of the youngsters. Each item has four possible answers. One of these is phonically related, a second is generically related and the third not related at all. Children respond by marking an X through the correct answer for the correct number on an accompanying answer sheet.

The second set of items is more difficult than the first, in that it concentrates on verb structures in several tenses and involves sentence-picture matching rather than single word identification. The responses are listed beneath an illustration and the pupil responds as he did in section one. This test also tests time relationship and inferential thinking which further helps to separate the more able children from the less able. There are 18 examples in this section.

The third collection contains 24 items listed beneath four composite pictures which test position words, i.e. prepositions within known structures. Each picture presents nine situations and the child is required to choose the correct letter label and match it to the given sentence.

The last section, which is the largest and most difficult, makes the transition from sentence reading to paragraph meaning without the benefit of pictures or illustrations. Five stories of approximately 200 words each are

included. All of these relate information within the range of experience of the children. Any new words are defined in context. Ten multiple choice questions are used at the end of each story to check comprehension. The usual procedure of using four good responses with one being the best is slightly modified in this instance. Of the four stimulators or possible answers, one is correct, two are good and the fourth is complete nonsense. This was done deliberately to determine whether or not the child taking the test is attempting to read or to leave the examination room quickly.

Originally, two forms of the test were planned and constructed. Each form contained 88 items distributed over the four sub-sections described above. After consultation with psychologists at Makerere University College, it was decided to administer both forms in the standardization process. Then, through item analysis, it would be possible to synthesize one final form from the best of the 176 items.

To administer the trial tests, twelve third year students at Namutamba Teacher Training College were chosen. Since they were involved in using the S.R.A. Reading Laboratory IIIB (Parker, 1964) in their own English program as well as being trained as teachers, they were very receptive to the idea of learning something about test construction,

administration and validation. All of these students speak the vernacular of the Buganda region where the trial tests were given. Because of their facility with the vernacular, they were able to offer sound advice in finalizing the test administration procedures as presented in the manual of directions. It is doubtful whether the experiment could have been carried out without the help of these students.

The fourth revision of the test was administered to 200 children from primary six classes. Five schools were chosen as a cross section of schools in Buganda Region. Two of the schools were Church of Uganda schools at Bukomero and Kyamusisi while three were Roman Catholic parish schools at Bukalamuli, Kakindu and Naluggi. Small sections of the test were subsequently tried on small groups at many levels, including adults. These latter trials solicited reactions to such things as administrative ease, picture perception, format, print size and other physically related features.

The results obtained from testing the 200 children mentioned in the preceding paragraph were subjected to a careful item analysis. This was done in order to obtain an index of item difficulty which would dictate the choice of items for the final form of the test. Those items which were not able to discriminate, i.e., those which everyone either passed or failed were discarded. The proportion of

those passing was compared to those failing on each of the remaining items and from this a rank order of item difficulty was prepared (Ahman, 1963). All less discriminate items were not necessarily put aside as some of this type were needed as stimulators for the poorest children as well as challenges for the best.

During the first administrations of the fourth revision, no time limit was set for completing a section. A record was kept of the exact time that all children finished a particular sub test. After the testing was completed, it was calculated that the best time allotment could be calculated by taking the average time by the average children in the class. In the final analysis this was raised to include 77 per cent of the children in order to assure that ample time was being given.

It was observed that the average time needed by children in responding to a typical picture item was between 25 and 30 seconds. In straight comprehension without the benefit of illustration, the children required one minute for reading, thinking and responding. After consideration of the above data, it was decided to add a few minutes of time to each sub section as a margin of safety. The main purpose of the test was not to completely frustrate the children, but to test their level of comprehension. Thus in the final administration the first three parts of the test were allotted

15 minutes apiece and the paragraph meaning section was allowed an hour. A 20 minute rest period was also planned between the third and fourth sections. That meant that the complete battery could be administered in two and a half hours, approximately one half of a normal school day.

The final revised form of the test was administered to 61 primary six children at Naama U.M.E.A. Primary school and Naama D.A.S. school in early March, 1968. This testing was done in order to make final adjustments to facilitate administration, timing and scoring. This administration was followed one month later by a readministration of the same test under identical conditions to the same children for a test-retest reliability check. Although the author is aware that test-retest is subject to criticism, it was felt that given conditions as they were, it was the best possible procedure. The obtained coefficient of correlation between the two administrations was .65, a substantial relationship.

Development of the Experimental Design

During the first week of Term 2, 1968, the primary six classes at Buyambi Primary School, Mityana Primary School and Namutamba Demonstration School were tested with the instrument described previously. The three schools involved were all double-stream schools whose character was dissimilar as well as being representative. Two of the

schools are Church of Uganda and one is Roman Catholic. Mityana is urban, while Buyambi is rural. Many of the children at Namutamba are advantaged due to their exposure to activities at the teacher training college.

After testing all of the primary six children, the children were ranked. Then each child was matched with another whose raw score was within a range of $\pm$ 1 mark. They were then assigned to restructured primary six streams, so that each child had an almost equal partner in the other class. One of the equivalent streams in each school was designated the control and the other was named the experimental group. (From this point on, C will stand for control and X for the experimental group). Eighty-three matched pairs of an initial 102 pairs survived the three month experimental period. The attrition of 19 pairs was due to mobility and absenteeism during one of the several testing situations.

One class teacher was assigned to teach English to both streams in each school. During the third, fourth and fifth weeks of the term, the regular teacher was replaced by two student teachers, one to each stream. These students were completing their final teaching practice before being inspected by a team of external examiners. In order to prevent contamination of the experiment by introduction of many teachers, the class teachers and the student teachers

were called to Namutamba for a period of orientation in the teacher training college. It had been planned to conduct several training sessions for these teachers, but this was impossible. Two of the teachers were not assigned to their class until the last few days before the opening of the term. In order to compensate for the shortened pre-training period, the 12 third year students mentioned earlier were dispatched daily to assist the teachers in service. One student was assigned to each class to help overcome the difficulties caused by gaps in the orientation procedure. Each day the students reported back to the author who in addition also made daily visits to each school. Under normal conditions, an extended period of training would have to have been concluded in order to prepare teachers to carry out the programe. The use of daily student advisors was one answer to the exigency of the situation.

Realizing the impact of the "halo-effect" upon X, everything possible was done in order to bolster C psychologically. Some of the measures taken are listed here:

1. X received a special file folder to keep a record of their work. C received a special exercise book for the same purpose.
2. All children in both X and C were given pencils.
3. Both X and C were given sets of colored pencils to use generally for work in class.

4. New sets of supplementary readers were supplied to C.
5. Dictionaries were presented to both X and C.
6. Special reference texts were provided to enable teachers to keep up-to-date on techniques for teaching C.
7. Whenever a supervisory visit was made to X, an effort was made to visit C as well.

An S.R.A. Reading Laboratory IIA (Parker, 1958a) was given to each X to use as its basic English reading syllabus. The normal syllabus, i.e. N.O.E.C. Book 4 (French, 1958c) was continued in C. A special scheme was provided for X which was adapted from the scheme suggested in the Teacher's Handbook (Parker, 1958b) for the IIA Laboratory. The program as suggested and outlined in the Teacher's Notes for Book 4 N.O.E.C. (French, 1958b) was followed by C. The training sessions given before the beginning of the term were devoted to instruction in techniques for both syllabuses. Teachers were warned and later supervised to ensure that there was little contaminating carryover from one stream's techniques to the other. An average of four class periods a week were allotted to the English reading program in each stream over a three month period of time. The remaining periods of English language instruction during the week were common to both classes. These mainly consisted of speech and composition activities.

Summary

The purpose of this chapter was to describe in detail the procedures utilized for developing and implementing this study. This was done by examining the two programs of teaching reading comprehension: (1) the standard syllabus of the New Oxford English Course, East Africa, Book 4 and (2) the Science Research Associates Reading Laboratory IIA. A description was given of the early trials in the use of the Reading Lab and the subsequent development and rational of the research procedure. Also developed was an expanded discussion of the development and standardization of a suitable test instrument.

A description of the development of the research design was given and this included an identification of the populations, their placement in classes, the assignment of methods of instruction and teachers and the effort made to support the control group psychologically.

The data derived from testing and observation are analyzed in the following chapter.

CHAPTER IV

ANALYSIS OF THE DATA

Introduction

Any evaluation of such a project is extremely difficult because so many interests must be satisfied. The true researcher always hopes for a statistical quantification which leaves little room for doubt. The educationalist may expect only generalized conclusions which can be used in determining the direction of possible trends. The teacher, who has seen more than meets the eye of the computer, realizes that all educational progress made cannot possibly be measured. The pupil evaluates each lesson as he completes it and will really be the only one to know the impact of the presented material.

The very fact that this experiment was organized, administered, and carried to a conclusion is a major feat in itself. Although the need for research is apparent in developing countries, conditions in the field make it extremely difficult to keep a project free from all types of interfering interaction. Thus, by the very nature of the problem, it will be necessary to balance the subjective with the objective in attempting to reach reasonable and responsible conclusions.

Since this was a comparative study of two approaches to instruction in reading comprehension, one of its major goals was the accumulation of sufficient evidence to enable the investigator to make valid judgments as to the relative efficacy of the methods being compared. The development of the study was discussed in Chapter III. This chapter is concerned with the analysis of the objective data as they relate to the research hypotheses and the reporting of the subjective data relevant to the three subsequent questions.

Statistical Technique

Three research hypotheses relating to reading comprehension improvement were stated broadly in Chapter I. For each of these research hypotheses a statistical hypothesis was tested. Data were subjected to a multiple classification analysis of variance treatment as outlined by Millman and Glass (1967) and Popham (1967).

The first independent variable, medium of instruction, is represented by the experimental and control groups, respectively. The second independent variable, school location in urban, rural and mixed areas, is represented by populations one, two and three. The interaction between these two variables was also tested.

The null forms of the three hypotheses were:

Null Hypothesis 1: There will be no significant difference at the .01 level between the mean achievement of

reading comprehension of pupils using the Science Research Associates Reading Laboratory IIA and that of pupils using the standard syllabus of the New Oxford English Course, East Africa, Book 4.

$$Ho_1 : M_1 = M_2$$

Null Hypothesis 2: There will be no significant difference at the .01 level between the mean achievement of reading comprehension of pupils from urban, rural or mixed schools irrespective of their membership in the experimental or control group.

$$Ho_2 : M_1 = M_2 = M_3$$

Null Hypothesis 3: There will be no significant difference at the .01 level in the mean reading achievement due to the interaction of method of instruction and school location.

$$Ho_3 : (M_1 - M_2) = (M_3 - M_4) = (M_5 - M_6)$$

In order to determine whether or not any significant differences existed between methods of instruction or populations or interaction between the two, it was necessary to compare the end of term achievement in reading comprehension of the groups. The test which was described in Chapter III was used to provide the data to test the null hypotheses.

In the rural area, the population of Buyambi school numbered exactly 20 matched pairs. As a complete block

design was chosen as the vehicle for calculations, it was necessary to assure that each cell contained an equal number of observations. Thus, in the case of the urban and mixed schools, it was necessary to randomly delete subjects in order to get the lowest cell number of 20.

In this study treatments are considered to be fixed factors on two levels, i.e., experimental and control. A second fixed factor of three levels is the characteristic of school population in urban, rural and mixed settings. Twenty randomly selected Ss within each class yield 20 levels of replications or observations.

If viewed in tabular form it appears as follows:

Variables	Levels	Factor Status
Treatments	2	Fixed
Populations	3	Fixed
Replications	20	Random

This is stated in a complete block design as follows:

	Treatment 1 Experimental	Treatment 2 Control
Population 1 Urban	20	20
Population 2 Rural	20	20
Population 3 Mixed	20	20

An analysis of variance was calculated for the data mentioned above and is reported in Table 1.

Table 1

Analysis of Variance of the Performance of 120 Pupils Based on Data from N.O.E.C. Test Materials

Source of Variation	S.S.	df	M.S.	f
Methods of Instruction	7	1	7	.05
Populations	876	2	438	3.11
Methods X Populations	131	2	66	.47
Within	16,015	114	141	
Total	17,029	119		

An F value of 6.84 was necessary for 1,114 degrees of freedom before significant differences between the experimental and control groups could be claimed at the .01 level. F values of less than 1.00 were found for both the methods of instruction and the interaction between methods and population. An F value of slightly more than 3.00 was found for the populations, thus establishing the fact that any differences between the groups may have occurred by chance. The null hypotheses therefore failed to be rejected and it must be concluded that no significant differences exist between the methods, the populations or on their interaction as

based on the test described in Chapter III.

Discussion

The failure to reject Null Hypothesis 1 was surprising. Due to the enriched nature of experiences in the experimental method of instruction and the positive comments of outside observers, it was expected that reading achievement would be enhanced and accelerated. Upon closer examination of the problem, it was realized that the data, yielded by the test instrument, was based completely on the tightly controlled N.O.E.C. vocabulary. Children in the X did not look at the N.O.E.C. materials for an entire term of three months. This was one of the conditions of the experiment. But, in spite of this lack of familiarity, they were able to keep pace with C who received instruction for forty eight, forty minute periods. If one of the tenets of second language learning stated earlier, is to be believed, learners do not acquire vocabulary vicariously at this stage of their development. The question was raised as to how the experimental group managed to maintain its matched status with the control group in spite of no exposure to N.O.E.C. A second question raised the speculation that perhaps the Reading Lab contained all that was contained in N.O.E.C. Apparently the answer to this question must be a conditional

affirmative. A third question stated that if the group using N.O.E.C. has not gained significantly more than the group using the Reading Lab, is it possible that the Reading Lab group has gained more than the group using the standard syllabus? If the groups were measured with an instrument containing materials based on the Reading Lab some of these questions might be answered.

Statistical Technique, concluded

Because of this situation, a new test was administered to all X and C. The material for the new test was taken from the Power Builder Follow-up No. 2 (Parker, 1960). This test of 48 items is designed to be given during the second month of working with the Reading Lab. It is probably equivalent to the seventh or eighth color level, a heighth reached by less than one third of X by the end of the term.

The data of this second test were also subjected to the analysis of variance treatment and the results are reported in Table 2.

An F value of 6.84 was necessary once again for 1,114 degrees of freedom before significant differences between the X and C groups could be claimed at the .01 level of significance. Values of less than 1.00 were recorded for populations and the interaction between methods and populations therefore failing to reject Null Hypotheses 2 and 3. Since

Table 2

Analysis of Variance of the Performance of 120 Pupils Based on Data from S.R.A. Test Materials

Source of Variation	S.S.	df	M.S.	f
Methods of Instruction	4,600	1	4,600	15.03[a]
Populations	471	2	236	.77
Methods X Populations	549	2	275	.9
Within	34,822	114	306	
Total	40,442	119		

a Significant at the .01 level

an F value of 15.03 was found for Methods of Instruction in favor of the X group, it must be concluded that there is a significant difference between the two groups based on Power Builder Follow-up No. 2.

Subjective Data Analysis

Much of the non-quantified data which follows is based on the author's direct observation and on discussions held with other observers who include college staff members, teachers, student teachers and pupils. Considerable material is offered from an interview which was recorded on tape and held as a post-experiment evaluative session. The participants in this interview were the author and the class teachers involved in the experiment.

Three questions were specified in Chapter I as needing answers: They are as follows:

1. Are African children able to manipulate and to use materials designed for individualized instruction which involve self directive and self corrective techniques of evaluation?

2. Are African teachers able to manage instructionally the demands of a highly individualized program, set in the framework of a highly structured syllabus with a time-table geared to whole class instruction?

3. Are materials with a North American cultural bias suitable for use in the Ugandan school situation?

All questions refer to the materials of the S.R.A. Reading Laboratory IIA and are answered below in order of their statement.

Progress in the Reading is recorded by the children on a day to day progress record. Indications of progress are made by advancement (or lack of it) through the various color levels. As a general rule, children are expected to move to the next level when they have completed three to five booklets in a particular color while maintaining a percentage of 85-90 and decreasing the time consumed in reading and responding.

The range of colors as well as the number of children at each color step appears in Table 3. Figures are presented for the beginning of the experiment and the end of the three month period. Schools are numbered for convenience and

Table 3

Range of Color Achievement by 83 Pupils in X by Schools

		Color Levels												
		Orange	Olive	Blue	Brown	Green	Red	Tan	Gold	Aqua	Purple	Rose	Silver	Total
School 1	Beginning 5-1-68	3	4	7	3	3								20
	Ending 8-1-68				3	8	5	2	2					
School 2	Beginning 5-1-68	6	8	11	10	2								37
	Ending 8-1-68		1	3	3	5	7	5	9	3	1			
School 3	Beginning 5-1-68	9	9	1	3	4								26
	Ending 8-1-68		3	8	4	7		1	3					

they are presented alphabetically (Buyambi, Mityana, and Namutamba).

Table 4 contains data for the mean advancement through the color levels for each school based on the achievement for all children in X for that school.

Table 4

Mean Color Achievement by 83 Pupils in X by Schools

	Mean Achievement
School 1	3 Color Levels
School 2	4 Color Levels
School 3	2 Color Levels
Schools' Mean	3 Color Levels

Statements made in the manual for the Reading Lab indicate that some children would do two levels while others would accomplish as many as five or six. The average progression, however, during the three month period for native language learners would be three or four colors. (Parker, 1958b, p. 77). On this basis alone it would seem that African children are capable of using the materials as well as could children who are working in their first language.

Although this progress record is acceptable, certain aspects of working with the Reading Lab proved to be difficult and are reported here.

The major problem in working with the Reading Lab was one of cheating. This is mentioned in the Teacher's Handbook as a possible source of difficulty (Parker, 1958b, p. 11). It is dismissed in print with the simple solution that as children are working at their own level and competing against themselves they soon lose the need to cheat. This may be true in the North American context where school success is not based on examination results. However, this is subject to intensive doubt in a situation which is decidedly examination oriented and where children are continually being ranked to determine passing and failure.

At first the children felt that every exercise was an examination due to the timed work period and the multiple choice responses. Because of this they also felt the pressure of obtaining high marks. Through careful guidance on the part of the class teachers and particularly the student teachers, this fear of failing to meet externally set high expectations was dispelled. The temptation remained very strong for children who were less able and they cheated

in order to close the gap between the more able and themselves. The motivation of advancing from one color level to the next was so high that the children cheated in order to gain promotion.

The methods of cheating were varied and numerous. At first the children copied from their classmates. When they discovered that everyone was using different materials they began to try other devices. The Teacher's Handbook (Parker, 1958b) suggests working in pencil. Children did the obvious and erased incorrect answers and replaced them with the desired ones. After changing over to pens, the children began to leave the answer spaces blank and to fill them in after they collected the answer cards. Others marked down the wrong percentages or graphed a higher percentage than was scored. Certain children took liberties with recording the elapsed time. During Rate Builder sessions, children would keep their answer booklets in their files and then fill in the answers after class to be presented during the next day's class period.

Initially, all of these problems were controlled by increased teacher vigilance. As the teacher and the children gained experience and confidence in the goals and aims of the Reading Lab, the need to cheat was demonstrated by only one or two children.

One of the minor problems encountered was that certain children made no progress at all and stayed in one color. Thus, they used up all of the available materials for that level and appeared to have nothing to do. This was overcome through a review of much of the material which made the youngster verbalize the work with the teacher. As it turned out in almost every case the child was not bored by the repetition, but thankful to have an opportunity to review the instructions which he may not have understood in the first instance.

Another small obstacle to the pupils was the difficulty in becoming used to the record keeping. Since these children had had very little experience in marking and in grading their own work, they found these tasks to be quite demanding. The idea of pupil self analysis was also new and the teacher found it difficult, at first, to relinquish this role to the pupil. This trouble was gradually eliminated after three or four weeks of exposure to the Reading Lab.

Headmasters and Education Officers observed the X classes working and were astonished that the teacher was able to get the children to work so intently, silently and steadily. Headmasters were desirous of the teachers holding in-service courses for other teachers.

Most teacher observers felt at first glance that the materials used by X were far too difficult for the children and too advanced for the class teacher to present them.

However, they were surprised at the ease with which the teacher was able to cope with the situation.

Other teachers in the selected schools visted X to see for themselves and then asked to be retrained in the new process. They were professionally envious rather than jealous of the teachers who had been selected to conduct the experiment. One teacher took home some of the materials to try with her own children.

The Reading Lab was introduced to a class of primary seven teachers who were attending a special refresher course at the teacher training college. They were quite insistant on being allowed to take back home the Reading Lab in order to introduce the scientific approach to their own primary seven classes. Even after their brief three day exposure, they were able to discern the value and ease of working with the program. They were particularly keen about the Rate Builders.

The following three paraphrased statements were made by the class teachers involved in the experiment during the taped interview held at the conclusion of the three month period.

1. Because each child can proceed at his own ability and speed, there is little extra work on the part of the teacher to constantly prepare and to provide new material.

2. Because the achievement of the child is pictured on a graph, it is a daily reminder to the teacher (and the child). If the child's profile is not satisfactory, the teacher, at a glance, immediately asks the question, "Why?"

3. No individual child is cheated of his individual share of the teaching. There is no attempt to find a middle ground for instructing the majority. Each child is on his own track and working all the time.

On the basis of this collected evidence and in spite of its subjectivity, it appears that African teachers are able to cope with the demands of individualized teaching.

The factor of American cultural bias in the materials does not seem to have been a great problem. Stories, which were insurmountably culture-bound (and there were few), were removed from the Reading Lab. Most of these were about baseball which was completely lacking in the background of the pupils.

Subjects chosen for the passages could stand some re-organization. Due to the great emphasis on science and technology in North America, many of the stories were beyond the mental conception of most of the children. In spite of the controlled vocabulary and constructions in the stories, comprehension was hindered by the situation. The use of semi-technical terms like jet, rocket, machine, et. al. also gave the children some difficulty because these terms are not within their everyday experience.

Another source of some difficulty was the use of North American spelling and pronunciation rather than the English ones to which they are accustomed. In the great majority of cases in exercises contained in the word attack skills section, there is no difference between the two sound systems. However, in a small minority of items, some confusion was noted although learning was not retarded. The main point to be made here is that when the children returned to the standard syllabus at the end of the experiment, they were at a slight disadvantage until they reoriented themselves.

The area of major concern in the bias of the Reading Lab was in the use of North American oriented illustrations for the section in word attack skills. In some instances, such as the presentation of a dog and cat, there would be no difficulty. But in a majority of uses, the topic needed localization for better understanding. Most animals were North American varieties as were the decidedly western household utensils. Many toys pictured were unknown in the local context.

Apparently variances in spelling were not a bother to the children. Dictionaries supplied to the groups gave alternate acceptable orthography. Children developed new attitudes through the realization that there could be more than one way of doing things. This was also true of the phonetic division of opinion mentioned above. Children were

warned however, that they had to decide on one style only, stick with it, and not to switch constantly from one to the other.

On the basis of this evidence, it seems as though American materials are not completely suitable for the Ugandan scene.

Although the following paragraphs do not deal specifically with either one of the hypotheses or the questions posed earlier, they are further value judgements made of the Reading Lab by other observers. These opinions are very much a part of this report and are reflected in the implications and recommendations suggested in Chapter V.

In the beginning the children had difficulty with the Rate Builders because of the three minute time limit. In fact they did not like to work with them. Gradually as they began to see their own graphed progress, they gained confidence and were able to move ahead at a much faster pace. By the end of the term, most children were very proud of the fact that they could do a Rate Builder exercise in two and a half minutes or less and still do well enough to advance to more difficult color levels.

The Power Builders remained the favorites from beginning to end because they required no set time limit and because of the very nature of the subjects in the story booklets. Children were continually reading with a purpose since all of the stories were filled with information. Because this

was a new experience, i.e., to be able to read material that was useful, a very high degree of motivation was maintained. Children felt that the time devoted to reading was very worthwhile.

Another positive value was that there was considerable, continual practice in comprehension. In their regularly administered terminal language tests, children from X seemed to do quite well on the sections devoted to comprehension.

Children appeared to develop great pride in working towards a particular standard or within a specific period of time. The materials required that the children read and follow directions. Both children and teachers felt that there was great transfer value to other subjects and areas in the curriculum.

All of these helped the children to enjoy and appreciate their individual progress.

Because each day's work was new and interesting, the daily attendence of the children in X seemed to be better. The children were afraid that they would miss out. Tardiness decreased in one school specifically, because the Reading Lab was used during the first period of the day.

When the Reading Lab boxes were removed, the children from two of the schools became quite concerned, and in a few cases very indignant. Some children expressed the feeling that a good friend had passed away.

Children from C felt as though they were being left out in spite of all the encouragement that was given to them. They were afraid to take the same post-tests given to the children in X. The children in C felt as though they were the ones who had not completed enough work even though they were continuing on the standard syllabus. The children from X had been doing so much reading and were so confident that they had convinced the children in C that they (C) had fallen behind.

Summary

The chapter presented and analyzed both the objective and subjective data obtained in comparison of two methods of teaching reading comprehension to children in primary six classes in Ugandan primary schools representing rural, urban and mixed populations. The two methods were the S.R.A. Reading Laboratory IIA which was used by the experimental group in each school and the standard syllabus of the N.O.E.C., East Africa, Book 4 which was used by the control groups.

Objective data was supplied for comparing the two approaches by the use of a multi classification analysis of variance technique as proposed by Millman and Glass (1967) and Popham (1967). In addition, various subjective data were offered in an attempt to answer several pertinent questions posed by educators and observers in the field.

The data obtained revealed that:

1. There was no significant difference between the S.R.A. and the N.O.E.C. approaches when tested with an instrument based on N.O.E.C. materials.

2. There was a significant difference at the .01 level favoring the S.R.A. approach when testing data was yielded on an instrument based on material drawn from the Reading Lab.

3. African children were able to successfully use materials designed for individualized instruction.

4. African teachers were able to cope with the demands of a highly individualized instructional program.

5. Materials of North American cultural bias were only partially suitable for use in Ugandan schools.

CHAPTER V

SUMMARY AND CONCLUSIONS

The purpose of this study was to determine the effectiveness of two methods of teaching reading comprehension to Ugandan children at the intermediate level over a period of one school term lasting three months. The study was designed to test the following hypotheses:

1. There is no significant difference between the level of reading comprehension of pupils in the group using the Science Research Associates Reading Laboratory IIA (Parker, 1958a) and the level of reading comprehension of pupils using the standard syllabus, i.e., the New Oxford English Course, East Africa, Book 4 (French, 1958c).

2. There is no significant difference in the level of reading comprehension of pupils from either urban, rural or mixed school population irrespective of their membership in the group using either method of instruction.

3. There is no significant difference in the level of reading comprehension of pupils due to the interaction of the method of instruction and the school location.

This study was also designed to answer the following:

1. Are African children able to manipulate and to use materials designed for individualized instruction which involve self directive and self corrective techniques of evaluation?

2. Are African teachers able to manage instructionally the demands of a highly individualized program, set in the framework of a highly structured syllabus with a time-table geared to whole class instruction?

3. Are materials with a North American cultural bias suitable for use in the Ugandan school situation?

Three primary schools in Mubende District, Uganda were selected for the experiment. Each school was a double stream school representing a unique population in that one was rural, one was urban, and the third a mixture of both characteristics combined with the lighthouse properties of being the demonstration school of a teacher training college.

At the beginning of the study in May, 1968, the total sample for the investigation consisted of 204 pupils in six primary six classes in the three schools. After testing, the children were ranked and then matched with another whose raw score was within a range of $\pm$ 1 point. Children were then randomly reassigned within their pair to a restructured primary six stream. As would be expected, a number of cases were lost during the term of this investigation. Due to the high mobility of children in the Bantu culture, as they are shifted from one home to another, 19 pairs were lost during the three month period.

One stream in each school was randomly assigned to experimental and the other to control status. The experimental

group was given an S.R.A. Reading Laboratory IIA (Parker, 1958a), and the control group continued in the standard syllabus, i.e., the New Oxford English Course, East Africa, Book 4 (French, 1958c). Teachers were assigned to teach both groups within a single school. Student teachers, who subsequently relieved the regular class teacher for three weeks during the term, were randomly assigned to one or the other group with their schools.

At the end of the term after forty-eight forty minute periods of instruction, two tests of reading comprehension were administered. The first was based on the controlled vocabulary and structures of the New Oxford English Course and the second based on material drawn from material in the S.R.A. Reading Lab.

A multi classification analysis of variance as outlined by Millman and Glass (1967) was used to evaluate the differences in performance between the groups pertaining to methods of instruction, the location of the school population, and the interaction between the two independent variables.

The null hypotheses state that there would be no difference in the performance of pupils according to the methods of instruction, according to their geographic location or due to any combination of these two items. In testing these hypotheses the .01 level of significance was used.

Findings

The following were formulated from both the objective and subjective data:

1. The evaluation of the level of comprehension for both groups based on a test developed for the purpose using items drawn from N.O.E.C. showed that there was no significant difference at either the .01 or the .05 level. Therefore all of the null hypotheses failed to be rejected. In other words, classes which were equivalent at the beginning of the experiment did not differ significantly at its conclusion when tested on the N.O.E.C. materials.

2. The evaluation of the level of comprehension for both groups using a test based on the S.R.A. Reading Lab items showed that there was no significant difference for school location or interaction between methods of instruction and population. However, there was a significant difference at the .01 level in favor of the experimental group. This strongly rejects the null hypothesis. In other words, when children from originally equivalent classes were tested on materials drawn from the Reading Lab, the group using the Lab were at a significantly higher level.

3. The Ugandan children using the Reading Lab demonstrated throughout the experiment that they were able to use the materials to a degree that would be expected from North American children and they also performed as well based on informal, internal measures.

4. The Ugandan teachers, according to all evidence gathered from their own collective observations and recommendations are ready, willing and able to include a program of individualized reading in their highly structured school timetable.

5. Reading materials of North American cultural bias caused no insurmountable problems for children of another culture. However, some of the illustrative material and technical vocabulary caused some difficulties detrimental to successful reading.

Conclusions

Based on the findings of this study, the following conclusions seem to be warranted:

1. Children using the S.R.A. Reading Lab IIA appeared to gain more in English Language skills than children who were using N.O.E.C. East Africa, Book 4.

2. The scientific approach as structured into the Reading Lab materials appears to be sound.

3. The use of individualized instruction is possible and desirable both from psychological theory and practical performance.

4. Ugandan children speaking and learning English as a second language appear to perform as well as children learning English as a first language, given proper instruction.

5. Ugandan teachers, given proper training, are able to administer and interpret individualized programmed instruction.

6. The Reading Laboratory IIA, as commercially available, is not suitable for Ugandan primary schools as a standard adoption, due to its cultural bias.

7. It is possible to conduct scientific educational research in the field provided that proper training procedures are utilized and that a planned program of supervision is carried out.

Recommendations for Future Research

It is recommended that further research be done in the following areas:

1. There is a need for longitudinal studies leading to greater understanding of the place of phonic and phonetic word attack skills in standard British dialect in the teaching of English as a second language in a non-English environment.

2. Exploration must be conducted into the problem of the effect of speed of reading upon reading comprehension at any level of working with English as a second language.

3. Standardized test instruments must be constructed which are able to inventory the syntactical as well as lexical items of a person who is working in a second language.

4. A series of test instruments must be developed which are able to measure reading comprehension at the beginning stages and continuing over a period of five or six years.

5. Work is necessary to determine the increased effectiveness of teaching reading with graphical and textual materials which are cast in an indigenous mold suitable for the country of their introduction.

6. A study should investigate the effect of laboratory procedures on many levels of reading experience in order to provide data for studying the suitability of adopting a scientific approach of individualized instruction in reading.

7. A survey seems to be mandated into the comparative effect of individualized reading instruction on children's interests in and attitude towards supplementary reading.

Implications

This study was carried out in the country of Uganda, a former British protectorate located in East Africa. The country, which has been politically independent since 1962, has been striving to bridge the gap of economic and social underdevelopment as well as make inroads into solving its stated problems of ignorance, poverty and disease.

The data, its analyses and conclusions, have been presented to officers in the Uganda Ministry of Education. The

findings have been used as a basis for discussion and future planning by those who are responsible for curriculum development in the country.

As was previously stated, it is possible to conduct scientific educational research in a developing country. The present study is but one attempt to come to grips with a very small portion of the educational problems which confront one country. It is possible that this study may serve as a model for others that are contemplating the idea of educational change. In view of that fact, the following cautions seem implicit in this experience.

1. Many developing countries will probably discover unique problems which condition any approach to scientific investigation.

2. Developing countries can best be served by those who are willing to

   a. study conditions in the field.

   b. make an adequate time commitment.

   c. be willing to listen.

   d. assist and help rather than to tell.

3. Exploration, particularly in curriculum areas, must be encouraged by responsible individuals in the educational power structure of the country in order to help chart the future course of the syllabi.

4. Qualified educators must be assigned by the responsible agencies to see that these research efforts are proposed, attacked, concluded and coordinated in order that pressing national educational problems are brought under the scrutiny of those charged with the responsibility of building the nation.

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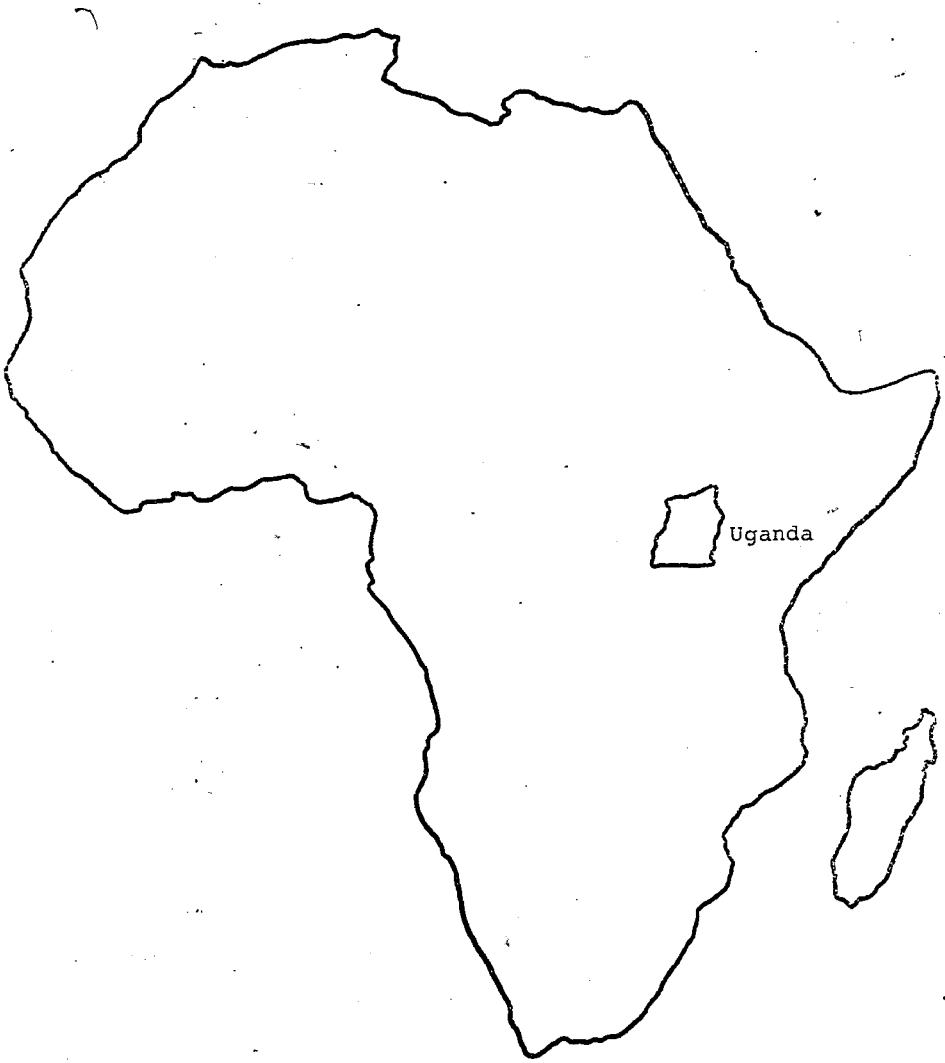
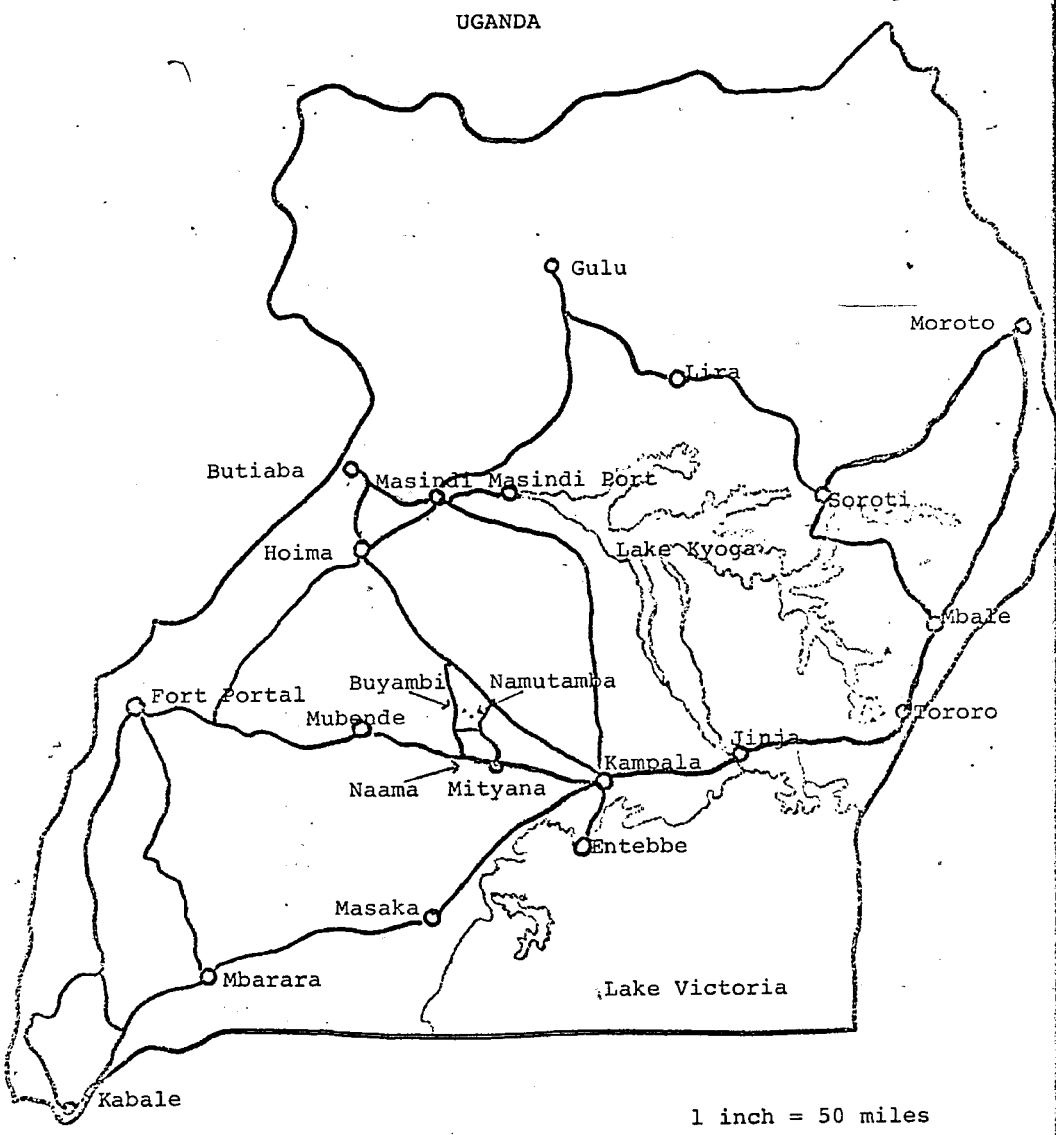
APPENDIX A

MAPS OF AFRICA AND UGANDA

AFRICA




UGANDA
Gulu
Moroto
Lira
Butiaba
Masindi
Masindi Port
Soroti
Hoima
Lake Kyoga
Mbale
Buyambi
Namutamba
Fort Portal
Mubende
Tororo
Jinja
Kampala
Naama
Mityana
Entebbe
Masaka
Mbarara
Lake Victoria
Kabale
1 inch = 50 miles

APPENDIX B

TEST MATERIAL RELATED TO N.O.E.C., EAST AFRICA

General Directions for Administering Test

Based on N.O.E.C. Materials

(All directions for the examiner are enclosed in brackets. Words which are not enclosed in brackets are to be said to the children. The main purpose for the instructions to the children is to make it clear so that the children will do their best work. It is up to the examiner to use any method or language necessary to assure that the children understand exactly what they are to do. Use the blackboard or any other visual means if it will help to get the children to do their best possible work. Do not be afraid to use the vernacular but I do not think it should be necessary for more than the first time and test.)

(Distribute pencils to each child. Give out the answer sheets and have the children fill out all of the information that is asked for. Do this work quickly. Move round the class helping the ones who are having difficulty. Explain that this paper is called the answer sheet and that you will refer to it as such in all future talking. When they are ready, say...)

"I am going to give you some papers which have some pictures and stories on them. Do not write on these papers and do not turn them over until I tell you to do so."

(Distribute the Test WR and say the following after you have returned to the front of the room.)

"Listen carefully. I am going to see how well you can listen. Look at the pictures and the words on the paper in front of you. Everyone point to the picture in the first box."

(Examiner does it with his copy while holding it up so that the children can see. Make sure that the children have the proper place. Walk round the room to see if they are right. Ask the following question.)

"What is the picture?" (Pause. When a child responds, say) "Yes, it is a picture of a lamp."

"Now listen carefully again. Next to the picture there are four words. Point to them and let us count them together. (Slowly) One -- Two -- Three -- Four." (Be sure you are holding up your copy and doing it as the children do it.) "Let us read the words together and you point to each one."

(Go very slowly and pronounce each one very carefully.)

"X - Lump ink lamp girl. Which one do you think belongs to the picture?"

(Wait for a child to answer.) "That's right. The word is lamp."

"What is the number of this question?" (Child answers.) "That's right. it's S 1. Now, what is the letter in front of lamp?"

(Child answers.) "Good, it is c, isn't it. Now look at your answer sheet. (Show them your own sheet.) "Can you

find S 1? Point to it with your finger." (You do the same in front of them.) "Very good. Yes, it is there." Do you see the letter c? (pause). "Put your finger on it." (pause) Good. "Now make a ring around the letter c. (pause) Well done."

(Be sure everyone has done this before you go on)

"Now let us look at the 2nd box. The number of this box is S 2. Can you find it? (pause) Put your finger on it." (Check and see if they have done so.) "Look at this picture. Next, look at the four words. Let us read the words together. (slowly) word bone mine wood. Which word belongs with the picture? (pause for answer) That is right. It is wood. What letter is in front of the word? (pause) Yes. It is d. Can you find S 2 on your answer sheet? Can you see the d after S 2? What do you do to the d? (pause for answer). Yes. That's right. We make a ring around the letter d."

"Now look at box S 3. What is the picture? (pause) Do not say it out loud. Now look at the words. (pause). Which word belongs to the picture? Shh.....(pause) What is the letter of that word? (pause) Yes, go to the answer sheet, look for S 3 and put a ring around what? (pause) Yes, the letter b." (See that all have understood and have done the task. Help those who need it.)

"Now do the same thing for S 4." (After you are sure they have done it, tell them) "Yes. S 4 was the picture of sack and you have put a ring around the letter a."

(Now say) "Put your pencils down. Do not turn the page until I tell you to do so. I am going to tell you what to do next. On the next two pages are some more pictures and words. You are to do the first one, then the second and then the next and so on. Remember, first you are to look at the picture, then look at the words, find the word that belongs to the picture and remember the letter in front of the word. Then go to the answer sheet and make a ring around the correct letter. Be sure that the number of your answer is the same as the number of your question."

(Now hold up the page of questions and show them to the class. Demonstrate as you talk)

"Go down one column and then go down the next. After you have finished this page, go on to the next page. Make a ring around only one letter for one picture. There is only one correct answer for each picture."

"If you make a mistake, make a wavy line around the letter like this (show them on the blackboard) and put the ring around the correct letter. If you are in difficulty, raise your hand and I shall come and help you. You must not talk after I say "begin." You have 15 minutes to finish your work."

"Have you any questions." (allow some questioning here but not a great deal as they tend to be repetitive.) "Have you understood everything? All right. Turn the page and begin."

(Quickly go round the room to make sure that the children are doing the right thing at the right time in the right place. If a child is doing wrong then very quietly help him and correct him so that he can get on with his questions.)

(After 15 minutes, say...) "Stop! Put your pencils down. (Insist) Pass your question sheet (make sure it is only the question sheets) forward immediately. Do not pass the answer sheets and pencils. Now relax." (Collect the question papers and give the children a few minutes to breathe. Talk to them about the test and try to put them at their ease. Be casual at this point. But when you are ready to begin again, you must be all business.)

(The instructions for the next part are similar. However you must go through all the instructions in order to insure the standardization of the test giving.)

(Pass out the Test VR and be sure it is the correct side up. Say..)

"Look at the picture which is numbered S 5. Who can tell me something about that picture? (Encourage many answers.) Now look at the sentence beneath the picture. Who can read the sentence? (Allow one child to try.) Which word or words belong to the picture? Yes, that's right. It is 'is carrying.' What is the letter of the correct answer? (pause) Yes, it is a. Can you find S 5 on your answer sheet?

(Show them the position.) Which letter is correct? Yes, a is correct and we shall draw a ring around it."

"Can you do S 6? (pause) Well done. What was the answer? (pause) That's right. The answer is c. Now do S 7 and S 8, and then stop." (Give the children a minute or two to do it. Meanwhile, walk round the class helping and also checking to see that nobody has turned his sheet on to the other side. We don't want a child to have a head start.) "The answer for S7 is d and for S 8 it is b. Now put your pencils down."

"On the other side of the page are more pictures and sentences. You are to do one and then the next and so on. (You are showing them all of this.) Go down one column and then do the next. Remember to look at the picture, then the words and then choose the correct one. Then go to the answer sheet and put a ring around the correct letter. Do not write on the question paper. If you make a mistake, make a wavy line around the wrong answer and put a ring around the correct one. There is only one correct answer for each question. You have 15 minutes to finish the test. You must not talk about it after I tell you to begin. (pause) Have you understood? (pause) Any questions? (pause) Good. Ready, begin."

(Record the time on the blackboard. Move about to see that all are doing the correct thing. After 15 minutes say...)

"Stop! Pencils down. Pass the question papers forward. Now relax."

(The directions for the next part are almost the same as those we have done previously. However, it is necessary to go over them with the children so there can be no misunderstandings. Pass out the Test SR making sure that the correct side is up. Return to the front of the room and say..)

"Here is a picture with many things in it. Tell me some of the things that you see in the picture. (Encourage several answers.) Look beneath the picture. Do you see some sentences? (pause) Who can read sentence S 9? (Allow a child to read it clearly and slowly so that all may hear and listen.) Can you find the cat on the table in the picture? (pause and then point to it.) Here it is. Have you seen it? Good. What is the letter on that part of the picture? (pause) Did you say f? That's right. Now look at your answer sheet. Can you find S 9? Is there a letter F after S 9? (pause) Yes? Yes, there is. Put a ring around the f."

"Now let us look at sentence S 10. Who can read that? (pause for a child to read it.) That's right. (You read)

There are 4 birds in the window. Can you find the picture that belongs to that sentence? (pause) That's right. (You show them as they are looking.) What is its letter? (pause) Yes, it is d. Now what do we do? (pause for answer) Good. We turn to the answer sheet and put a ring on the letter d after S 10."

"Now do the same thing for the rest of the sentences on this side of the paper. Do not turn your paper over."

(Go round the class helping and insuring that the paper does not get turned. After the majority have finished, say...) Pencils down. Have you circled S 11 ..a, S 12..c, S 14..b? Good. Now listen carefully...

"Do not turn the page until I tell you to do so. I am going to tell you what to do next. On the next pages there are four big pictures just like this one. (Show them the next pages.) Do each of the sentences in the same way as we have done this one. Be sure to look at the sentence first, then find the picture and read its letter. Find the correct number on the answer sheet and put a ring around the correct answer. There is only one correct answer for each number. Do not make any marks on the question sheet. If you make a mistake, make a wavy line as we have done before and then put a new ring on the correct answer. If you have any difficulty, raise your hand and I will come and help you. You must not talk

after I tell you to begin. You have 15 minutes to finish this test.

"Have you any questions? (pause briefly) Have you understood? (pause) All right. Turn over the paper and begin."

(Be sure to write the time on the blackboard. Move quickly about the room and check to see whether or not the children are working smoothly. After 15 minutes, say...)

"Stop! Put your pencils down. Pass the question papers forward. (Allow time for this.) Now pass the answer sheets forward. (Allow time.) Now pass your pencils forward. (pause) Now relax. That is the end of our period for now. We are going to take a small break."

(When you are ready to begin again, have the monitors pass out the answer sheets to the owners. After they have settled down and you are satisfied with the children that they are ready, have the pencils passed out and you pass out Test PR. Then say...)

"Here is a story for you to read. At the end of the story there are some questions for you to answer. Read the story now. Do not turn the page. (Allow one minute and then say...) Let us read question S 15 together. I shall read it aloud and then you read it silently. (Read very slowly.) The children were happy because a. a new teacher was coming, b. they liked to clean, c. the inkpots were empty and d. the girls were sweeping. Which is the

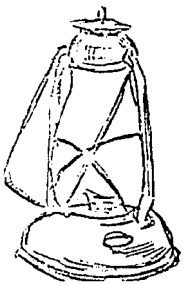
answer that belongs to the question. (pause for answer.) Yes, the answer is a. a new teacher is coming. Now find S 15 on your answer sheet and put a ring around the letter a. Now read S 16. (pause for a moment) Which is the correct answer. Right. It is d. Have you circled the letter on the answer sheet. (pause). Now do questions S 17 and S 18.. Do not turn the page. (pause for a few moments.) The answer to S 17 is c and to S 18, d. Now put your pencils down."

"Listen carefully. Do not turn the page until I tell you to begin. There are four stories in this booklet. After each story there are some questions. Read each story and answer all of the questions. You may look back in the story to find the answers if you wish. There is only one best answer for each question. After you have your answer, look for the correct number on the answer sheet and put a ring around the correct letter. If you make a mistake, make a wavy line around it and put a ring around the new letter. When you finish all of the stories and the questions, check over your work. You have 60 minutes to finish the test."

(Be sure to record the time on the blackboard. After 1 hour say...)

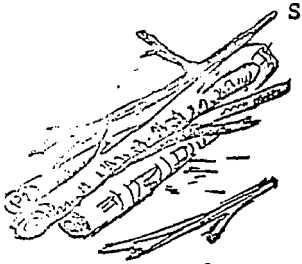
"Stop! Put your pencils down. Pass in your story booklets. (pause) Pass in your answer sheets. (pause) Pass in your pencils. (pause) You are now finished."

TRY THESE TO HELP YOU



S 1. a. lump
b. ink
c. lamp
d. girl

S 3. a. dust
b. dish
c. clay
d. sugar

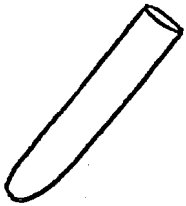


S 2. a. word
b. bone
c. mine
d. wood

S 4. a. sack
b. sand
c. tea
d. peas

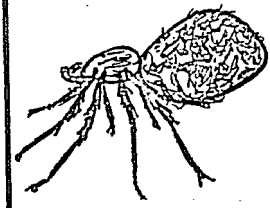
STOP! Do not turn page.

1. a. team
   b. thief
   c. note
   d. moon



6. a. church
   b. chalk
   c. egg
   d. hoe

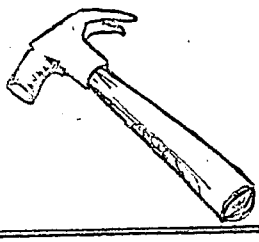
2. a. potato
   b. medicine
   c. collector
   d. people



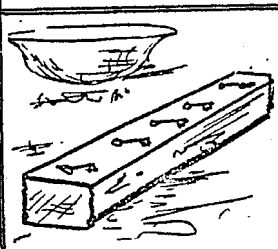
7. a. spider
   b. spring
   c. snake
   d. owl

3. a. pod
   b. fire
   c. pot
   d. class

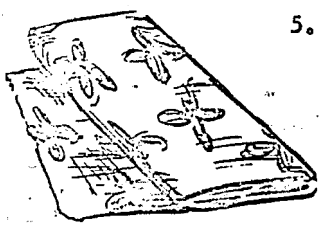
8. a. stone
   b. basin
   c. nails
   d. stool



4. a. hand
   b. hammer
   c. knife
   d. sky



9. a. soap
   b. south
   c. water
   d. bucket



5. a. clock
   b. hat
   c. thread
   d. cloth

10. a. office
    b. onion
    c. hut
    d. house

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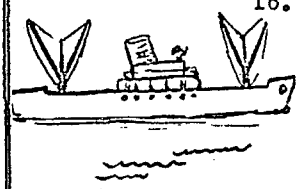
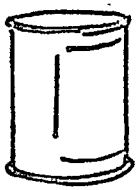
11. a. headmaster
b. herdsman
c. farmer
d. fish

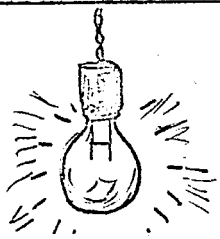


16. a. bone
b. car
c. boat
d. leg

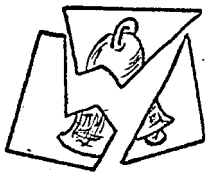
12. a. policeman
b. bus stop
c. playground
d. prison



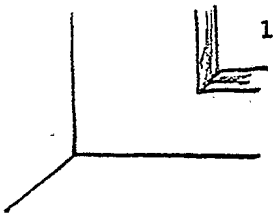
17. a. top
b. tin
c. box
d. bark



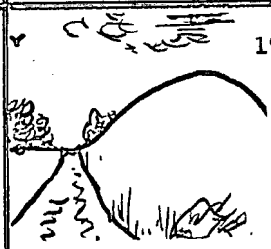
13. a. gate
b. light
c. glass
d. shade



18. a. puzzle
b. pupil
c. engine
d. pin

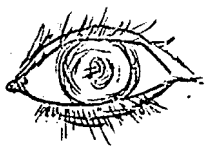


14. a. corn
b. desk
c. knee
d. corner



19. a. meal
b. hill
c. field
d. squeak

15. a. netball
b. nest
c. football
d. rice



20. a. ear
b. eye
c. life
d. hat

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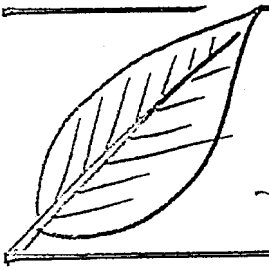
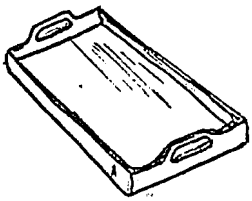


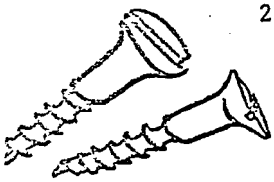
21. a. life
b. leaf
c. tree
d. end

26. a. rock
b. root
c. ball
d. cabbage

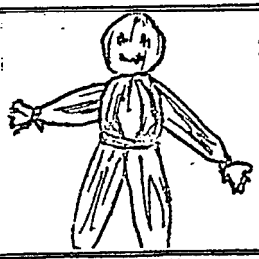
22. a. mouth
b. crow
c. desert
d. mouse



27. a. train
b. tray
c. cart
d. market

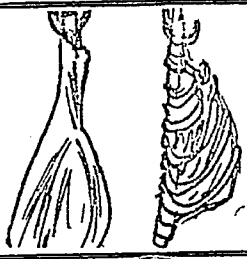


23. a. screw
b. school
c. bowl
d. arm

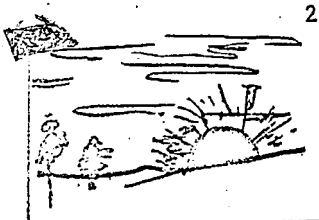


28. a. dog
b. hoof
c. doll
d. husband

24. a. ant
b. plant
c. fly
d. winter



29. a. mat
b. meat
c. elephant
d. driver



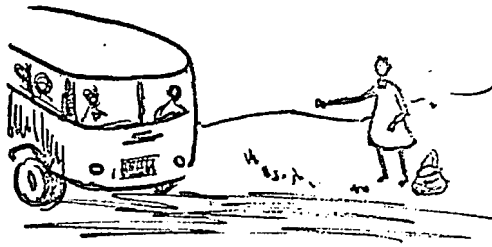
25. a. summer
b. dove
c. bird
d. sunset

30. a. servant
b. sunrise
c. ground
d. night

STOP! Do not turn the page. STO

TRY THESE TO HELP YOU

S 5. The boy a. is carrying books.
b. is dropping
c. is leading
d. is wearing

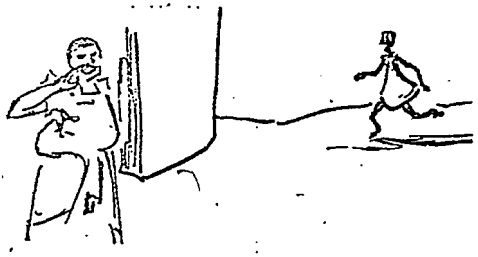


S 7. The bus a. will skip the girl
b. will touch
c. will jump over
d. will pick up

S 6. The child a. locked his shirt.
b. filled
c. folded
d. smelled

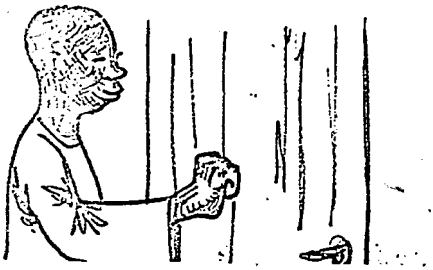
S 8. The dog a. has stamped the tre
b. has wagged
c. has smelled
d. has dusted

STOP! Do not turn page.



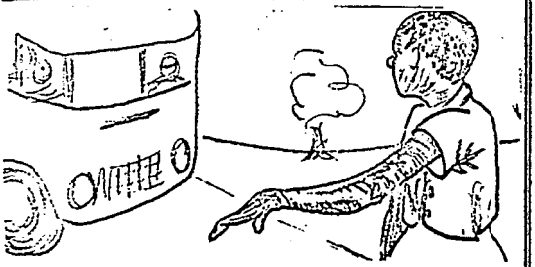
31. The woman
    a. is calling
    b. is falling
    c. is filling
    d. is shutting her girl.

34. When he
    a. had laughed
    b. had rested
    c. had pushed
    d. had traveled he jumped.



32. The chief
    a. will cluck
    b. will knock
    c. will cough
    d. will build on the door.

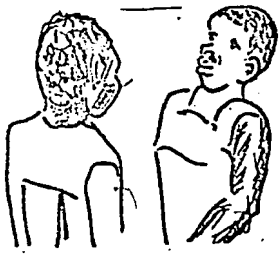
35. The father
    a. planted
    b. kicked
    c. punished
    d. washed his son.



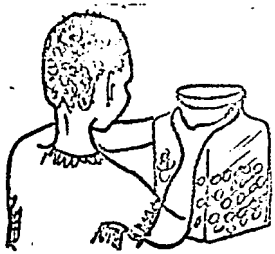
33. The bus
    a. was stepped
    b. was touched
    c. was left
    d. was stopped by the man.

36. He ate while you
    a. were going.
    b. were sleeping
    c. were hoeing
    d. were cleaning.

Go on to the next page.

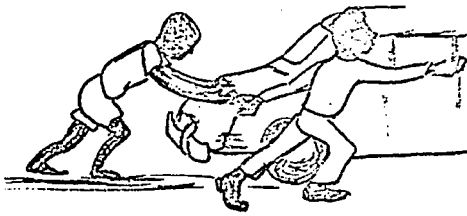


37. The child
    a. has faced
    b. has chased
    c. has fixed
    d. has paid her partner.

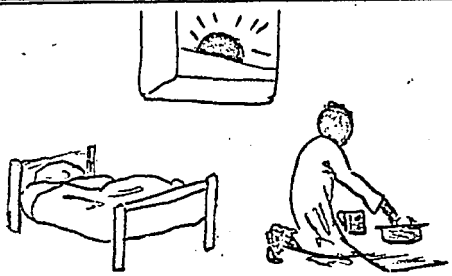


40. He is going to
    a. pour
    b. grow
    c. eat
    d. give the sweets.

38. The mother
    a. will lift
    b. will hit
    c. will hear
    d. will clean the bad boy.



41. The motor car
    a. was pushed
    b. was locked
    c. was kicked
    d. was passed by us.

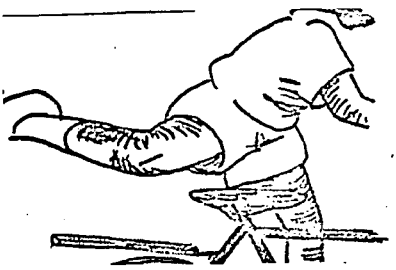


39. After he
    a. had slapped
    b. had slept
    c. had set
    d. had wet he ate.

42. The boys
    a. cooked
    b. whipped
    c. collected
    d. swallowed the sticks.

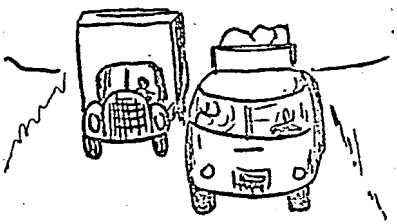
Go on to the next page.

43. When I arrived he
    a. was barking.
    b. was drinking.
    c. was writing.
    d. was fighting.



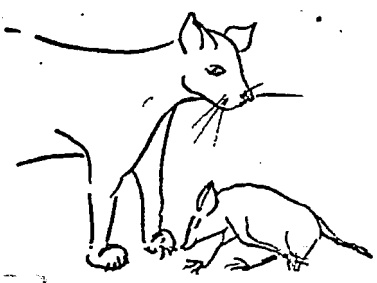
46. The man
    a. has ridden
    b. has bitten
    c. has rolled
    d. has carried the bievcle.

44. He began
    a. to blow
    b. to sew
    c. to find
    d. to throw the ball.



47. The lorry
    a. will pay
    b. will find
    c. will pass
    d. will shut the bus.

45. The child
    a. played
    b. filled
    c. spilled
    d. saved his bag.



48. The cat
    a. has cooked
    b. has taught
    c. has caught
    d. has forgotten the rat.

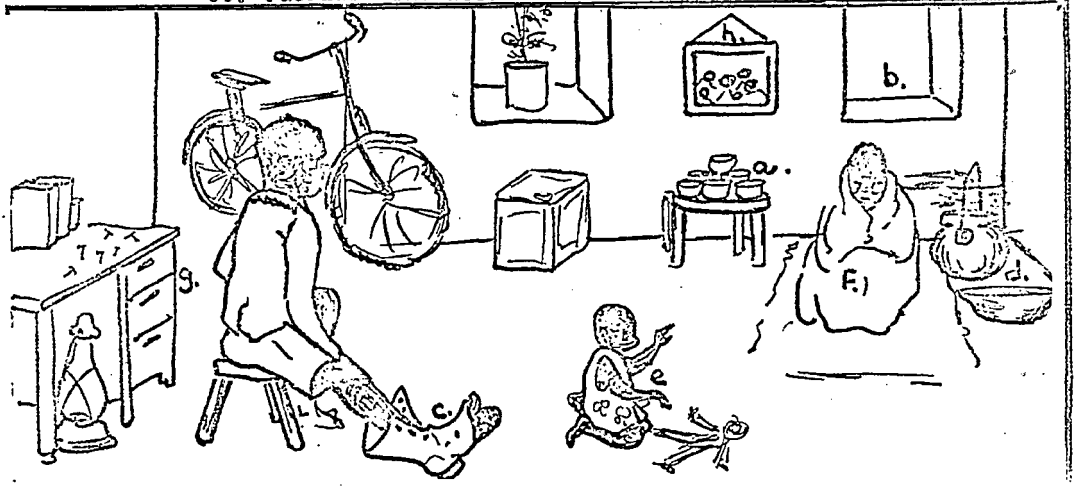
STOP! Do not turn the page. STOP!

TRY THESE TO HELP YOU

S 9. The cat is on the table.
S 10. There are four birds in the window.
S 11. The dog is under the chair.
S 12. The coat is lieing on the floor.
S 13. The boy is eating a mango.
S 14. The man is reading.

STOP! Do not turn page.

61. The turtle goes very slowly.
62. Next to the tree there is an animal.
63. He has enough food.
64. The cloud is above the building.
65. The grandmother is very weak.
66. Outside the house there is a garden.



67. At the end of the room there is a desk.
68. There are six white cakes.
69. The son is very ill.
70. It's an old boot.
71. Between the windows there is a picture.
72. There is an iron pot on the floor.

STOP! Do not turn the page. ST

49. The husband is rich.
50. At the bottom of the tree there is a flower.
51. The girl is very angry.
52. The cloud is dark.
53. Here are three black crows.
54. The cow is free.

55. The bird flies into the room.
56. The umbrella is among the sticks.
57. She has a lot of dresses.
58. The king is glad.
59. A money box is upside down.
60. The soldier is tired.

Go on to the next page.

TRY THESE TO HELP YOU

The class of schoolchildren was very pleased. Today, Wednesday, was the day when their new teacher would come. Everybody came early to work. Many girls moved quickly in the room to sweep the floor and clean the cupboard. The boys also were very hardworking. They helped to cut grass to make new brushes. Some of the schoolgirls brought some flowers to put on the teacher's desk. Some other schoolboys filled the inkpots so that everything was ready.

At last all of the work was done. When the new teacher, Mr. Mukasa, came into the room, he did not know that the children had done all the work. His class was waiting quietly to begin their lessons.

S 15. The children were happy because
a. a new teacher was coming.
b. they liked to clean.
c. the inkpots were empty.
d. the girls were sweeping.

S 16. When did they do this work?
a. Monday
b. Thursday
c. Saturday
d. Wednesday

S 17. Which sentence is true?
a. The girls cut the grass.
b. The boys swept the floor.
c. Some girls put flowers on the desk.
d. All of these are correct.

S 18. The teacher's name was
a. Mr. Musisi.
b. Mr. Sentongo.
c. Mr. Okelo.
d. None of these

STOP! Do not turn page.

Samuel Baker was a tall, young man who was quick and strong. He was very good at killing animals. He and his dear wife liked to travel together. So they said that it would be useful to find the way up the Nile River from the country of Egypt. They wanted to find the beginning of the Nile and to meet Speke and Grant.

It was very hard work. Once, when they were asleep, their own unkind men tried to kill them. When the hard working Bakers met Speke and Grant they quickly learned that somebody had found where the river began. They had missed their wish. The thin, tired man and his poor wife were not happy.

The Bakers now wished to find another lake. The quiet, sleepy forests were full of things that could hurt people. At night, as they lit their lamp, they heard the hissing of the snakes mixed with the croaking of the frogs and the crying of the wild animals. They walked the narrow paths to the south for more than a year. There were many bad traders in this new country. Thieves cleverly stole the Bakers' old clothes. The worst men were their own servants. Mr. Baker was not well and Mrs. Baker almost died.

At last they arrived at the large lake and gave it the name of Lake Albert. Baker traveled alone on the water until he came to the Nile River. When he had gone up the river for 15 miles he pointed to a lot of water falling

through a narrow hole in the rocks. He gave this waterfall the name of Murchison Falls.

After the Bakers had done many more things they went to their home in England.

1. What did the Bakers hear when they met Speke and Grant?
   a. Someone arrived at Lake Albert.
   b. Someone found Murchison Falls.
   c. Someone saw the beginning of the Nile.
   d. Someone traveled through Egypt.

2. What country did the Bakers travel in first?
   a. Uganda
   b. Kenya
   c. Tanzania
   d. Egypt

3. Why didn't the Bakers go quickly? There were
   a. narrow paths to walk.
   b. high hills to climb.
   c. deep lakes to travel.
   d. big fires to put out.

4. Where was Lake Albert?
   a. north of Speke and Grant
   b. south of Speke and Grant
   c. east of Speke and Grant
   d. west of Speke and Grant

5. Which people were kindest to the Bakers?
   a. servants
   b. thieves
   c. traders
   d. Speke and Grant

6. Why did Samuel Baker travel alone on Lake Albert?
   a. He had only one boat.
   b. He wished to be alone.
   c. His servants were cleaning.
   d. His wife was very ill.

7. What important name did Baker use at the waterfall?
   a. Speke
   b. Murchison
   c. Grant
   d. Nile

8. How many days did the Bakers travel after seeing Speke and Grant?

a. more than 365 days.
b. less than 365 days.
c. exactly 365 days.
d. none of these.

9. Why did the Bakers want to travel on the Nile?

a. to find the way of Uganda.
b. to find where the Nile started.
c. to kill some big animals.
d. to work very hard.

10. When did the Bakers learn that they would not get their wish?

a. before they left Egypt.
b. while they were at Lake Albert.
c. after they met Speke and Grant.
d. as they went to England

Go on to the next page.

Animals live in every part of the world. There are some animals which you cannot see with your eye. There are others which are larger than an elephant.

Almost all things that are alive are either plants or animals. Sometimes it is very hard to know whether you are looking at a plant or an animal. One thing that is different is that animals eat other animals or plants.

All animals are the same in a lot of ways.

Animals live in many different parts. Some animals travel all their lives while others stay in their houses. All animals must have water to drink. More animals walk or crawl forwards but a few move sideways or backwards. When animals cannot get food they are hungry and they soon are dead. This is why an animal will bite. He chases, catches and kills food to eat. He will also bite if he is afraid or hurt.

Many animals live at peace together and help each other. Plants also help animals. They give food and shade.

Animals can do the right things when they are very small. You can teach some animals to understand you and to do clever things. In fact men have put animals to work for them. Other animals are yet very wild.

11. Why do animals bite?
    a. to kill food.
    b. to move to a new house.
    c. to help plants.
    d. to do clever things.

12. How do plants help animals?
    a. they eat animals.
    b. they chase animals.
    c. they give animals shade.
    d. they change animals.

13. Where do animals live?
    a. parts under the water.
    b. parts on the land.
    c. parts in the air.
    d. in many different parts.

14. How can you tell the difference between a plant and an animal?
    a. by different colors.
    b. by different sizes.
    c. by different homes.
    d. sometimes, you cannot know.

15. Which animals can you see with your eye?
    a. those that work for you.
    b. those who do clever things.
    c. those that are wild.
    d. all of these.

16. Which sentence is true? Plants and animals
    a. are alive.
    b. are hungry.
    c. are clever.
    d. are silken.

17. Who can tell animals what to do?
    a. plants.
    b. elephants.
    c. people.
    d. lions.

18. Which sentence is <u>not</u> true?
    a. animals fly quickly.
    b. animals crawl slowly.
    c. animals chase cleverly.
    d. animals speak clearly.

19. When will an animal be mad?
    a. if it is full grown.
    b. if it is hurt.
    c. if it is asleep.
    d. if it is blind.

20. Why are some animals still wild?
    a. nobody has taught them.
    b. nobody has bought them.
    c. nobody has seen them.
    d. nobody has washed them.

Go on to the next page.

If you want to make a pot go into the low parts where clay is found, dig a deep hole in the red soil and carry the clay to your home. Put it in the cool shade and pour water over it. After one or two weeks the clay will be ready to use.

Put the skin of an animal on the ground. Put the soft clay on the skin. Take an old pot, hit it and break it into very small pieces. Divide these broken pieces and grind them with the new clay. When the mixed up clays begin to be hard make them into a ball.

Now roll the shape of a pot and leave it. On the second day rub the pot and put it inside the house. Now build a fire and burn some wood. The burnt wood makes ashes. Put these ashes on the pot and in the pot. After three more days put the pot in the sunshine and dry. Leave it there for a week.

Now bring grass and small sticks of wood. First put the sticks all over your pot. Then put the grass on top. Remember to burn your pot in the evening when there is less wind. Wait for a few hours. When the fire is dead take the pot from the ashes. Look at it carefully to see if it is well done.

21. Which work of these do you do third?
    a. put clay on a skin.
    b. break an old pot.
    c. make a ball of clay.
    d. mix the clays.

22. When do you put your pot in the house?
    a. after the first day.
    b. on the first day.
    c. before the first day.
    d. as soon as you make it.

23. Why do you burn the pots in the evening?
    a. there is more wood.
    b. there is less sunshine.
    c. there is less wind.
    d. there are more ashes.

24. Before you burn the pot, what color is it?
    a. brown.
    b. red.
    c. black.
    d. blue.

25. When will you be able to use your pot after you have dug your clay?
    a. on the day that you make it.
    b. in less than a month.
    c. in more than six weeks.
    d. in exactly one year.

26. Where do you put the clay to pour water over it?
    a. in the banana garden.
    b. inside the house.
    c. on the playground.
    d. among the ashes.

27. Why do you burn wood the first time?
    a. to keep warm.
    b. to give light.
    c. to get ashes.
    d. to cook the pot.

28. Which is correct?
    a. Burn the pót at 7:00 A.M.
    b. Burn the pot at 7:00 P.M.
    c. Burn the pot at 1:00 A.M.
    d. Burn the pot at 1:00 P.M.

29. What do you use to burn your pot?
    a. sticks and grass.
    b. sticks and clay.
    c. grass and ashes.
    d. wood and ashes.

30. Which sentence is true?
    a. Make the pot in the shape of a ball.
    b. Make the pot from a ball.
    c. Make a ball in the pot.
    d. None of these is correct.

Go on to the next page.

John Speke was an important officer of soldiers in India. He wanted to find the beginning of the Nile River. Once upon a time he and James Burton started through East Africa and came to Lake Tanganyika. Suddenly each man grew ill and Burton felt that he was too weak to go on. So Speke left the unhappy Burton and ordered his men to move to the north. They arrived at a large lake and Speke gave it the name of Victoria. He was very pleased and told his thankful men that the Nile River began in this wide lake. Later, Burton spoke that this was not true. Now each angry man went his own way.

Speke came back with James Grant, another young officer. As they talked, they said again that the Nile started in Lake Victoria. They began to walk and found that their work was very hard. Their lazy servants ran away. Each man was ill and they could not travel quickly. They had to stop and rest.

One day Speke wrote a long letter to King Mutesa I. He asked Mutesa to let him come to Mengo. The kind king answered and promised to send soldiers to bring the two tired men to his home. Grant was too ill to go, so Speke went alone and lived in the house of the kings.

Grant got better in a few weeks. He met Speke and they marched to find where the Nile River began. They traveled at first on Lake Victoria. They heard the roar of a lot of water falling and gave it the name of Ripon Falls. At last they had their wish.

31. Which of these men did Speke travel to see last?
    a. James Burton.
    b. King Mutesa I.
    c. Ripon Falls.
    d. River Nile.

32. Who were the two men who found Ripon Falls?
    a. Speke and Grant.
    b. Grant and Burton.
    c. Speke and Burton.
    d. Mutesa and Speke.

33. Where was the home of the king?
    a. near India.
    b. on the Nile River.
    c. near Lake Victoria.
    d. in back of Ripon Falls.

34. Why didn't Grant meet King Mutesa I?
    a. he was not with Speke then.
    b. he was angry with Speke.
    c. he did not wish to go.
    d. he was too ill and tired.

35. What did James Burton think?
    a. The Nile began at Ripon Falls.
    b. Lake Tanganyika was very large.
    c. Lake Victoria was not the beginning of the Nile.
    d. Grant did not speak true words.

36. Why did the men always travel slowly?
    a. They were afraid of Africans.
    b. The forest was deep and dark.
    c. They had no canoe for water.
    d. They were always feeling ill.

37. Who helped Speke to march to Buganda?
    a. servants.
    b. soldiers.
    c. sailors.
    d. Arabs.

38. Where was Lake Victoria?
    a. east of Lake Tanganyika.
    b. west of Lake Tanganyika.
    c. north of Lake Tanganyika.
    d. south of Lake Tanganyika.

39. Why did Speke want to come to East Africa?
    a. He wished to see busy Kampala.
    b. He wanted to find new things.
    c. He liked to meet people.
    d. He thought he could help Burton.

40. When did Grant go to meet Speke?

a. on the third day.
b. at the end of the week.
c. before the end of a month.
d. a long time ago.

Go on to the next page.

The long wet months of rain were forgotten. Every day the golden sun gave the warm air to help the cotton to grow. When the cotton was full grown it was ready to pick. Now the soft, white flowers were collected for weeks in big sacks. Then the glad farmers held the sacks either on their heads or on their bicycles and carried them to the village. The traders there paid them some shillings for every hundred pounds. Next it was put on a lorry and was taken to a building near Mbale. This was the ginnery.

At the ginnery the dirty cotton was carefully cleaned by the workmen. Then the seeds were taken out. A few of the seeds were sent to Mbale. They were made into oil to use to cook food. Some other seeds were saved to plant during the next wet season. At last the cotton was clean.

Now it was tied into large packets or bales. These bales were moved to the railway. Many were loaded on the train to ride the short road to Jinja. The others traveled to Mombasa where they were sold. Rich men gave the best price to buy the cotton in both towns.

After that, the bales in Mombasa were put on a ship and started on their way to other countries.

The cotton was later made into cloth and used for clothes and other things.

41. Where was the cotton sent second?
    a. to the ships.
    b. to the train.
    c. to the ginnery.
    d. to the village.

42. Why was the cotton taken to the ginnery?
    a. so it could be sold.
    b. so it could be sewn.
    c. so it could be picked.
    d. so it could be cleaned.

43. How many different ways did the cotton travel?
    a. five.
    b. seven.
    c. three.
    d. nine.

44. When is the best time to pick the cotton?
    a. after the dry season.
    b. during the dry season.
    c. before the dry season.
    d. none of these.

45. In what way can you use cotton?
    a. to tie a packet.
    b. to cook your food.
    c. to clean a cut.
    d. all of these.

46. Who was the first man to pay money for the cotton?
    a. the man on the farm.
    b. the man in the village.
    c. the man in Mombasa.
    d. the man in the ginnery.

47. What was the cotton made into after it came to Jinja?
    a. bales.
    b. cloth.
    c. sacks.
    d. oil.

48. How does clean cotton feel?
    a. hot.
    b. cold.
    c. hard.
    d. soft.

49. Why was the cotton sent to Mombasa?
    a. to sew it into clothes.
    b. to take it on ships.
    c. to put it into bales.
    d. to get out the seeds.

50. Who was in Mombasa to buy cotton?
    a. the rich man.
    b. the poor man.
    c. the trader.
    d. the farmer.

Name	B or G	Age	School	Class	Date	Score
S 1. a b c d	1. a b c d		11. a b c d		21. a b c d	
S 2. a b c d	2. a b c d		12. a b c d		22. a b c d	
S 3. a b c d	3. a b c d		13. a b c d		23. a b c d	
S 4. a b c d	4. a b c d		14. a b c d		24. a b c d	
	5. a b c d		15. a b c d		25. a b c d	
	6. a b c d		16. a b c d		26. a b c d	
	7. a b c d		17. a b c d		27. a b c d	
	8. a b c d		18. a b c d		28. a b c d	
	9. a b c d		19. a b c d		29. a b c d	
	10. a b c d		20. a b c d		30. a b c d	
S 5. a b c d	31. a b c d		37. a b c d		43. a b c d	
S 6. a b c d	32. a b c d		38. a b c d		44. a b c d	
S 7. a b c d	33. a b c d		39. a b c d		45. a b c d	
S 8. a b c d	34. a b c d		40. a b c d		46. a b c d	
	35. a b c d		41. a b c d		47. a b c d	
	36. a b c d		42. a b c d		48. a b c d	

S 9. a b c d e f g h	49. a b c d e f g h	57. a b c d e f g h	65. a b c d e f g h
S 10. a b c d e f g h	50. a b c d e f g h	58. a b c d e f g h	66. a b c d e f g h
S 11. a b c d e f g h	51. a b c d e f g h	59. a b c d e f g h	67. a b c d e f g h
S 12. a b c d e f g h	52. a b c d e f g h	60. a b c d e f g h	68. a b c d e f g h
S 13. a b c d e f g h	53. a b c d e f g h	61. a b c d e f g h	69. a b c d e f g h
S 14. a b c d e f g h	54. a b c d e f g h	62. a b c d e f g h	70. a b c d e f g h
	55. a b c d e f g h	63. a b c d e f g h	71. a b c d e f g h
	56. a b c d e f g h	64. a b c d e f g h	72. a b c d e f g h

S 15. a b c d	1. a b c d	11. a b c d	21. a b c d	31. a b c d	41. a b c d
S 16. a b c d	2. a b c d	12. a b c d	22. a b c d	32. a b c d	42. a b c d
S 17. a b c d	3. a b c d	13. a b c d	23. a b c d	33. a b c d	43. a b c d
S 18. a b c d	4. a b c d	14. a b c d	24. a b c d	34. a b c d	44. a b c d
	5. a b c d	15. a b c d	25. a b c d	35. a b c d	45. a b c d
	6. a b c d	16. a b c d	26. a b c d	36. a b c d	46. a b c d
	7. a b c d	17. a b c d	27. a b c d	37. a b c d	47. a b c d
	8. a b c d	18. a b c d	28. a b c d	38. a b c d	48. a b c d
	9. a b c d	19. a b c d	29. a b c d	39. a b c d	49. a b c d
	10. a b c d	20. a b c d	30. a b c d	40. a b c d	50. a b c d

APPENDIX C

TEST MATERIAL RELATED TO S.R.A.

Instructions for Administering Test Based
on S.R.A. Power Builder Follow-up No. 2.

Please try to keep to all of these instructions so that we are standard in the administering of this special test. Remember that once the test has begun you are not to answer any questions for any reason.

Make sure that every child has a writing instrument, either pen or pencil and that there is sufficient ink or the pencil is sharpened.

No other paper is needed for this test. Tell the children that and also tell them that they will do all their writing on the test papers.

Make sure that they are as separated as possible and that they guard their answers so that no one takes them while they are not looking.

Tell the children that they will have exactly 45 minutes for the test and no more.

Tell them that they are to read the story that is given to them as quickly as they are able and then to go directly to the questions. The answers to the questions can be answered in two ways, either with a letter answer or a word. Give these examples on the B.B.

1. How many legs has a cow?
   a) two b) three c) four — 1. C

2. Write the word that means an animal with four legs which gives us meat, milk, leather and money. — 2. Cow

Tell them that all paragraphs in the story are numbered. n.b. 1, 2, and 3 up to 11. Sometimes the questions will have a number after them like this.

3. Find the word in the story that means a large hill with snow on top. (50) — 3. _____

That means that if they look back in the story to paragraph 50 they will find the answer by re-reading that part of the story.

Some questions ask them to make a sound to figure out a word. Ask the children to do it quietly when they reach those questions.

4. What sound is the same as hit?
   a) sheep b) ship c) beat 4._____

Any explaining that you have to do can be done in the vernacular if you feel as though the children have not understood you.

When you are satisfied that they understand the instructions, pass out the test papers and have them write their names on each sheet. Be sure that they use their surname. (You can check this as you go around the class.) Also write their class and school.

Then tell them to begin. You must be very vigilant during the test to prevent cheating. At the end of 45 minutes tell them to put their pencils or pens down. Remind them about name, class and school once again and collect the papers. You are now finished.

PLEASE NOTE:

"How Long Do They Live", © 1960 by Science Research Associates, pages 148-153, not microfilmed at request of author. Available for consultation at University of Connecticut Library.

UNIVERSITY MICROFILMS.

APPENDIX D

TABULATED RAW SCORE DATA

Tabulated Raw Score Data for 120 Pupils

Based on N.O.E.C. Test Material

School 1		School 2		School 3	
Exp'mental	Control	Exp'mental	Control	Exp'mental	Control
97	97	93	81	100	100
91	93	86	76	106	92
96	83	84	90	101	91
95	83	83	78	92	92
97	75	72	88	95	87
87	95	78	93	80	88
85	85	83	77	73	87
80	84	78	53	79	86
81	79	68	81	84	80
80	77	70	78	81	97
76	66	88	86	72	80
77	74	68	67	81	74
72	57	66	66	75	82
63	88	76	81	73	78
67	65	78	69	72	89
67	63	80	74	78	77
74	56	61	70	68	67
61	69	46	57	64	72
58	73	63	66	74	58
70	64	57	76	52	72

Tabulated Raw Score Data for 120 Pupils

Based on S.R.A. Test Material

School 1		School 2		School 3	
Exp'mental	Control	Exp'mental	Control	Exp'mental	Control
28	28	30	17	32	30
23	20	23	14	28	22
24	30	22	4	17	22
20	19	27	14	26	19
19	17	18	13	27	17
22	24	24	12	22	20
15	1	26	8	25	15
12	10	10	17	10	22
26	15	15	17	25	1
18	17	12	11	22	17
21	22	16	10	3	16
19	8	14	12	16	16
14	0	12	16	18	12
11	2	16	10	19	1
16	4	16	10	4	24
10	12	16	13	3	11
4	0	17	13	7	4
13	22	8	1	13	12
12	3	17	3	7	14
13	2	2	18	15	1

APPENDIX E

CORRESPONDENCE RELATED TO THE RESEARCH PROBLEM

Namutamba Dem. School
P.O. Box 332,
Kampala,
Uganda (E.A.)
15th Sept. 1967

Dr. Don H. Parker,
The Author,
S.R.A. Reading Lab.
c/o S.R.A., Inc.
259 East Erie Street
Chicago 11, Illinois

Dear Sir:

I teach children in Grade 7, in the above school located in Uganda, 50 miles west of the capital city, Kampala.

I have used S.R.A. Reading Lab IIA for approximately these two consecutive school years, 1966 to 1967. The number of class periods has been 50 for each year.

1966 State Secondary Entrance Examination results showed the effect of the graded work of this program. The vast majority of the children's English results corresponded to their color levels. This year we have held regional tests and our children have generally proved to be of high standard. It was noted that they scored highly especially from comprehension questions.

These have the personal observations. The children acquired the speed to read. I cannot give statistical results as regards to the general rise of the children's rate of reading because the program was started at different parts of the years. During the former year, it was started late and this did not allow the children to work at their own as the examination pressure appeared to be too great. This time the program was started during the second term. This year's record reveals a rapid increase of the desire for reading. On the whole it is undeniable that thirst for reading was effected though the books for subject areas have been unavailable.

The children have been able to read concentratedly and in addition to that shown pride in their individual work.

The other interesting thing brought about has been the spirit of responsibility. One incident was when I had a telephone call which was about a quarter of a mile away. The following lesson was for Rate Builders. One of the children offered to be a time keeper for the class; and afterwards another one paid the date by keeping time for the pioneer. I happened to attend the last part.

I have adopted the system of grading class work, yet they are happy about it. They themselves have accepted that they must compete against themselves individually.

I personally think that the success of this programe is mainly due to the controlled vocabulary of the matter content which lacks in most of the text books we use here. The uncontrolled vocabulary strains and creates hatred for reading by the children.

The unfortunate thing for our children here noted from the program is that some of the extracts demand American background, especially in the Listening Skill Builder stories. Sometimes when a TV program is mentioned it sounds philosophical for this kind of means of communication is still restricted to a few wealthy educated circles.

However, the basic purpose and aim have been achieved to set the child on the road of reading individually quickly but intelligently.

Our school, and I think the country for the future, feel grateful to your kind offer of the program.

Sincerely,

Y. Kasule

The Teacher

MINISTRY OF EDUCATION

THE INSPECTORATE

P.O. BOX 3568

KAMPALA, UGANDA

19th September, 1967

Mr. Mayerson,
Namutamba T.T.C.,
P.O. Box 332,
KAMPALA

Dear Paul

READING INVESTIGATION

Thank you so much for calling in to discuss this with me last Saturday. I am very keen to see this program carried out.

I enclose a copy of my Memo. on it and I trust that we shall be able to get the go - ahead.

Yours sincerely,

(G. WATT-WYNESS)
for CHIEF INSPECTOR OF SCHOOLS.

GWW/MLS

Ref. EE/19

From: G.W.-W.
Primary English.

To: C.I.S.

cc. E.H.R. & A.M.K.B. -

19-9-67

READING ENGLISH IN PRIMARIES

AN INVESTIGATION

I have had a long talk with Mr. Paul Mayerson of Namutamba T.T.C. Mr. Mayerson is in charge of the English program there and has shown great interest and concern in our new Primary English Syllabus.

He has just returned from leave where he has been in touch with certain people concerned and has been able to bring back sets of the appropriate S.R.A. Reading Laboratories.

These laboratories are well established programs of reading reinforcement that have been in use in the U.S.A. for 15 years. They have been very carefully structured and are a precise tool. My Mayerson would now like to carry out a strict, controlled experiment using these laboratories in 3 selected P.6 schools:-

1. The schools would be 3 double-stream schools:
   an Urban school in Mityana,
   a Rural school out in the country, near Namutamba,
   the T.T.C. Demonstration school.

2. The experiment would involve the P.6 classes only and would require one stream as the 'control' and one stream for one term - 2nd term 1968 - as the experimental class. This class would drop the ordinary P.6 English Syllabus for that term and work entirely on the S.R.A. program. The experimental program is a 3 months program, 5 periods per week (possibly reducing to 3), it is a fully established experimental program approved by the S.R.A. authorities.

3. The experiment offers the possibility of significant improvement in reading comprehension and rate. It also includes certain 'listening' activities. Mr. Mayerson had, before going on leave, already made some slight use of one S.R.A. laboratory and begun to find interesting possibilities in a carefully programmed experiment.

He would now be ab le to collect accurate data which might be of considerable value to us in our constant preoccupation with the problems of lack of comprehension in reading - the 'pseudo-literacy' problem.

4. The S.R.A. laboratory itself is, of course, U.S.A. designed and in itself would probably not be a possibility for ordinary Primary Schools. Nevertheless, Mr. Mayerson himself, having had experience out here is satisfied that in this particular program items of vocabulary or cultural unfamiliarity are not obstrusive and the program would be perfectly valid.

5. Since some of the work is on the lines we have tried to build in to our new English Syllabus, particularly in the Reading Cards P.2, P.3 and projected for P.4, the findings of this experiment could give us much valuable information.

6. Although it is too early yet to give detailed consideration to further prospects it is known that the S.R.A. authorities would be most sympathetic if there were any resultant possibility of an "Africanised" version of the laboratories. Funds might be available to help. It is a possibility in which at a later stage we might ask U.P.H. to take an interest also. Such an indigenous program might eventually become of major importance.

7. At this stage, however, the scheme is a modest one. I am satisfied that Mr. Mayerson's proposal would most certainly not cause any difficulty for the P.6 pupils involved. The Heads concerned would make the arrangements voluntarily with Mr. Mayerson. I am further satisfied that, since there is so much that we do not know about these problems of reading-comprehension in the upper primary classes and since some form of improvement is going to be an urgent necessity in the next few years, we should most certainly give the experiment our approval and simply ask Mr. Mayerson to keep us fully informed of progress and results.

8. Accordingly I recommend that he be given permission to proceed.

(G.WATT-WYNESS)
PRIMARY ENGLISH,
CENTRAL INSPECTORATE

GWW/MLS

MINISTRY OF EDUCATION

THE INSPECTORATE

P.O. BOX 3568

KAMPALA, UGANDA

6th February, 1968.

Mr. P. Mayerson
Namutamba T.T.C.
P.O. Box 332,
Kampala

u.f.s.

The Principal
Namutamba T.T.College

Dear Mr. Mayerson,

Reading English in Primary Schools

I am instructed to inform you that permission is given to you to carry out your proposed experimentation with S.R.A. material in a few selected Primary Schools.

It will be appreciated if you keep us informed of your progress and findings in this investigation.

Yours sincerely,

A.M.K. Bagunywa.
for CHIEF INSEPECTOR OF SCHOOLS

AMKB/HMK

Namutamba, T.T.C.
P.O. Box No. 332
Kampala, Uganda
18 February '68

District Education Officer, Mubende
P.O. Box
Mityana, Uganda

Dear Sir,

In consideration of approval granted to me by the Chief Inspector of Schools to carry on research into problems of English Reading Comprehension, I would request your assistance in the following matters. These represent briefly those ideas that we discussed in your office on Friday 16th February.

1. To give trial runs of a standardized reading achievement test to about 6 streams of youngsters in each of Primary 5, 6, and 7. The schools chosen should represent a cross section of this division and be remote enough from those schools listed below which are to be a part of the experimental program. I would require two days in each class chosen. (Actually, I believe the time element will be two mornings.) The first session would be devoted to one form of the test and the second morning will be devoted to the other form. The second session is necessary to validate the items of the test instrument.

2. To conduct an experimental program of reading in three schools, one of which would be the college demonstration school. One of the other schools should be rural and one should be urban. All three should be double stream schools. The procedure would be as follows;
    a. Test all P 6 children in these schools.
    b. Rank all P 6 children according to their achievement.
    c. Re-assign the children for instruction in English so that the two classes are evenly matched according to sex, age, and achievement.
    d. Conduct the normal P 6 syllabus in one class.

e. Use the experimental reading program, e.g. the SRA Reading Laboratory in the other class.

Note: Each class would receive an equal number of periods in English instruction.

f. Carry out this program for the entire 2nd term, 1968.

3. To train the class teachers of P6 in the three schools in how to work with the SRA Reading Laboratory. This might require two or three afternoons during the first term for consultation.

Thank you very much for any help and/or advice you can give me in this research project.

Sincerely yours,

Paul S. Mayerson, Education Officer

MINISTRY OF REGIONAL ADMINISTRATIONS,
BUGANDA AFFAIRS.

Department EDUCATION,
P.O. Box 98,
MITYANA,

Ref. No. E.8/SB.

21st February, 1968

The Headmaster,

_____

_____

RESEARCH INTO PROBLEMS OF READING.

COMPREHENSION

Mr. Paul S. Mayerson, a tutor at Namutamba T.T.C. is carrying out a research into the problems of reading comprehension.

I would request your assistance in allowing Mr. Mayerson the necessary classes to which he would give trial runs of a standardized reading achievement test. Mr. Mayerson will be staying two days at your school and he will be using P.5 6 and 7 for this experiment.

Your Co-operation in this matter will be greatly appreciated since the results of the research are likely to lead to an improvement in reading comprehension.

G.B. BULONDO
DISTRICT EDUCATION OFFICER/MUBENDE.

c.c. Mr. Paul S. Mayerson, Namutamba T.T.C.
c.c. Chief Inspector of Schools, Parliamentary Buildings.
c.c. Regional Inspector of Schools, Buganda.

SCHOOLS

Buyambi	Kityana
Naluggi	Kyamusisi
Bukemere	Bukalamuli
Kakindu	

FBB/MNS

MINISTRY OF EDUCATION

REGIONAL INSPECTORATE

BUGANDA

P.O.BOX 7076

KAMPALA, UGANDA

5th March, 1968.

The District Education Officer,
Mudende District,
P.O. Box 98,
Mityana.

RESEARCH INTO PROBLEMS OF READING COMPREHENSION

Thank you for the information on research being undertaken by Mr. Paul S. Mayerson, Tutor at Namutamba Teacher Training College, on problems of reading comprehension.

I shall be very interested in his findings as many of our school children read without understanding.

(N.W. MUGERWA)
REGIONAL INSPECTOR OF SCHOOLS,
BUGANDA

Copy to: - Mr. Paul S. Mayerson, Namutamba Teacher Training College, P.O. Box 332, Kampala.
The Chief Inspector of Schools, Ministry of Education, P.O. Box 3568, Kampala.

Namutamba T.T.C.
P.O. Box No. 332
Kampala, Uganda

10 April 1968

The Headmasters,
Mityana Primary School
Buyambi Primary School
Namutamba Demonstration School

Dear Sirs,

This letter concerns the research that I am carrying out in your schools in the 2nd Term. We have already discussed some of the details.

Following a discussion with the District Education Officer, Mubende, I have decided to call your Primary 6 teacher, who will be teaching English during the 2nd term, to a special training course. This course will be held on Thursday 2nd May, 1968 at Namutamba Teacher Training College. On that day staff members here will orient your teachers to the New Oxford English Course for Primary 6 and the special experimental syllabus.

Transport will be waiting at your schools for this teacher at 8:00 A.M. on the morning of the 2nd May. It is very important that all these teachers be trained on the same day. Please impress upon them the importance of the work that they will be doing during the training session and the term. We feel that it will make a significant contribution to the little knowledge we have about the way the Ugandan children read.

The course will last the whole day. Food will be provided and the teachers will be returned to their schools about 5:00 P.M.

Thank you very much for your cooperation in this matter.

Sincerely yours,

Paul S. Mayerson

c.c. District Education Officer/Mubende

Namutamba T.T.C.
P.O. Box No. 332
Kampala, Uganda

27-4-68

The Headmaster

Buyambi Primary School
Mityana Primary School
Namutamba Demonstration School

Dear Sirs,

This is just a brief note to remind you that I will be calling for your P 6 teacher responsible for English. The teacher should be in front of your school on Thursday morning, May 2nd at 8:00 A.M. and a car will arrive at that time. The teacher will meet with staff members of the college on that day to prepare for the English syllabus experiment which will take place in your school during the 2nd. term. We have discussed it previously.

Thank you very much for your cooperation.

Sincerely yours,

Paul S. Mayerson

copy to The D.E.O. Mubende

Namutamba T.T.C.
P.O. Box No. 332
Kampala, Uganda

4 August 1968

The Headmasters

Buyambi Primary School
Mityana Primary School
Namutamba Demonstration School

Gentlemen,

May I be permitted to stretch your patience a bit more before you go down for the term. Do to some unforseen circumstances I find it will be necessary to beg an hours time from your P 6 classes the first thing on Monday morning. So that it will be no more than an hour, I am sending the finalists who were teaching in your schools earlier this term. As they know the children they should be able to complete all necessary work within the requested time.

Before I forget, let me thank you for sending the three class teachers to Namutamba to evaluate the program last Thursday. I believe that we have some very original and useful comments to offer the Inspectorate about the English Syllabus.

If I do not get to see you personally on Monday, may I wish you a most pleasant holiday. I will be sending you a general report on the work that we did early in the third term.

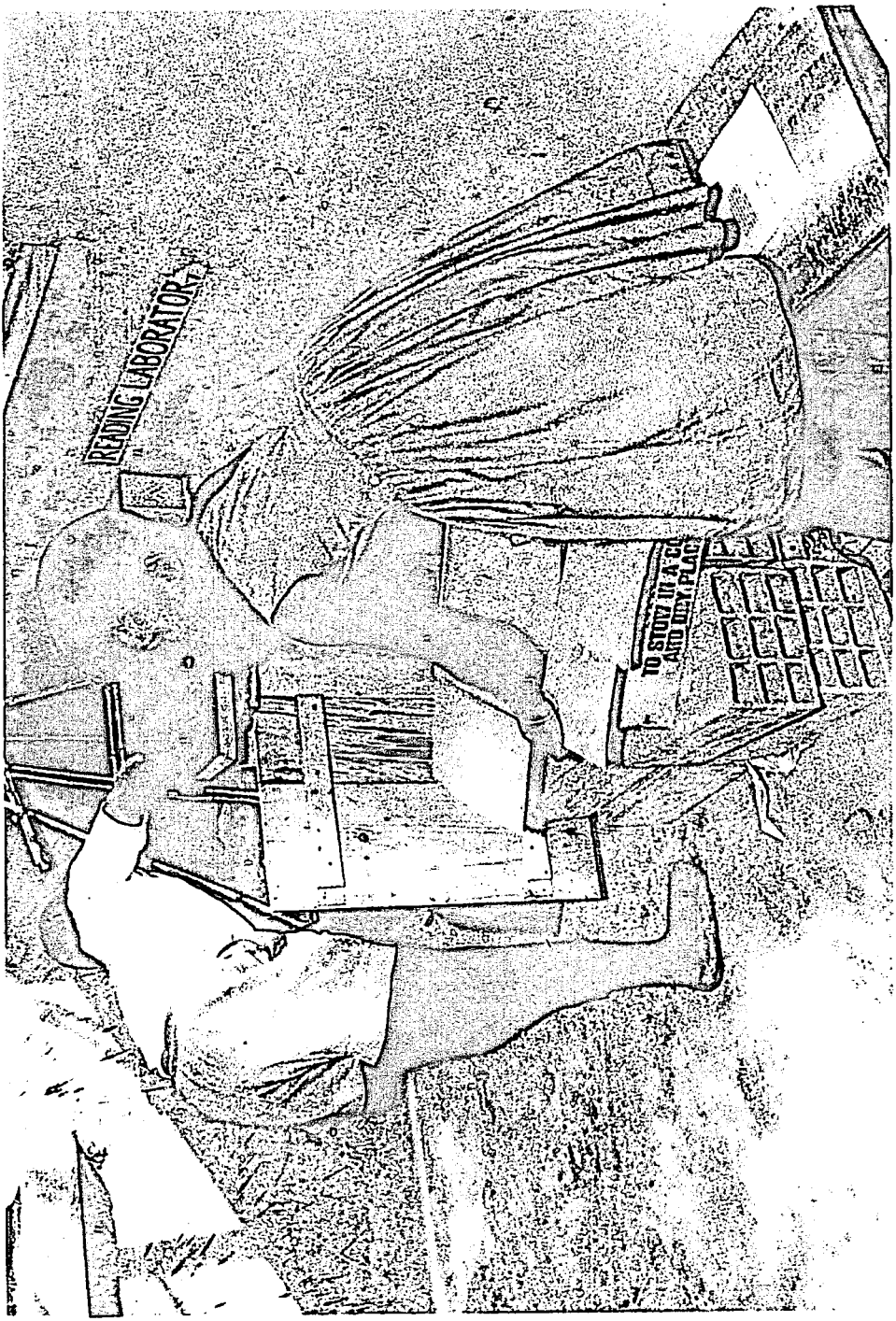
Thank you very much for your help.

Sincerely yours,

Paul S. Mayerson
Education Officer

APPENDIX F

PHOTOGRAPHS OF THE EXPERIMENTAL SITUATION


READING LABORATORY
TO STUDY IN A QUIET AND DRY PLACE

The cuck cuck
READING LABORATORY

The
Cuck
Cuck
READING LABORATORY

DON MARKS