INTERACTIVE RADIO INSTRUCTION:

A case study

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Creative Associates International

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ACRONYMS

AOCOED	Adeniran Ogusanya College of Education
BE	Basic Education
BEP	Basic Education Program
BQSE	Basic quality Standards of Education
CAC	Community Action Cycle
CAII	Creative Associates International, Inc.
CBOs	Community-based Organizations
CC	Community Coalitions
CHANGES	Communities Supporting Health, HIV/AIDS, Nutrition, Gender, and Equity in Schools
COE	College of Education
COMPASS	Community Participation for Action in the Social Sector
COP	Chief of Party
CL	Cooperative Learning
CS	Child Survival
CSACEFA	Civil Society Action Coalition on Education for All
EDC	Education Development Center
EMIS	Education Management Information System
ENHANSE	Enabling HIV+TB Social Sector Environment
ESL	English as a Second Language
FCT	Federal Capital Territory
FGN	Federal Government of Nigeria
FMOE	Federal Ministry of Education
FRESH	Focusing Resources on Effective School Health
HQ	Head Quarters
ICB	Institutional Capacity Building
IMD	Instructional Materials Development
IRI	Interactive Radio Instruction
JHU/CCP	Johns Hopkins University/Center for Communications Programs
LEAP	Literacy Enhancement Assistance Program
LGA	Local Government Authority
LGEA	Local Government Education Authority
M&E	Monitoring & Evaluation
MOU	Memorandum of Understanding
MSH	Management Sciences for Health
MST	Mobile Support Teams
NCE	National Certificate in Education
NCCE	National Commission for Colleges of Education
NERDC	Nigerian Educational Research and Development Council
NGO	Non-governmental Organization

NTI	National Teachers Institute
PDD	Professional Development Day
PDQ	Partnership Defined Quality
PELI	Proficiency English Language Intervention
PES	Primary Education Studies
PMP	Performance Management Plan
3Ps	Presentation, Practice and Performance
PTA	Parent Teacher Association
SCT	Student Centered Teaching
SHN	School Health and Nutrition
SMOE	State Ministry of Education
SMOH	State Ministry of Health
SOP	Standard of Practice
SUBEB	State Universal Basic Education Board
TOT	Training of Trainers
TRC	Teacher Resource Center
TRC	Teachers Registration Council
UBEC	Universal Basic Education Commission
USAID	United States Agency for International Development

NIGERIA: BASIC FACTS

NAME: ..... The Federal Republic of Nigeria

POPULATION: 148 092 542

CAPITAL: ..... Abuja

AREA: ..... 356,669 sq miles

CLIMATE: ..... Tropical – with drier climate in the north

GOVERNMENT: ..... Presidential system: executive president, bicameral legislature and judiciary.

NUMBER OF STATES: ..... 36 plus Abuja, the Federal Capital Territory

MAJOR LANGUAGES: ..... English (official), Yoruba, Ibo, Hausa

MAJOR RELIGIONS: ..... Islam, Christianity, others

CURRENCY: ..... Naira

LIFE EXPECTANCY: ..... 43 years (men), 43 years (women) (UN)

MAIN EXPORTS: ..... Petroleum, petroleum products, cocoa, rubber

GNI PER CAPITA: ..... US $560 (WB, 2006)

NET ENROLMENT RATE – PRIMARY LEVEL: ..... 58 (female), 46 (male) (UNESCO Institute for Statistics –USI estimation, 2007)

ADULT ILLITERATE POPULATION: ..... 23 282 769 (USI, 2007 estimation)

RATE OF OUT OF SCHOOL PRIMARY: SCHOOL AGE CHILDREN ..... 34 (male) 40 (female) (USI, 2007 estimation)


SW2 Mhz
SW1 Mhz
AM kHz
FM Mhz
FM Mhz
AM kHz
SW1 Mhz
SW2 Mhz
Freeplay
AA 69284

I. INTRODUCTION

This is an account of the use of Interactive Radio Instruction (IRI) in Nigeria from 2004 to 2009. During this period, Creative Associate International implemented a five-year basic education component of the Community Participation for Action in the Social Sector (COMPASS) project. Funded by USAID, COMPASS covered three states (Lagos, Kano and Nasarawa). The overall objective of the education activity was to improve the teaching of literacy and mathematics of approximately700,000 pupils enrolled in 1,400 schools. IRI was an important part of the strategy for reaching this objective.

Following a brief overview of the Nigerian context in which COMPASS took place, this paper describes the evolution of the IRI activity and the strategies designed to attract approximately 21,000 primary teachers into the IRI program. It discusses the use of IRI in the teaching and learning process. It underlines the importance of capturing the essence of the national curriculum and delivering it in an interactive and lively manner and the importance of building local capacity in the development of the program. It also outlines critical factors for implementation, ownership and sustainability of the program and by way of conclusion it tries to demonstrate that IRI is qualitatively and quantifiably a viable tool to improving the quality of education that in turn can have an impact on pupils' performance.

II. THE NIGERIAN CONTEXT

With an estimated population of 148 million[1] (44.3% are under 15)[2] and an annual population growth rate estimated at 2.8%, Nigeria is the most populous country in Africa and remains vitally important to regional and global security.

Following fifteen years of military rule that ended in 2000, the country has made remarkable progress over the past nine years. But there is still much left to do. Despite a tremendous pool of talent and natural resources, laudable macroeconomic performance, and large infusions of donor funding, the majority of Nigerians still live in poverty. Development is impeded by pervasive corruption and ineffective governance. Decades of unaccountable rule eroded health and education infrastructure, failed to address the HIV/AIDS threat, suppressed democratic institutions, and stifled job creation.

[1] Population Reference Bureau and African Population & Health Research Center, 2008 Africa Population Data Sheet, Nairobi. 2008. www.aphrc.org.

[2] Human Development Report 2007/08, UNDP

Nigeria remains a country at a political and economic crossroads. Nine years after a transition from 15 years of military regimes to a democratically-elected government, the task of transforming a country racked by division and poverty is proving to be daunting. Major challenges confront Nigeria which has never successfully completed a transition from one civilian government to another. Years of military government left Nigeria's institutions weak and struggling to meet the demands of a population with high expectations for greater economic opportunities, better services and more responsive government.

Revenues from crude oil production account for 80% of GDP, 95% of foreign exchange earnings, and about 65% of government revenues. Nonetheless, poverty is widespread and Nigeria ranks 157 out of 177 on the UN human Development index of social indicators[3]. GDP per capita is estimated at $1128[4] whereas 70.8% of the population lives below income poverty line of $1 a day[5]. The adult literacy rate is estimated at 69% (60.1% amongst women)[6]. And, while the vast majority (68%)[7] of children aged 7 -12 enroll in primary schools, the level of basic literacy among children age 4-12 are low (with only 28% of children able to read part or all of a sentence and 45% able to add numbers correctly)[8].

Nigeria's HIV/AIDS prevalence rate is estimated at 3.8% amongst the population group 15–49. With 148 million[9] people, Nigeria has almost half of the population of West Africa, and nearly 15.3% the population of the continent. Along with Egypt, the country also has the largest population of Muslims in the continent, and the fifth largest worldwide (tied with Turkey, Iran and Egypt).

Over the last several years, Nigeria has increased access and enhanced the quality of teaching and learning in the nation's primary schools. According to the World Bank, between 2000 and 2005, the primary school gross enrollment rate increased from 95.5% to 102.9%. During that same period, the pupil teacher ratio decreased from 41.1 to 37.2 and school life expectancy increased from 7.7 to 8.8 years.[10]

3 Ibid

4 Ibid

5 Ibid

6 Ibid

7 Ibid

8 Nigeria DHS EdData Survey 2004

9 Population Reference Bureau and African Population & Health Research Center, 2008 Africa Population Data Sheet. Nairobi. 2008. www.aphrc.org.

10 World Bank, http://devdata.worldbank.org/external/CPProfile.asp?CCODE=NGA&PTYPE=CP

In spite of these gains, Nigeria has still fallen short of providing access to primary education for all. Of the 30 million primary-school-aged children in Nigeria, 10 million are currently not enrolled in school. Of those currently in primary school, less than one third will enroll in junior secondary school, with even fewer reaching secondary school.

Many parents keep their girls out of school because of girls perceived inability to learn and, conversely, their importance in the family, often resulting in school dropout and early marriage. Furthermore, ensuring consistent quality of teaching and learning remains a significant challenge. One area in which this challenge is most evident is that of teacher education.

Education in Nigeria is characterized by poor quality of services due to lack of basic instructional materials and school furniture, outdated curriculum, dilapidated infrastructure, high pupil-teacher and pupil-classroom ratio, high rate of unqualified teachers, weak and poorly funded school administration, and weak relationship between parents and schools. It must also be noted that the complexities of the federal structure of government in Nigeria with varying roles for stakeholders at the federal, state and local government levels is a challenge to the implementation of any program.

III. THE PROGRAM CONTEXT OF IRI

The Community Participation for Action in the Social Sector (COMPASS) project, funded by the United States Agency for International Development (USAID), was aimed at providing education and health interventions to school-age children. COMPASS was implemented in partnership with the federal government of Nigeria in Lagos, Kano, Bauchi, Nasarawa, and the Federal Capital Territory (FCT). COMPASS engaged Nigerians, from all walks of life in learning, planning, and taking action to improve health and education in their communities.

This five-year project (June 2004-May 2009) combined the expertise of U.S. partners (Pathfinder International, Creative Associates International, Inc., Johns Hopkins University Center for Communication Programs, Management Sciences for Health, and Constella Futures) and Nigerian partners (Adolescent Health and Information Project, Civil Society Action Coalition on Education For All, Federation of Muslim Women's Associations of Nigeria, and the Nigerian Medical Association) to engage local communities in building high-quality, integrated health and education services.

Creative Associates International, Inc. implemented the basic education (BE) component of the project in collaboration with the ministries of education and health at the federal and state levels, local NGOs, teachers associations and PTAs. The main objective of the education component was to improve the teaching of literacy and mathematics in primary schools.

The education component aimed at achieving the following results:

- Teachers applying standard best practices to improve students' skills in literacy and mathematics;
- Pupil (and girls in particular) enrolment, retention and achievement (literacy and numeracy) steadily increasing;
- School environments fostering girls' participation;
- PTAs and communities engaging proactively in improving the quality of education in their localities.

The key interventions were Interactive Radio Instruction (IRI), in-service and pre-service teacher training, support to PTAs, school health and nutrition, and student achievement testing.

Interactive Radio Instruction (IRI): The program used radio broadcasts to train teachers to teach literacy and mathematics using a student-centered methodology. It covered both public and Islamiyya[11] schools in urban and rural settings. Broadcasts for grades 1 and 2 were in the Hausa and Yoruba languages while broadcasts for primary grades 3 to 6 were in English. IRI lessons aired three times a week and reached 1,400 schools, 21,104 teachers and over 700,000 pupils. Participating schools received IRI teacher manuals, teacher workbooks and guides, and to some extent pupil worksheets.

In-Service Teacher Training: COMPASS used a cascade model (train trainers, who train teachers) and a cluster model (hold training sessions within clusters of neighboring schools) to complement IRI in delivering training. Training reached nearly 845 cluster trainers and 21,104 primary public and Islamiyya school teachers. Exposure to these interventions resulted in teachers applying standard best practices to improve their teaching, which led to improved pupil performance. The training was supported by locally sourced teaching aid materials.

Pre-Service Teacher Training: The project supported the review of Nigeria's Primary Education Studies (PES) curriculum in literacy (English) and mathematics and introduced

[11] Islamiyya schools are schools that teach courses beyond those of the traditional Qur'anic schools known in most of Nigeria as Islamiyya schools (and in some places as Nizamiyya schools). Though there is wide variation among Islamiyya schools, most are more structured than Qur'anic schools, adopting grade levels and teaching pupils at the same pace. Those that agree to certain conditions become known as Integrated Islamiyya schools. Integrated Islamiyya schools agree to teach four core subjects from the public school curriculum (literacy, mathematics, science, and social studies) along with their traditional religious curriculum. (Moulton, 2007)

Proficiency in English Language Intervention (PELI). The project also supported 476 PES students through scholarships, helped train 38 PES lecturers on Student Centered Teaching (SCT) and supported the establishment of Teachers Resource Centers (TRCs) in three colleges of education.

Support to PTAs: The project supported PTAs in efforts to improve learning environments and increase children's—particularly girls'—enrolment in school. It awarded 706 sub-grants that enabled communities to address critical school needs. It also provided technical support to seven NGOs and 101 Community Facilitators to train 4,200 PTA executives on needs identification, planning, decision making, book keeping, participatory monitoring and evaluation, mounting campaigns, and advocating for their schools and communities. This intervention worked in close collaboration with Community Coalitions[12] (CCs) to sustain the program.

School Health and Nutrition (SHN): The school health and nutrition activities were modeled on CHANGES, a school-health project implemented by Creative Associates in Zambia. COMPASS organized training sessions for teachers and primary health care workers on how to administer de-worming drugs; about 599,505 pupils were de-wormed during the project period.

Student achievement testing: COMPASS monitored student performance on achievement tests to assess the impact of the multi-faceted interventions. Four rounds of student achievement tests were administered to assess pupils' achievement in literacy and mathematics.

The case study provides an account of Interactive Radio Instruction (IRI) as a critical intervention in the COMPASS education component.

[12] Community Coalitions (CCs) are grassroots organizations formed at the community level and consist of all interested community based organizations within an established community. Representatives include members of the PTAs, women groups, youth groups, associations, community-based organizations, and QITs. The CC is a diverse group and promotes active involvement. By combining their human and material resources, community coalitions work to improve basic education and health through the creation of community awareness by identifying and mobilizing local resources, and sharing strategies and problem solving experiences. They also become very effective advocates with LGA officials, and provide continuous monitoring and management of community activities.

IV. INTERACTIVE RADIO INSTRUCTION: ITS DEVELOPMENT IN NIGERIA

IRI uses radio broadcasts to deliver lessons to the classroom that simulate interactive learning among the radio teacher and characters. IRI programs deliver content from approved curricula and model learner-centered teaching methods through interactions between the radio characters, teachers and pupils. The IRI methodology is designed to shift focus from the typical teacher centered way of teaching to a more active methodology that engages teachers and pupils in and outside the classroom setting.

IRI has been used in developing countries worldwide to improve the quality of education across a range of school subjects and to serve as a form of teacher development. The original model for teaching mathematics through IRI, created in Nicaragua by a team from Stanford University in the early 1970s, sought to combine the low cost and high reach of the radio medium with a clear understanding of how people learn. Since that time, 18 countries around the world have developed IRI programs for a variety of subjects, audiences, and learning environments. In each case, the series has been designed by local specialists to meet learning objectives in that country. While over the years IRI has been updated in various ways, its basic structure and methodology remain largely unaltered.[13]

A. FROM LEAP TO COMPASS

Interactive radio Instruction was introduced to Nigeria in 2002 by the Literacy Enhancement Assistance Project (LEAP), a USAID-funded project implemented by Education Development Center (EDC), Research Triangle International (RTI) and World Education, with EDC as the lead implementing partner.

The objective of LEAP was to improve the ability of Nigerian children to read and write English and to do basic mathematics by the end of primary level in both public and Islamiyya schools. LEAP established close collaboration with the Federal, State, Local Government Education Authorities as well as local schools and communities.

[13] For additional information on IRI, see the World Bank (1995) and Bosch (1997).

Under LEAP, IRI reached 330 schools (128 Islamiyya) in the states of Lagos, Kano and Nasarawa. Three Local Government Authorities (LGAs[14]) were covered. The project designed and produced 90 programs each for primary grades 3-6 focusing on reading, writing and mathematics. The radio programs were aired three times a week with 100% air time provided by the state governments. The LEAP project closed out in 2004.

The IRI program introduced by LEAP was primarily a teacher training intervention while simultaneously delivering content to pupils. COMPASS introduced innovations to the program to make it more interactive and culturally appropriate. Additionally, the project introduced new programs in two local languages; Hausa and Yoruba. Health tips were added to all programs and emphasis was laid to address gender issues. COMPASS reached 1,400 schools (368 Islamiyya), and approximately 21,000 teachers and 700,000 pupils in Kano, Lagos and Nasarawa. COMPASS moved beyond the three LGAs covered by LEAP to reach 37 LGAs.

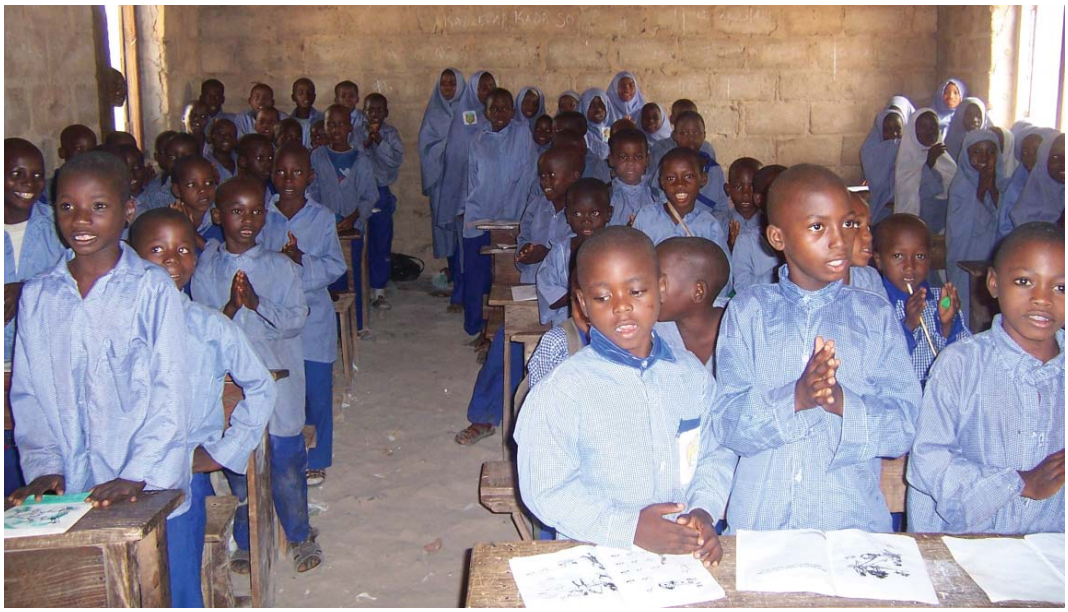
The core element in the intervention – IRI - was complemented by face-to-face in-service teacher training, pre-service teacher training, School Health and Nutrition, and PTA support. An assessment mechanism was put in place and administered annually to measure student performance as the result of these interventions.

The IRI methodology required learners to react to questions and exercises through verbal or physical responses to radio characters. The pedagogy also guided pupils through a progression of activities related to measurable learning objectives. Educational content was organized and distributed across lessons so that learning built upon previous knowledge and new learners could more easily construct an understanding of the subject being taught.

The teachers, in addition to attending a session on the IRI facilitation, received training on strategies in the teaching of literacy and mathematics. The programs use the three "P's" (Presentation, Practice and Performance) lesson presentation, Cooperative Learning (CL)[15] teaching methods such as pair work and group work, team or group competi-

14 LGAs are government structures organized at the district level.

15 Cooperative Learning (CL) is an instructional paradigm in which teams of students work on structured tasks (e.g., homework assignments, laboratory experiments, or design projects) under conditions that meet five criteria: positive interdependence, individual accountability, face-to-face interaction, appropriate use of collaborative skills, and regular self-assessment of team functioning. Many studies have shown that when correctly implemented, cooperative learning improves information acquisition and retention, higher-level thinking skills, interpersonal and communication skills, and self-confidence (Johnson, Johnson, and Smith, 1998)."



tions, individual work and the use of question and answers, games, stories and songs to deliver content. It incorporated some reading strategies like predict and draw, the use of concrete and abstract objects in numeracy, and the use of locally available resources.

In brief, IRI followed a dual-audience approach in the context of the COMPASS project involving direct instruction to students while modeling teaching strategies and classroom organization techniques for teachers. IRI was also used for teacher professional development. This intervention was complemented by a cluster-based face-to-face teacher training approach designed by the project in collaboration with federal and state level Ministries of Education and SUBEBs. The primary objective of the IRI and face-to-face programs was to improve the quality of classroom instruction with an emphasis on active learning and student-centered methodologies.

B. IMPLEMENTATION STEPS

The IRI design and development process usually follows a similar pattern across countries. Program design and development of IRI in COMPASS entailed the following process.

Conduct audience research: The design, format and characters for this IRI series in Nigeria derived from extensive research of the targeted audience which allowed for the

development of realistic settings, characters, program format, and structure relevant to the Nigerian context. Primary grades 1 and 2 programs in Hausa and Yoruba were designed based on research conducted in the three project states by IRI and mother tongue experts. Primary grades 3 through 6 programs had already been designed on the basis of extensive audience research conducted under the LEAP project. The exercise helped the language programs to be responsive to local culture and to have a wider appeal.

A team of project experts also engaged officials from State Universal Basic Education Boards (SUBEB) to discuss program objectives and to seek opinions on the Nigerian policy on the use of the mother tongue as a medium of instruction[16]. This team of experts held interviews and focus group discussions with teachers, parents and children to determine their interests, radio listening habits, games they love, and common cultural festivals in these states.

Develop the design document: The design document was developed following audience research and desk review of the curriculum. The overall objectives of the program were spelled out and 20-minute segments focusing in Hausa and Yoruba and mathematics were outlined. Song and health segments were also infused. In addition, a short three-minute segment on English as a Second Language (ESL) was included to allow a smooth transition to grade three. The design document also described the setting of the series where the action takes place and outlined all the segments and the duration of each segment. The design document served as a guide for scriptwriters and also for master planning. Each series in primary grades 1 through 6 had 90 programs that aired three times a week for 30 weeks out of the 36 week school year.

The design of the programs allowed for high interactivity amongst teachers, children and radio characters. Every lesson has song segments that reinforce math and literacy or health concepts taught in the program for the day. The application of student-centered strategies such as cooperative learning was strongly encouraged. Each lesson lasted approximately thirty minutes and aired three days a week, for a total of 180 lessons per grade. The teacher in the classroom was an integral part of the lesson, but the radio program led the direction and plan of the lesson.

[16] The Nigerian curriculum prescribes the use of the mother tongue as a medium of instruction in the first three grades of the primary level. The English language is used as a medium of instruction as of grade 4.

Develop scope and sequencing and master plans: Scope and sequencing and master plans were developed by Nigerian curriculum experts, an IRI specialist, scriptwriters and two primary school teachers (all Nigerians). Textbooks were also used as reference materials. These experts worked during two 3-week workshops to draw up the scope of content and generate activity and story ideas for programs. These were further developed into master plans. This team received technical support from an international consultant who reviewed and edited the plans until they were ready for scriptwriting.

Write scripts: The scriptwriters employed findings of audience research, content, and the methodology to make the scripts creative and entertaining. At this stage character traits were brought to life and the setting of the series explored and made as real and tangible as possible to the listeners through simple and clear dialogue.

The project formed three scriptwriting teams each made up of twelve scriptwriters. The writers were all trained and mentored at various levels during the life of the project. This process of writing, reviewing, editing, and then correcting scripts based on feedback continued until the scripts were considered ready for studio production. As soon as the scripts were ready, a reading session was conducted comprising of scriptwriters and the producers to time the scripts and discuss gray areas.

Following scriptwriting of primary grade 1 program and the completion of the revisions on primary grades 3 and 4, work began on the writing for grade 2 in Hausa and grades 5 and 6, following the same process with the grade 1 Hausa and grades 3 to 6 revisions.

Prepare for production: Studio editors, producers, actors, singers and musicians were brought together to work as a team. The studio had two recording and editing suites situated between the scriptwriting and rehearsal rooms. The office space was donated at no cost by the National Commission for Colleges of Education (NCCE), a major stakeholder of the COMPASS BE intervention.

Studio-approved scripts were handed over to the producers. Producers read the scripts and clarified gray areas with the scriptwriting team and made arrangements to collect sound effects that would be needed. Then they scheduled actors for a rehearsal and recording session.

In between recording sessions and workshops, song workshops were organized and conducted. These exercises involved several children and adult singers, musicians and

song producers. The search for talent was a daunting task. Scriptwriters wrote most of the songs, and the tunes were created in teams comprising song producers, singers and scriptwriters. The songs were then recorded, edited, mixed and inserted into the programs as they underwent formative evaluation.

Record lessons: The Hausa and English programs were recorded in a series of rehearsal and recording sessions over two years, while the Yoruba programs were recorded in a series of six workshops that took three to four weeks each over a period of one year. Sixteen Hausa, English and Yoruba actors, including children, were involved in the production process.

Conduct formative evaluation: Sixteen formative evaluators were trained on how to evaluate IRI programs in a three-day practical workshop at the state level. Twelve evaluators (residents of the three project states) were finally selected for the job. The recorded programs were edited, and songs inserted and sent off to the states for formative evaluation in batches while recording and editing continued simultaneously.

For formative evaluation purposes two public and two Islamiyya schools were selected in each state from both rural and urban settings. Each program was evaluated at both sites and feedback was sent to Abuja Central Office. This cycle continued until all 90 programs were evaluated.

Revisions were made based on feedback received from the formative evaluation and incorporated in the program. Sometimes whole segments would have to be reproduced, and thus actors were called back to record such segments. During this revision, time pauses could be increased or reduced, and activities repeated for better reinforcement. Once broadcast materials were ready, they were sent to the radio stations for airing.

Phase school coverage: The program targeted 1,400 schools over the life of the project. However, this was accomplished in phases. Phase 1 of the project covered 700 schools. Phases 2 and 3 covered 300 and 400 schools respectively. This phased approach had benefits and drawbacks. One advantage was that it allowed more focus on a manageable number of schools. Additionally, lessons learned from the first group could be applied in a much more appealing way in the subsequent ones. It also had the advantage of conducting frequent monitoring to assess progress. On the other hand, the approach had an adverse impact on the administration of the student achievement testing exercise that was intended to measure pupils' performance as a result of their exposure to IRI and other interventions. The exercise had to address three separate representative samples from three cohorts of schools, each one handled independently of the other.

Train teachers: Face-to-face teacher training using the cascade training model in clustered schools accompanied IRI programming. One school cluster brought 25-30 teachers together to be trained every quarter on various topics aimed at improving the teaching of literacy and mathematics and the acquisition of student centered pedagogical skills. Over 21,000 teachers from 1,400 COMPASS public and Islamiyya schools received training on IRI facilitation and other topics.

Teachers attended training workshops on IRI facilitation in one of the Professional Development (PD) programs. Teachers were exposed to the IRI concept, its facilitation, methodology and its effective use in the classroom through modeling and simulation. Three basic simulation sessions provided pre-broadcast preparation, IRI program facilitation, and post-broadcast follow-up activities. Teachers were also taught how to use the IRI log books to help them keep records of the programs they facilitated. This served as a monitoring and evaluation tool for the project team and the inspectors who monitor these schools regularly.

Monitor teaching: The project team in collaboration with government counterparts conducted monitoring exercises to assess changes in teachers' instructional behavior and understanding of pedagogy introduced by the IRI. Monitoring consisted of classroom observations targeting overall facilitation of IRI lessons, the use of workbooks and instructional materials, and the ability to operate windup radios.

V. CHALLENGES, SOLUTIONS AND INNOVATIONS

While Creative followed the conventional steps of developing an IRI activity, the particular interests of educators in Nigeria and the opportunities and constraints of the Nigerian context gave the COMPASS IRI program some particular features in the curriculum and materials and in building Nigerian capacity to manage and sustain IRI activities.

A. LANGUAGE OF INSTRUCTION

A.1 Selection of language of environment: An expert with wide-ranging international experience on languages of environment conducted an assessment in collaboration with local language experts to examine existing efforts and programs designed to incorporate the local languages into instruction in Nigeria. Current practices (formal or informal) in the use of language of the environment in primary school instruction were assessed. Stakeholder attitudes (parents, teachers, head teachers, education officials) concerning the use of language of the environment in primary school instruction were also assessed. In light of this information, the researchers referred to countries with similar socio-cultural contexts, and weighed different approaches for introducing the language of the environment in primary grades 1 and 2. The study also made recommendations addressing the language approach to be used, choice of language(s) with which to begin, where different languages should be explored, content of instruction (e.g., reading, math, health), and financial considerations. After careful consideration of all options recommended by the researchers, the project decided to work on two languages of instruction: Hausa for Kano and Nasarawa States and Yoruba for Lagos State.

A.2 Developing programs in the languages of environment: Although the LEAP project developed English programs for primary grades 3-6, there was no prior experience with regard to developing programs in languages of environment. A study was thus conducted by an international consultant to examine prior efforts to incorporate language of the environment into instruction in Nigeria. Current practices (formal or informal) in the use of language of the environment in primary school instruction and stakeholder attitudes concerning the use of language of the environment in primary school instruction were assessed. In light of the information gathered, different approaches for introducing the language of the environment in P1 and P2 were weighed. The study recommended that three different sets of IRI lessons be developed (one for each state); that the language spoken by the state's majority population should be used; that literacy

and mathematics segments integrate health-related messages and vocabulary; and that there should be an ESL component in each lesson. The study helped set the tone for the IRI project.

B. CURRICULUM

B. 1 Addressing Nigerian curriculum needs: The IRI program was developed based on Nigeria's national curriculum for primary education. The Scheme of Work developed by the Nigerian Educational Research and Development Council (NERDC)[17] informed the initiative's understanding of the learning objectives and helped define the essential skills, attitudes and knowledge children need to know and develop at different primary-level grades. The content was conveyed through stories, songs, games, music, and physical activities. The project took measures to ensure that the IRI program reinforced the existing curriculum by serving as an alternative mode of educational delivery. In addition, it was a culturally appropriate approach. The use of the language of environment helped ensue local culture, songs and curriculum content were reflected in the finished program. It was this strong local flavor that ultimately made it so popular among both children and adults.

B.2 Closing gender equity gaps: This aspect of the program focused on choosing radio characters as female role models that challenged stereotypes. For example, one character named Asibi was a very outspoken eight year old girl in the P1 series "Ina Yara." The character is smart, loves mathematics and is not ashamed to express her ideas even when she is not sure of herself. Malama Ladi, a radio teacher character in the Hausa series, is an accomplished broadcaster who takes joy in teaching primary school pupils basic literacy and numeracy. Dialogues and stories throughout the series encourage girls to be confident of their ability to learn and contribute meaningfully to society. Girls were deliberately chosen to answer certain questions. Teachers were instructed to select equal numbers of boys and girls to participate in activities. These strategies helped establish a girl-friendly learning environment that encourages girls to enroll and complete primary school. This was particularly important for COMPASS project states like Kano which has a very low girls' enrollment, retention and completion at all levels of education.

[17] The Nigerian Educational Research & Development Council (NERDC) was established by Decree 53 of 1988 as a Government think-tank on educational matters. Among its main objectives are to: "undertake and promote book development and local authorship. Its mission was to create the enabling environment in which educational research and development activities will thrive and in the process not only encourage collaboration with international development partners but also foster public-private partnerships to render educational research and development efforts sustainable and needs driven.

B.3 Promoting healthy habits in schools: School Health and Nutrition was one of the interventions under the COMPASS project. It aimed to address specific nutrition and health practices in the schools. IRI integrated health messages throughout the series of 90 programs. Health issues such as hand washing, sleeping under treated mosquito nets, using the toilet, keeping surroundings clean, and getting immunized were discussed in these health segments and also woven into dialogues and stories in IRI segments teaching literacy and numeracy. Some programs also featured health songs that teachers and children sang together with the radio characters.

C. INSTRUCTIONAL MATERIALS

C.1 Lack of pupils' manuals/workbooks: Effective use of supplementary materials such as worksheets, posters, wall friezes, and other activities can motivate learners and teachers, improve understanding of concepts, and maintain interest. Pupils' worksheets were not distributed for lack of funding. While not as effective as worksheets, extensive distribution of posters, wall charts and friezes eased the problem.

C.2 Reinforcing IRI with instructional materials: Teachers' guides were essential elements of the program package. Program implementation at the classroom level was made possible through a series of manuals aimed at helping teachers understand how the IRI mechanism facilitates the teaching-learning process. The guides included learning objectives for teachers and pupils. The guides presented new words and phrases, instructional materials and sequenced activities for before, during and after the pro-

gram. Songs, exercises, self-assessment tools, and a set of health messages were also included. The guides incorporated 90 lessons for each grade. Each guide presented a timetable applicable to the three project states. Teachers were introduced to the guide before the inception of the program. Each teacher was expected to possess a copy of the guide.

In addition, alphabet and number charts, alphabet friezes, number and word flash cards, and pupils' workbook for lessons 1-15 of the primary grade 1 Hausa lesson were distributed to facilitate the implementation of the program in the classroom. Logbooks and timetables containing key messages to teachers helped instructional leaders and local government authorities easily track and monitor lessons. A box containing basic supplies like cardboard, hammer, twines, markers, tapes and crayons were supplied to each cluster center, to enable teachers to make their own instructional materials. Instructional materials' development guides were provided for each school to facilitate the use of these materials. This helped improve the quality of teaching and learning process in targeted schools.

D. TEACHER TRAINING

D.1 Quality of teachers: The quality and motivation of teachers influences the proper implementation and success of an IRI project. With a ratio of 21.64%, 63.69%, and 38.62% (EDData Bank, FMOE, 2005) qualified[18] teachers in the respective project states (Kano, Lagos and Nasarawa), it was not easy to implement and monitor a distance learning program as complex as IRI. The project introduced a sound monitoring mechanism to ensure that teachers adhered to some basic pedagogical standards of teaching. Project personnel collaborated with state inspectors to conduct regular teacher monitoring and classroom observation in all project schools. More than 70% of teachers monitored in the Kano, Lagos, and Nasarawa met basic quality standards.

D.2 Linking in-service and pre-service[19] teacher training: An interesting feature of the COMPASS project was the linkage established between in-service and pre-service teacher training programs. Practicing teachers were supported in upgrading their

[18] In the Nigerian context, a teacher is considered qualified if he/she possess the Nigerian Certificate of Education (NCE). The NCE is a three year program following graduation from high school. It is provided by federal and state Colleges of Education.

[19] The COMPASS pre-service intervention works in partnership with three colleges of education by engaging all lecturers and building their capacities to run the Primary Education Studies program in a better way. The lecturers formed the core of cluster trainers that train teachers on a bi-monthly basis in one of the Resource Centers established with the support of the project.

professional level through IRI and face-to-face in-service teacher training. The project established linkages at an institutional level with three Colleges of Education (Kano, Lagos and Nasarawa). This was aimed at reviewing the Primary Education Studies (PES) literacy and numeracy curriculum, supporting the training of college lecturers on student-centered pedagogy and introducing a remedial course to help student trainees improve English language skills. 3,478 Primary Education Studies (PES) students were also exposed to the IRI approach over a period of three years. The "pedagogical eagles," so-named by the Lagos College of Education (AOCOED) for their professional competence, were the most reliable trainees the colleges have produced in years. Numerous college instructors were trained under COMPASS to serve as training module designers, trainers of trainers (TOTs), and monitors in the project's cluster-based training. Periodic COMPASS monitoring reports indicate that these instructors provided high quality training that helped acquaint student trainees with on-the-ground realities. In sum, the College of Education in Lagos established linkages with all the project schools in the Badagry Local Government Area ensuring that student trainees conducted their teaching practice in the local schools.

D.3 Linkages between IRI and other interventions: IRI was not meant to be a stand-alone initiative. It was implemented in the context of comprehensive Basic Education Program (BEP) components that complemented and reinforced each other. The IRI programs were designed to incorporate the most essential element of student-centered teaching strategies and were complemented by in-service teacher training. This training was carried out under the Face-to-Face Program[20] which included topics such as strategies in the teaching of literacy and mathematics, 3Ps (Presentation, Practice and performance) and Cooperative Learning, and Student-centered Teaching and Instructional Planning.

National trainers trained cluster trainers who in turn provided teachers with a training program on the facilitation of an IRI lesson. Cluster trainers included school inspectors, college lecturers, and highly experienced teachers and head teachers. In addition, other components of the BEP such as pre-service teacher training, School Health and Nutrition and PTA Support played a very constructive supporting role in its execution.

20 The in-service face-to-face training complements IRI efforts by improving the facilitation skills of primary level teachers in the teaching of literacy and numeracy. A cascade training model is used, and schools are clustered for teachers to train on IRI, Strategies for Improving the Teaching of Literacy and Numeracy, Instructional Planning and 3Ps and Cooperative Learning. Trainings are conducted around clusters. Continuous exposure of teachers to these interventions was expected to result in teachers' applying standard best practices to improve the quality of their work in the teaching of literacy and numeracy, which will result in improved performance of pupils in both areas. The training was supported by locally sourced teaching aid materials designed by COMPASS in collaboration with government counterparts.

E. CAPACITY BUILDING

E. 1 Lack of expertise: Developing programs in the local language explored new terrain, presenting challenges. Local experts were not readily available. The curriculum experts, although very conversant with breaking content down into simpler forms and activities, and the pedagogy behind certain teaching methods found it difficult to understand the story lines and creative aspects of the broader scope and sequencing of the IRI. An international consultant was brought in to organize a series of on-the-job training workshops for local curriculum developers, scriptwriters, production technicians and formative evaluators. This effort helped create a core cadre that designed the IRI project. Furthermore, an array of local songwriters, musicians, actors and actresses were brought together and trained.

E.2 Obtaining program buy-in: Program buy-in was facilitated by the signing of a Memorandum of Understanding with each of the respective State Universal Basic Education Boards (SUBEB). This being the case, it was not until late 2006 that the State of Kano started broadcasting 100 percent of the IRI lessons. This delay was due to some bureaucratic matters that needed to be addressed with the SUBEB. The project managed this by scaling up its advocacy efforts and by working closely with politically influential people within the state government apparatus.

E.3 Building Nigerian capacity: The IRI program was intended to continue to support teachers and pupils beyond the life of the project. To this end, the program forged close collaboration with federal (NCCE) and state governments to ensure smooth execution and instill a sense of ownership. Obtaining buy-in from the National Teachers Institute (NTI)[21] and the Department of Nomadic Education of the FMOE was a priority. The establishment of a working group (Core Group) comprising project team members and Nigerian stakeholders assisted in the smooth execution of the project.[22] The Core Group convened twice a year and was mandated to provide direction and guidance to the project. It made sure that Federal and State governments were kept abreast on the status of all project interventions in addition to IRI. Also, three state radio stations aired the program free of charge throughout the life of the project. The value of this service was approximately USD 250,000. The State Universal Basic Education Boards (SUBEBs) and radio stations reiterated their commitment to continuing IRI broadcasts after project close out.

E.4 Reliance of local resources and local capacity building: Apart from the previous LEAP project, no structures or previous tradition existed in Nigeria to launch IRI. The LEAP project used Universal Basic Education Commission (UBEC) premises to establish an IRI studio and operated outside UBEC's organizational framework. The COMPASS project did the same at NCCE premises. The structure created was ad-hoc with local experts participating per the project's periodic needs. Much of an IRI program's strength and degree of sustainability depends on the time, technical expertise, and implementation support supplied by the host country. For the most part, the projects relied on host country nationals. These staff were trained on the job to write, produce and evaluate IRI lessons.

21 The National Teachers' Institute, Kaduna was established in 1976 primarily because of the pressing need in the country for trained, qualified teaching staff at all levels of the educational system. The Institute's enabling Law charged it with the responsibility of "providing courses of instruction leading to the development, upgrading and certification of teachers as specified in the relevant syllabus using Distance Education Techniques."

22 The Core Group brings together representatives of Universal Basic Education Commission (UBEC), SUBEBs (Kano, Lagos & Nasarawa), Ministries of Education, Ministries of Health and Ministries of Local Governments - Lagos, Kano & Nasarawa, State PTA (Kano, Lagos & Nasarawa), State Radio Stations (Kano, Lagos & Nasarawa), Teacher Registration Council of Nigeria (TRCN), Colleges of Education - Adeniran Ogunsanya COE, Lagos state; COE, Akwanga, Nasarawa State & Sa'adatu Rimi COE Kumbotso, Kano State), COMPASS, Enabling Environment for HIV/AIDS, TB, OVC for Social Sector Services Environment (ENHANSE), Federation Of Muslim Women Association in Nigeria (FOMWAN), and Civil Society Action Coalition on Education For All (CSACEFA).

In addition, the project helped the staff acquire the skills required to develop the IRI program. A total of eighty-seven IRI professionals were trained and are now serving as a resource for educational radio projects in Nigeria. As the COMPASS project came to a close, it left a team of IRI professionals behind consisting of 36 English, Yoruba and Hausa IRI scriptwriters, 3 IRI sound engineers and digital editors, 2 IRI producers, 16 formative evaluators, 10 singers and musicians, 16 actors, and 4 curriculum experts.

F. DELIVERY

F.1 Scheduling and broadcasting problems: The IRI timetable clashed with the school schedule of morning and afternoon shifts. This was compounded by the fact that broadcasts were sometimes interrupted due to power failure or faulty machines. Radio stations sometimes mistakenly repeated lessons they had already broadcast. Worst of all, certain remote areas had very poor reception. The project worked closely with the SUBEB to rectify the scheduling problems. Technical support was provided to radio stations to address mechanical problems. Recordings were distributed to areas where reception was poor.

F.2 Supply of radios: Three radios per school turned out to be insufficient to meet the needs of all schools. The limited supply of radios proved a logistical challenge in the bigger schools as the radios had to be shared among many more classrooms. The project succeeded in leveraging resources from PTAs and Local Government Education Authorities to increase the number of radios provided to schools. However, due to the sheer size of the need, this issue was not entirely solved.

F.3 Monitoring a program: Research and experience shows that there should be a monitoring mechanism in place to ensure compliance and to provide school-based support if IRI is to have a positive impact on the teaching-learning process. The project, although aware of its importance, did not factor expenses related to monitoring in its initial annual budgets. The rationale was that this should be undertaken by the LGEA's monitoring teams (Inspectorate) and that there was no need to create a parallel monitoring structure. Lack of transportation and poor motivation rendered the continuous monitoring of IRI difficult. The project worked with the Departments of School Services to put a monitoring mechanism in place. Training was provided to the inspectors along with a sustained effort to implement the plan. Teachers' performance showed improvement (in subject-specific methods - literacy, mathematics, health), girl-friendly teaching techniques, flexible seating arrangements and pupils participation using IRI as a model in subsequent years following strict adherence to the plan.

VI. IMPACT ON STUDENT ACHIEVEMENT

Improved teacher practice was expected to impact student learning outcomes. Hence, the project made provisions to periodically conduct student assessment tests. A team of assessment experts under COMPASS conducted "pre" and "post" tests of student achievement. The use of an external entity usually produces a more balanced result which provides helpful insights into aspects of the program that could be improved.

A. THE ASSESSMENT

The primary purpose of the assessment exercise was to determine if students exposed to COMPASS educational interventions in general and IRI in particular during the period 2004 to 2009 made greater gains in English literacy and math achievement than students in control schools who were not exposed to the COMPASS intervention. The final report of the exercise described the pre-and-post-test phases of the assessment effort during the 2005-06, 2006-07, 2007-08 and 2008-09 school calendars. The report also presented comparative results of student learning for COMPASS and control groups. Specifically, the activities to be described include the test development process, the test administrator training process, the test administration process, and the process whereby student test data was converted into electronic data files. The student testing

results contained in this report show the variation in performance associated with the different cohorts (LEAP, COMPASS phases 1, 2, and 3, and control schools), State, school type (Islamiyya, public), school location (urban, rural) and student gender.

COMPASS monitored student performance on achievement tests to assess the impact of the multi-faceted interventions. Four rounds of student achievement tests were administered to assess pupils' achievement in literacy and mathematics.

According to the final report submitted by the researchers, the assessment tests were administered to different cohorts of schools[23] over a period of four years. The researchers' team followed stringent assessment practices for large-scale assessment to ensure validity and reliability of data.

B. THE RESULTS

The COMPASS interventions in schools had a strong, positive impact on student achievement over the life of the project. While this impact was not necessarily demonstrated in every school, classroom or evenly demonstrated in both English and Mathematics for all students, evidence showed that certainly, on the broad spectrum of pupils involved, the interventions were impactful. Furthermore, where principals and/or teachers and/or pupils acknowledged a committed engagement with COMPASS activities, there is clear evidence of substantial improvement in learning in those particular schools, classrooms and pupils.

It appeared that performance of most of the first two cohort of pupils (COMPASS and LEAP cohorts) improved over time. Data gleaned from the questionnaires suggest that very little changed in the environment of learning over the period of time pupils were tested. Factors associated with the pupils' personal life such as language spoken at home, incidence of meals, sickness and presence of radio in the home environment did not change over time. Similarly, factors associated with teachers, such as qualifications, gender, teacher experience, absenteeism, and training show no noticeable differences

[23] The COMPASS BE component was designed in such a way that a different cohort was exposed to the innovations each year and carried forward into both a monitoring phase and the assessment sample. The five cohorts are: a. COMPASS 2006 - this group of pupils participated in four assessment exercises (P2 pupils having participated in the last three); b. LEAP 2006 - this group of pupils participated in three assessment administrations; c. COMPASS 2007 - this group of pupils participated in three assessment administrations; d. COMPASS 2008 - this group of pupils participated in two assessment administrations; and e. CONTROL SCHOOLS - this group of pupils participated in two assessment administrations.

over time. The key difference then would be the COMPASS interventions and one can conclude these had a significant role in improvement.

Results showed some differences in improved achievement from one subject area to another. Mathematics gains were more pronounced at many grade levels and consequently suggest that the COMPASS innovations were more focused on Mathematics than on learning English. This in itself offered strong evidence that the COMPASS innovations did positively impact pupil learning, albeit more so in Mathematics than in English. The researchers' observations tend to reinforce the notion that many of the hands-on learning tools and materials focused on mathematical skills and concepts while most of the language arts innovations were geared to teacher training including the IRI program rather than pupil centered materials.

Throughout the COMPASS cohorts, the data showed some significant common performance and notable differences among the subsets studied, such as gender, school type and locale. Males and females obtained similar average scores at all grade levels. The absence of gender differences in performance results was an interesting phenomenon, demonstrating that what was going on in the schools did not favor either gender.

Generally the average scores of pupils in urban schools were significantly higher than those of pupils in rural schools in both the English and Mathematics assessments. It was quite possible that this was a reflection of the socio-economic status of both groups assuming the urban pupils have socio-economic backgrounds that were more favorable than those of rural children. It could also be explained in the richness of personal and social interactions experienced by urban children when compared to those of rural children.

Comparing public school pupil results to those of private Islamiyya school pupils provided no solid evidence of either system having a more favorable impact on pupil learning. It appeared that the private Islamiyya pupils have a slight performance advantage but this is not clear-cut. In the 2009 English and Mathematics assessments, Islamiyya pupils generally did have significantly higher average scores. Visits conducted to some of the private Islamiyya schools provided some evidence that these schools had smaller class sizes, a greater variety of resources, and a school environment more conducive to learning.

The performance results of the last two cohorts merit some specific observations. The COMPASS 2008 cohort results were telling in that at almost all grade level gains over one year are much higher than gains of the other cohorts in the same period of time. These extraordinary results may be attributed to several factors that consequently enhanced the implementation of the COMPASS innovations. The COMPASS team members, over four years of using and implementing the COMPASS tools, likely became more familiar with the intricacies of the concepts and materials. Their training methods most certainly would have improved over time. COMPASS trainers might also have had time to refine some materials. The schools of this cohort would still be infused by the sense of purpose and goals of the COMPASS program, having just completed the training. With the completion of all intervention phases, personnel may have been more available for monitoring.

The Control schools provided a different set of results that are contrary to those of the COMPASS cohorts. For the most part, the Control schools demonstrate consistent declining average scores in both the English and the Mathematics from the initial assessment administered in 2006 to the 2009 assessment exercise for all grade levels.

If the decline in the average scores for the Control School pupils is taken into account, the increase of the average scores of the COMPASS cohorts could be considered in an even more positive light.[24]

24 Conclusions from the Large-Scale Assessment in Mathematics and English, 2005 – 2009, EDUCAN for Creative Associates and the COMPASS project

VII. CONCLUSIONS

The IRI activity in COMPASS reached over 21,000 teachers and 711,711 pupils in 1,400 schools in three Nigerian states. COMPASS trained more than 485 cluster trainers to train teachers to facilitate the IRI methodology in the classroom. The COMPASS project extended its format to teaching literacy in two local languages, Hausa and Yoruba, for primary grades 1 and 2 using indigenous folktales, games, songs and music. An evaluation of students' achievement showed that IRI and the complementary interventions of COMPASS had a strong, positive impact on student achievement.

— IRI has evolved in Nigeria into an effective teacher training tool with the modeling of student-centered teaching methodologies, strategies and tips for teachers, as well as an effective content delivery mechanism to pupils.

— The ability of IRI to reach out-of-school and hard-to-reach populations and schools with inadequately trained teachers and school infrastructure was an inspiration to the National Commission for Nomadic Education in Nigeria and encouraged it to develop a new set of IRI programs based on the COMPASS IRI model and the South African "English in Action" IRI programs in literacy, mathematics and life skills targeted at migrant pastoralist and fishing folk in Northern and Southern Nigeria.

— IRI can be a good tool to improve the quality of education provided it is supported by other professional development initiatives. The Face-to-Face in-service teacher training conducted by the project on a regular basis helped consolidate what was being taught through the radio program. The rigorous monitoring and mentoring mechanism put in place enabled teachers to meet basic quality standards in the teaching-learning process. This plan was aimed at ensuring maximum compliance by schools and teachers. The project succeeded in soliciting support from SUBEBS, LGEAs and PTAs for this effort.

— IRI can be a viable tool to improve student performance. This was demonstrated in a four-year exercise that involved the testing of several cohorts of pupils in project schools. The findings concluded that COMPASS materials, especially the IRI, had a significant positive impact on pupil performance at all levels. From the several cohorts that took part in this exercise, it appears that most of the first and second cohorts of students improved over time. Data gleaned from the questionnaires suggest that very little changed in the environment

of learning over the period of time pupils were tested. Factors associated with the pupils' personal life such as language spoken at home, incidence of meals, sickness and presence of radio in the home environment did not change over time. The key difference then would be the project's interventions and one can conclude these had a significant role in improvement.

— The IRI program development process had a local capacity building component. It organized workshops at different phases of the project and provided training to experts (curriculum and language experts, musicians, actors, studio technicians, etc,) on the different techniques of developing an IRI program. This was a crucial intervention, as no prior expertise existed in this area. The experts trained by the project have already started providing services to similar programs launched in the country.

— For a program like IRI to be more effective and sustainable, it would be incumbent on any subsequent project to work on institutionalizing this effort from the very outset and also address it at a policy level. This was not part of the COMPASS project's mandate.

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IX. ABOUT CREATIVE ASSOCIATES INTERNATIONAL

Creative Associate International is a private professional and technical services firm headquartered in Washington, DC. Since its inception in 1977, Creative Associates International has assisted governments, communities, non-governmental organizations, and private companies worldwide, to lead and manage change. Projects are implemented through three divisions: Communities in Transition, Education for Development and Stabilization & Development.

Creative addresses significant challenges facing societies today. Whether they are shifts in demographics, the workplace, the classroom, technology, or the political arena at home and abroad, Creative views changes as an opportunity to improve. Creative helps clients turn changing environments into a positive impetus for creating more empowered, viable, and efficient systems and institutions. Creative approaches change as an opportunity to transform and renew.

X. ABOUT THE AUTHORS

Semere Solomon is an education professional with thirty years of progressively senior level experience in social programs with emphasis on basic education. His main area of focus includes planning, program and project management and research. His has held positions at both the national and international level. He served as Senior Civil Servant at the MOE in Eritrea before joining the United Nations to serve as a Program Officer for four years in Iraq. He served in the capacity of Regional Coordinator for the Northern Region under the USAID-funded Revitalization of Iraqi Schools and the Stabilization of Education (RISE) Project in 2003-04. He is currently a Senior Associate at Creative Associates headquarters in Washington DC overseeing two USAID-funded projects in Nigeria and Central Asia. Also, from 2004-2007, Semere served as a Senior Education Advisor for the USAID-funded COMPASS project in Abuja, Nigeria.

Swadchet Sankey is an Interactive Radio Instruction (IRI) specialist. She worked for over six years in basic education projects with focus on education media delivery through radio and print. She was also involved in face-to-face teacher training and the development of training manuals. Ms. Sankey organized and facilitated several training workshops to familiarize education professionals in the art of developing IRI programs. In addition, she has experience in Theatre for development (TFD) that addresses social issues such as girl child education, HIV/AIDS, child and maternal health. Ms. Sankey has a master's degree in International Education and Development from Sussex University, UK.

ANNEX

Student Achivement testing administered by the project over a period of four years
Comparative results in English and Mathematics - Years 2006 - 2009 by catgories of schools

		English					Mathematics				
		2006	2007	2008	2009		2006	2007	2008	2009	
Primary 1	Control	68.1	0	0	53.5	↓	70.6	0	0	56.8	↓
	LEAP	65.7	61.9	0	65.8	↑	60.8	69.1	0	68.2	↑
	COMPASS 2006	67.3	64.7	60.3	66.3	↓	68.3	72	69.6	67.9	↓
	COMPASS 2007	0	71.5	65.7	67.6	↓	0	76.5	70.3	70.2	↓
	COMPASS 2008	0	0	56	66.6	↑	0	0	62.8	69.4	↑
Primary 2	Control	0	64	0	58.7	↓	0	63.8	0	56.1	↓
	LEAP	0	58.2	0	62.1	↑	0	61.5	0	61.3	↓
	COMPASS 2006	0	62.7	62.7	65	↑	0	60.3	58.5	61.9	↑
	COMPASS 2007	0	67.4	67.8	65.3	↓	0	66.8	66.1	63.4	↓
	COMPASS 2008	0	0	57.7	66.1	↑	0	0	58.8	63.8	↑
Primary 3	Control	63.2	0	0	60.5	↓	46.8	0	0	45.2	↓
	LEAP	58.7	57.1	0	64	↑	42.1	48	0	52.4	↑
	COMPASS 2006	59.4	60	57.5	65	↑	45.5	48.9	50.6	53.6	↑
	COMPASS 2007	0	70.6	66.9	67.5	↓	0	57.2	56.1	57.3	↑
	COMPASS 2008	0	0	56	66.7	↑	0	0	44.5	54	↑
Primary 4	Control	53.1	0	0	49.6	↓	44.3	0	0	40.3	↓
	LEAP	46.8	49	0	48.5	↑	40.7	45.6	0	48.3	↑
	COMPASS 2006	47.8	49.3	49.2	48.9	↑	35.3	43.5	42.2	44.4	↑
	COMPASS 2007	0	56.4	54.1	54.9	↓	0	54.3	45.7	46.9	↓
	COMPASS 2008	0	0	48.7	57.1	↑	0	0	42.5	47.7	↑
Primary 5	Control	51.7	0	0	48.3	↓	43.7	0	0	35.8	↓
	LEAP	43	47	0	48.2	↑	37.4	39	0	40.9	↑
	COMPASS 2006	48.5	47.1	44.6	48.1	↓	39.6	38.4	39.4	44.1	↑
	COMPASS 2007	0	53	52	54.9	↑	0	49.6	50.6	50.9	↑
	COMPASS 2008	0	0	49	51.3	↑	0	0	45.2	46.3	↑
Primary 6	Control	37.5	0	0	41.9	↑	40.6	0	0	41	↑
	LEAP	35	36.1	0	35.3	↑	41.4	43.1	0	45.4	↑
	COMPASS 2006	36.3	36	32.1	36.7	↑	37.3	40.1	42.4	47.6	↑
	COMPASS 2007	0	40.3	38.3	40.3	ND	0	49.8	45.5	48.4	↓
	COMPASS 2008	0	0	34.3	38.7	↑	0	0	43.5	48.8	↑

LEGEND

↓ Control schools - Performance in Control Schools show downward movement
↑ Perfromance in the majority of project schools showed upward movement
↓ Performance in a few project schools demonstrated a decline
ND No difference


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