

**CLR ACTION RESEARCH PROJECT IN IMPROVING THE ENGLISH  
LANGUAGE COMMUNICATION SKILLS OF DISADVANTAGED  
RURAL AND URBAN STUDENTS IN MIDDLE SCHOOLS  
OF PUNE DISTRICT THROUGH INTERACTIVE RADIO INSTRUCTION  
2000 - 2004**

**Project Report  
2005**



**CENTRE FOR LEARNING RESOURCES  
PUNE**

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# **CLR ACTION RESEARCH PROJECT IN IMPROVING THE ENGLISH LANGUAGE COMMUNICATION SKILLS OF DISADVANTAGED RURAL AND URBAN STUDENTS IN MIDDLE SCHOOLS OF PUNE DISTRICT THROUGH INTERACTIVE RADIO INSTRUCTION IN 2000-2004**

## **Project Rationale And Context, 1996-2000**

A principal goal of the Centre For Learning Resources (CLR) is to improve the quality of instruction and learning in schools attended by economically and socially disadvantaged children. To further this goal, one of the main activities of the CLR has been to improve teaching and learning in the mother tongue, including work in tribal languages.

In 1996, the CLR decided to extend this work to improving the quality of instruction and learning in the teaching of English in regional medium schools. We chose to work in this area for a variety of reasons :

- English was becoming increasingly important for employment and further education prospects of young students completing high school.
- Standards of instruction and learning of English in mainstream government schools were very low, reflected in the high failure rates at the matriculation stage in English and poor English communication skills of many undergraduate students.
- The demand for English medium schools from all strata of Indian society reflecting the common understanding that English was critical for employment and higher education, especially management and technical education.
- The pervasive use of computers and opportunities for employment in the IT sector demanded basic English skills.

In reviewing what had been done by government or other NGOs to improve the quality of English in our government regional medium elementary schools, we realised that surprisingly there was little or no existing work to build on. Furthermore, in our interactions with teachers of English in these schools, we were being constantly asked for help in the teaching of English. Consequently, we decided that as part of our goal of improving the quality of learning of poor students, and empowering them through education, it was necessary to work in the field of English as a second language in our mainstream government schools (For a more detailed discussion on the rationale and context of our Centre's decision to work in this area, and other related details, see "English Lessons : A Bridgehead To Greater Opportunity" and "The English Juggernaut : Regional Medium Schools In Crisis" Appendix 1)

## **Early Activities, 1996-2000**

In 1996, we began work in the field of English in some Marathi medium schools of the Pune Municipal Corporation. Between 1996-97, work involved inservice training of middle school teachers and development of a variety of teaching-learning materials in English. This early experience of working intensively with teachers, observing classes and developing materials was very useful for understanding many of the issues of trying to improve the quality of the teaching and learning of English as a second language in our mainstream schools.

For example, it was patently obvious that the standards of reading, writing, speaking and listening skills in English were extremely low in these Marathi medium schools. This was especially true in speaking, as students even in high school were unable to string together a few correct sentences. What made the problem of improving English even more difficult to tackle, than any other subject in the curriculum, was that the teachers of English themselves did not know basic English,

especially spoken English, leave alone how to teach English to children coming from backgrounds where English was seldom encountered.

While we started some work in improving the English teachers' own knowledge of English, clearly we would only be able to deal with small numbers in face-to-face inservice training of teachers. We felt that we also needed to work more directly with improving classroom instruction and learning of English, with a focus on spoken English. It is in this connection, that we first considered the use of radio, as an educational technology suited for teaching spoken English, and with a capacity to reach large numbers of students. However, before embarking on a large-scale radio project, we decided for a variety of reasons that it was necessary to pilot the project in a small number of schools using audiotapes.

### ***Pilot Audiotape Project for Teaching Spoken English In Regional Medium Elementary Schools 1999-2000***

In mid 1999, we launched the audiotape project in 15 Pune Municipal Corporation and Zilla Parishad schools to improve the spoken English of Std. 5 students. 12 interactive audio lessons, each of 15-minutes duration, were developed by the CLR and tapes of each of these lessons were provided to 15 project schools. 5 of the 15 project schools were intensively monitored by CLR staff, who were present when all 12 audio lessons were conducted by teachers in these schools.

Pre-tests and post-tests were conducted in 10 selected project schools and 5 control schools. Even though only 12 audio lessons were heard in the project schools, the testing indicated a significant increase in the speaking skills of students in these schools. The experience and spectacular success of this audio project encouraged us to go in for a larger radio project covering Pune District. It helped us to establish that radio could be an effective medium, and gave us some initial experience in developing interactive radio lessons. It also provided us a field to develop and refine tools for testing and monitoring. (See Appendix 2)

### **CLR Action Research Project In Improving The English Language Communication Skills Of Disadvantaged Rural And Urban Students In Middle Schools Through Interactive Radio Instruction, 2000-2004**

Before describing the goals and content of the project, as well as the research that was conducted during the project, it is necessary to understand why CLR chose to work in radio and why it chose to use the pedagogy known the world over as Interactive Radio Instruction (IRI).

#### **Why Radio ?**

Access to radio networks and ownership of radio is widespread in urban and rural India. 97% of the population can access stations, and it was estimated in 1995 that 110 million radio sets were distributed among 104 million households. The T.V. network on the other hand in 1995 was not accessible to 46% of the Indian population. As the editorial in the 1995 issue of the media journal, Voices, noted "Radio is the main, in fact, only mass medium of accessing information".

The CLR experience in rural and urban schools was that schools had radios, or could access them without too much difficulty. Moreover, unlike T.V., radios are not dependent on electric outlets, which often do not exist in rural or many urban classrooms. Nor does radio depend only on external electric supply, which is often erratic in both rural and urban areas. Radio maintenance is far simpler and more easily accessible.

Moreover, for promoting spoken English, radio was pedagogically appropriate. Radio lessons were also far cheaper to produce and broadcast than equivalent television lessons. It is for these reasons that radio, and not television, was selected as the educational technology for the project.

The CLR is not opposed to the use of T.V., or multimedia in education, and should be used wherever possible and relevant. However, we continue to view radio as one of the most appropriate distance educational technologies for a classroom-based project to be implemented in mainstream rural and urban Indian elementary schools.

### **Why CLR Used Interactive Radio Instruction (IRI) ?**

The use of radio in Indian schools has been fairly extensive. Conventionally, radio has been used as a 'one-way' medium to instruct students on a variety of subjects including history, geography, science and English. These lessons are little more than lectures to provide enrichment to students. Consequently, these school educational radio programmes are not effective in terms of improving significantly the quality of instruction and learning.

The CLR realised that one could not teach spoken English by this one-way lecture method. Students would not only need to hear English but also understand and respond in English. Only a pedagogy in which interactivity was the core element would be successful in keeping the attention of children, and effectively help them to speak English. Moreover, unlike the conventional school radio programmes which were enrichment and not instructional programmes, we needed to have a large number of sequential interactive radio lessons which would help students beginning the study of English to acquire basic spoken skills.

We used an innovative, interactive pedagogy known as Interactive Radio Instruction (IRI). This pedagogy has been very successfully used to teach English and other school subjects to children, as well as utilised in educational programmes for adults in number of other countries. In India, we were the first to use IRI in such an intensive fashion for a school instructional programme.

The use of IRI in our radio programmes was stimulated by the exposure of senior CLR staff members to practitioners in the field in other countries, as well as the literature in the field of the use of IRI. Moreover, our initial experiments with IRI in the audiotape pilot project encouraged us to focus on the use of IRI as an intrinsic and essential element of all our radio lessons.

It should also be noted that the CLR felt that the efficacy of both radio and IRI needed to be highlighted in India. We felt that if our project was successful, it could perhaps encourage others to use radio and IRI for improving the quality of learning in our schools. The literature in the field analysing the experiences of IRI projects in many countries of the world was extremely persuasive. It indicated that IRI was an extremely cost effective way of improving the quality of learning. Given the growing realisation by both Central and State governments of the crucial need to improve the standards of attainment in our schools, we therefore felt that a principal objective of the CLR radio project should be to highlight the importance of radio and interactive radio instruction in improving the quality of learning in government schools in India.

This unique feature of IRI has been highlighted in a World Bank document :

**IRI is distinct from most other forms of distance education because its primary goal has been the improvement of educational quality.** Unlike many distance learning programs that are primarily designed to address access issues, IRI was first used as a tool to use in the classroom to counteract low levels of teacher training, poor achievement among learners, and limited resources (See Appendix 3 for more details).

## Goals of Project

The two major goals of the project were :

- To improve the English speaking and listening skills of middle school students (Stds. 5-7) in Pune District through Interactive Radio Instruction (IRI)
- To establish radio as an appropriate distance education technology, and IRI as an effective pedagogy for improving English skills.

While these were the main goals of the project, there were other objectives :

- To ascertain whether the radio lessons improved indirectly the writing and reading skills of students.
- To scale up the project, if successful, and to understand from the implementation of the Pune project what would be required in replicating the project in other states.

### **Pre-broadcast Activities : Development of Radio Lessons, 2000-2001**

#### ***The Instructional Process and Scripting of Radio Lessons***

Based on our activities since 1996, a very detailed 3-year syllabus for spoken English including structures, vocabulary and contexts was finalised by CLR staff. CLR staff were also engaged in writing the scripts for the 88 radio lessons, scheduled to begin broadcasting in July 2001 for Std. 5 classes in urban and rural government schools in Pune District. With few exceptions, CLR staff scripted almost all of the 88 fifteen-minute radio lessons. The skills content of these lessons were based on the syllabus that had been developed by the same staff members.

The innovative pedagogy known as Interactive Radio Instruction was used in the radio lessons. This pedagogy allows listeners to not only hear English being spoken, but gives them opportunities during the radio lesson itself to speak in English. Since the CLR scriptwriters had been involved since 1996 in the development of training, teaching-learning and evaluation materials for English, and had also acquired research-based knowledge of children's interests and extra-curricular activities, they were able to develop scripts that not only taught English, but were also age appropriate and enjoyable. The experience with developing the audio-tapes for the pilot project in 1999-2000, and monitoring the classroom interactions, also provided us valuable insights. The radio lessons used a variety of child-friendly formats such as drama, songs and language games in both Marathi and English to hold the interest of middle school children.

We were clear that the radio lessons also provided us an opportunity to promote appropriate attitudes related to democracy, secularism, gender, health, small family norm, etc. We did this not through obvious 'moralising' but indirectly through a variety of ways. For example, our radio teacher was a female, and the girl who was one of the main child characters was generally portrayed as being more 'active and dominant' than the second child character – a boy who has a more gentle personality. Our radio lessons also depicted positive roles for women through fictional characters and others such as Helen Keller and Kalpana Chawla. We also produced a series of radio dramas which looked at social and gender concerns.

### **In the Studio**

The recording was done in a private studio in Pune. Apart from the technical aspects of the recording and editing, CLR staff were mainly responsible for all other aspects of the production of radio lessons. This included the selection and rehearsals of actors, generating and recording sound effects, supervising and editing the studio recordings, as well as managing the logistics of the production of 88 radio lessons.

All the actors were amateurs – school and college students, and adults. The great challenge for the CLR staff lay in supervising the studio recording as to get “professional” performance from these actors, many of whom needed to be able to read and speak both English and Marathi correctly and fluently. In the process, quite a few actors were even identified from within CLR staff.

### **Pre-Broadcast Activities : Baseline Assessment, 2000-2001**

A baseline assessment of the listening, speaking, reading and writing skills in English was conducted in 10 rural Zilla Parishad schools in Pune District and 10 urban Pune Municipal Corporation schools. 600 students studying in Classes 5, 6 and 7 were randomly selected and tested. More details on this, in the following section on Research.

### ***Other Pre-Broadcast Activities, 2000-2001***

Other pre-broadcast activities included :

- Permission from the Pune Zilla Parishad and Pune Municipal Corporation Education Authorities for implementing this 3-year radio programme.
- Distribution of 612 radios in urban and rural government schools in Pune District.
- Orientation of teachers in selected project schools.
- Formal launch of project just prior to broadcast.

### **Broadcast Details, 2001-2004**

The CLR radio programme “Aamhi Ingraji Shikto / We Learn English” began broadcast in July 2001 on All India Radio, Pune. The radio lessons were aimed at improving the spoken English skills of Class 5 students, beginning the study of English in middle schools in Pune District. Radio lessons of 15-minutes duration were scheduled thrice a week, and a total of 88 lessons were broadcast during the academic year. About 25,000 students listened to the radio lessons in the first year of the project.

The schedule of radio broadcasts for 2001-2004 is given below :

<b>Year</b>	<b>Class 5</b>	<b>Class 6</b>	<b>Class 7</b>
2001-2002	88 Radio Lessons		
2002-2003	88 Radio Lessons	81 Radio Lessons	
2003-2004	88 Radio Lessons	81 Radio Lessons	80 Radio Lessons

In 2003-04, the entire 3-year programme was being broadcast in 3 different 15-minute slots, 3 time a week : 88 radio lessons for Class 5; 81 radio lessons for Class 6; 80 radio lessons for Class 7. By 2004, Std. 7 students, beginning Std. 5 in 2001-2002, would have been exposed to 3-years of the radio programme totaling 249 lessons of 15-minutes duration.

For the first two years of the broadcast, the radio lessons were also broadcast at night. We felt that there were many students and adults interested in learning English, who may not have been able to listen to the morning radio broadcasts. **The AIR Listenership survey in 2002 estimated that about 200,000 urban and rural people, outside the formal school system, were listening to the CLR radio lessons in Pune District. It was one of the most popular radio programmes in Pune District.**

### **Radio Project Research, 2000-2004**

Two basic kinds of research activities were carried out during the period of the project.

1. A series of tests were administered to ascertain the level and changes in all 4-language skills of speaking, listening, reading and writing with an emphasis on speaking.
2. Monitoring of the radio lessons in the classroom.

Both the student testing and classroom monitoring provided evidence as to what extent the goals of the project were being met. The monitoring of the radio lessons also helped us understand the efficacy of our radio lessons and what kinds of changes were required.

### **Testing English Skills : Sample**

20 schools were selected in Pune District : 10 Pune Municipal Corporation urban schools and 10 Pune Zilla Parishad rural schools. Prior to the radio programme, at the end of the academic year, 2000-2001, 30 students were randomly selected from each of these 20 schools – 10 each from Stds. 5, 6 and 7 for baseline testing of English skills. In all 300 urban students – 100 each from Stds. 5, 6 and 7 – and 300 rural students from the same classes in the ten rural schools, were randomly selected from these schools. Testing of these students provided a baseline of the acquisition of English skills, prior to the broadcasting of the radio programme.

After each of the 3-years of broadcast of radio lessons, we tested a sample of 100 students from the same 20 project schools – 100 Std. 5 students in 2001-2002; 100 Std 6 students in 2002-2003; and 100 Std. 7 students in 2003-2004. This achievement of students was compared to the baseline scores to evaluate the impact of the radio programme on the English skills of students. We also did some additional testing which is detailed in the section, “Testing English Skills”.

### ***Testing English Skills : Constructing and Administering Tests***

Prior to the radio programme, the CLR had some experience in developing English tests and administering them. But our first major experience in this area was in 2000-01 in developing and administering a baseline test for Stds. 5, 6 and 7. In constructing the baseline test, we paid particular attention to the speaking skills of students. Most of the test concentrated on speaking skills and to a lesser extent on listening skills. Reading and writing skills were also tested.

In 2000-2001, before finalizing the baseline test, a draft was pre-tested. The expected competency level for each skill, and the test items, were based on various factors. We looked at the state prescribed English textbooks and syllabus, as well as our understanding of what children should be accomplishing by the end of Std. 5 – the first year of the study of English as a second language. This pre-test indicated that even many Std. 7 students were doing poorly in skills that should have been acquired after the first year of the study of English, at the end of Std. 5. The draft test was revised. We also decided on the basis of the pre-test results to use this test for evaluating the skills of all the 600 students in all 3 classes of the 20 rural and urban project schools. In other words, this baseline test, meant to evaluate whether English skills expected by the end of Std. 5 were acquired, was administered to students in Stds. 5, 6 and 7.

As the tests involved speaking and listening skills, these tests had to be individually administered to all 600 students. A team of two trained investigators were required to administer and record the responses of the selected students. The reading and writing tests was a paper pencil test administered in groups of 10. Given the intensive nature of this testing, test and that 20 students had to be testing in each schools the team of two investigators spent an entire school day to test 30 children in each school. Both investigators had to be bilingual in Marathi and English.

***Testing English Skills : Timetable of Testing, 2000-2004***

Extensive testing was conducted during the project to ascertain the impact of the radio programme:

	<b>March 2001</b>	<b>March-April 2002</b>	<b>December 2002</b>	<b>March 2003</b>	<b>March 2004</b>
Class 5	Baseline (without any exposure of the radio programme)	Post-test (Class 5 after one year of exposure to the radio programme)			
Class 6	Baseline (without any exposure of the radio programme)	Pre-test (End of Class 6 and beginning of Class 7 without any exposure to the radio programme)	Interim-test (Class 6 after half a year of exposure to the radio programme)	Post-test (Class 6 after one year of exposure to the radio programme)	
Class 7	Baseline (without any exposure of the radio programme)			Pre-test (End of Class 7 and beginning of Class 8 without any exposure to the radio programme)	Post-test (Class 7 after one year of exposure to the radio programme)
Class 9					Test (End of Class 9, without any exposure of the radio programme)

**Test Results**

In March-April 2002, after the first year of the radio programme for Class 5 students, the same baseline test that had been administered in March-April 2001 to 600 students in Classes 5, 6 and 7 was now administered to 200 Class 5 students in the same 20 project schools. Given that there were no other special inputs during the year, any positive significant differences could be attributed to the impact of the radio project.

### *Spectacular Improvement in Speaking Skills*

**Speaking Skills - As the following table indicates, the English speaking skills of Class 5 students, beginning the study of English and exposed to the radio lessons, were far superior to even Class 7 students assessed during the baseline survey in the previous year.**

Table 1: Comparison of Baseline Pre-Test and Post-Test Results after One Year of Radio Lessons

Consolidated Achievement Score for English Speaking Skills (Maximum Marks 100) According to Class and Location					
		Post-test	Baseline Pre-Test		
		Class V	Class V	Class VI	Class VII
	Mean	40.16	13.09	22.15	23.09
Area-wise	Rural	41.51	11.42	22	22.83
	Urban	38.81	14.76	22.29	23.34

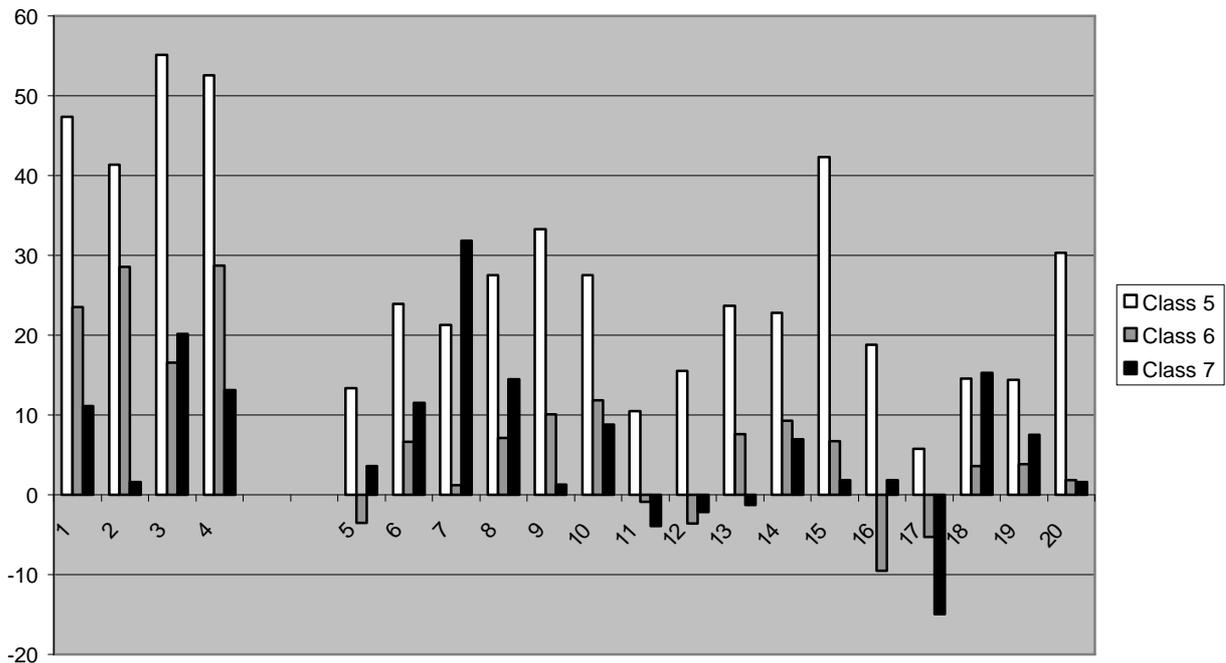
(The differences between the achievement of Class 5 students exposed to the radio lessons and the baseline pre-test results of students in Classes 5, 6 and 7 are statistically significantly different)

### Speaking Skills

Since it was clear that the first year of the radio project had an impact on the speaking skills of students, we needed to ascertain whether this was a sustained impact. Therefore testing was conducted at the end of every year for students, who had been exposed to the programme, and compared with the results of students in the next higher class tested in the beginning of the academic year, who had not listened to the programme. For example, students in Class 6 who had listened to two years of the radio programme were tested at the end of the academic year in March-April 2003. These results were compared with the results of the same test administered to students beginning Class 7 in July 2002, as a proxy of end of Class 6 achievement without the radio programme.

The following graph illustrates the impact of the radio programme on the speaking skills of students in each of Classes 5, 6 and 7, and for each of the 20 schools.

Improvements in Speaking Skills in Each of the Classes 5, 6 and 7 by School  
(20 Project Schools in Pune District)



In the above graph, the first 4 schools in the left of the graph have been separated from the remaining 16 schools. As these 4 schools were periodically monitored, as well as informal contact was established with the principal and English teachers, we were reasonably sure that the radio programme was regularly listened to. No special inputs were provided to these schools.

**In these 4 schools, there has been improvements in speaking skills in all 3-years of the radio programme with the most spectacular improvement in Class 5.**

Similar, though less spectacular, improvement can be seen in the other schools in the class 5 results. In these schools, most of which were not regularly monitored, we were not able to estimate to what extent they were listening to all 3-years of the radio programme. If the test results are any indication of their listening to the radio programme, clearly some schools were not listening to it regularly. Where there has been a decrease in speaking skills in Classes 6 and 7, in a few schools it is likely that these schools had discontinued listening to the programme. (More on these differences between schools later in the report)

### Speaking Skills

By the end of 2003-2004, students in Class 7 had listened to 3-years of the radio programme: a total of 249 lessons, each of 15-minutes duration. Our monitoring had indicated that their speaking skills of many of these Class 7 students had increased dramatically. To capture their acquisition of speaking skills, we decided to compare them with students completing Class 9 in neighbouring urban and rural schools. A common test of speaking, reading and writing skills in English was administered to 200 Class 7 students in 10 urban and 10 rural schools, and 100 Class 9 students in 6 urban and 4 rural schools.

Table 2: Comparison of Speaking Skills of Class 7 students, exposed to 3 years of radio lessons, with Class 9 students in Pune District

Class	Average Score Speaking Skill (Max. 135)
Pune (Rural) Std. 7	44.0
Pune (Rural) Std. 9	30.9
Pune (Urban) Std. 7	34.3
Pune (Urban) Std. 9	34.1

**The speaking skills of Class 7 students were higher than Class 9 students. This is because the rural Class 7 students had done spectacularly well in speaking compared to all other students including urban Class 9 students. These differences between Class 7 rural students and Class 9 urban or rural students are statistically significant.** More on the differences between urban and rural students later in the report.

Table 3: Comparison of the Speaking skills of Class 7 students exposed to 3-years of radio programme and Class 9 students

(Two highest performing rural schools and two highest performing urban schools only)

Highest performing schools	Class 7 Rural Score (Max. 135)	Class 9 Rural Score (Max. 135)	Class 7 Urban Score (Max. 135)	Class 9 Urban Score (Max. 135)
School No. 1	79.0	43.0	57.0	58.0
School No. 2	60.0	30.0	53.0	42.0

**The impact of listening to 3-years of the radio programme is highlighted in the considerably higher speaking English scores of Class 7 students in almost all cases. This is especially so in the case of the two highest performing rural schools, which scored higher than their urban Class 9 counterparts.**

It should be noted that many children discontinue their studies after Std. 8. In comparison to students in elementary schools, Stds. 1-8, those who enrol in Std. 9 are likely to come from slightly higher socio-economic backgrounds, more motivated to pursue academic studies and to be higher academic performers. This context highlights even more so the better performance of Class 7 students.

### Improvement in Listening Skills

As the table below indicates, the English listening skills of Class 5 students, beginning the study of English and exposed to the radio lessons, were higher to even Class 7 students assessed during the baseline survey in the previous year. However, these differences are not significant.

Table 1: Comparison of Baseline Pre-Test and Post-Test Results after One Year of Radio Lessons

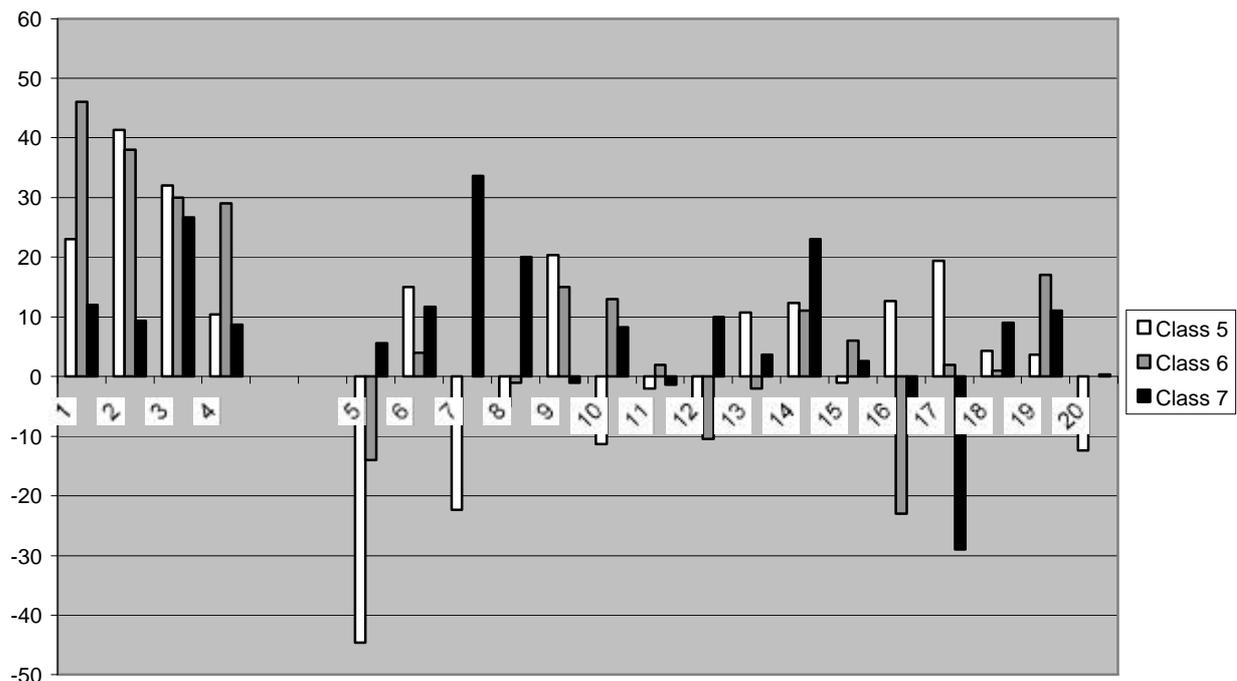
Consolidated Achievement Score for English Listening Skills (Maximum Marks 30) According to Class and Location					
		Post-test	Baseline Pre-Test		
		Class V	Class V	Class VI	Class VII
	Mean	20.39	18.86	19.55	19.62
Area-wise	Rural	21.16	19.77	20.65	19.90
	Urban	19.62	17.95	18.45	19.34

#### *Listening Skills :*

Since it was clear that the first year of the radio project had an impact on the listening skills of students, we needed to ascertain whether this was a sustained impact. Therefore, every year students who had been exposed to the programme were tested at the end of the year, and compared with students in the next higher class in the beginning of the academic year that had not listened to the programme.

The following graph illustrates the impact of the radio programme on listening skills of students in each of Classes 5, 6 and 7, and for each of the 20 schools.

Graph of Improvements in Listening Skills in Each of the Classes 5, 6 and 7 by School



In the above graph, the first 4 schools in the left of the graph have been separated from the rest. As these schools were periodically monitored, as well as informal contact was established with the principal and English teachers, we were reasonably sure that the radio programme was regularly listened to. **In these 4 schools, there has been consistent improvement in listening skills in all 3-years of the radio programme.** The performance in the rest of the schools are uneven.

### Reading and Writing Skills

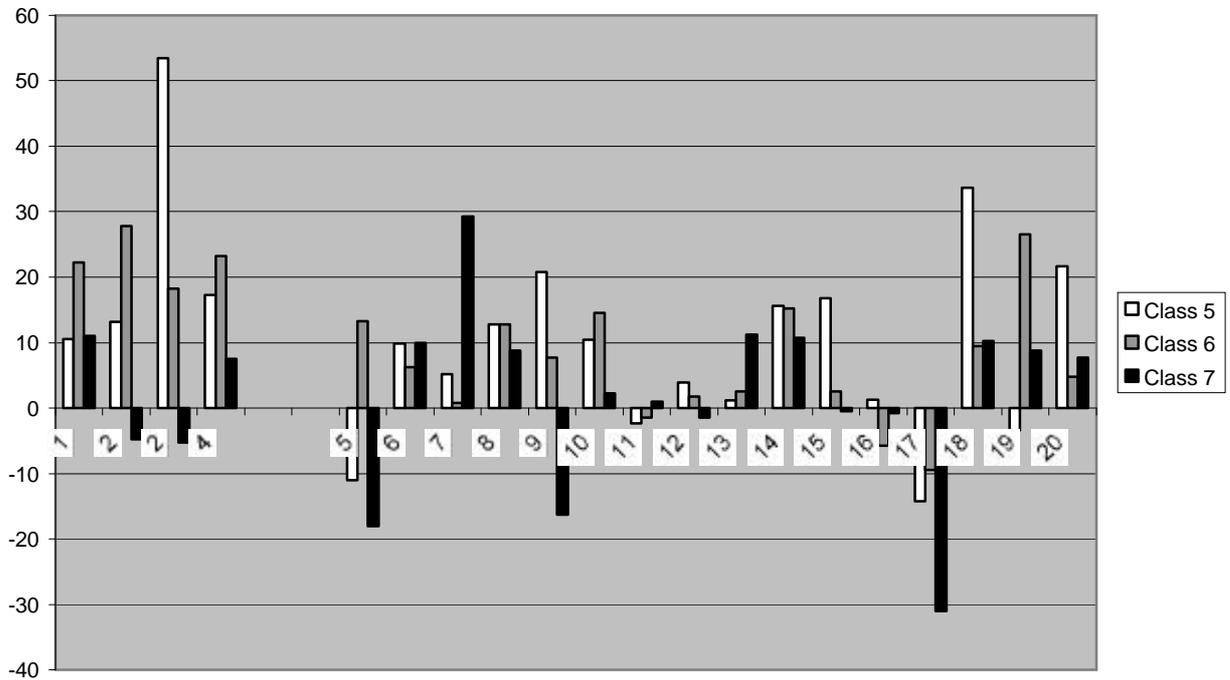
The main goal of the radio programme was to improve speaking and listening skills. However, we hypothesized that improved speaking and listening skills would have an impact on writing skills and reading skills. The evidence from the following table gives a mixed picture. **The radio programme has had an indirect impact on writing skills but not on reading skills.**

Consolidated Achievement Score for English Reading Skills (Maximum Marks 30) According to Class and Location					
		Post-test	Baseline Test		
		Class V	Class V	Class VI	Class VII
	Mean	14.84	14.39	15.64	17.88
Area-wise	Rural	15.23	16.53	17.7	18.8
	Urban	14.45	12.25	13.68	16.95

Consolidated Achievement Score for English Writing Skills (Maximum Marks 40) According to Class and Location					
		Post-test	Baseline Test		
		Class V	Class V	Class VI	Class VII
	Mean	8.70	4.37	6.97	10.03
Area-wise	Rural	10.09	5.18	9.04	11.4
	Urban	7.30	3.56	4.9	8.67

Clearly the radio programme has had no impact on the reading skills of students. However, the writing skills of both urban and rural Class 5 students after one year of the radio programme is statistically significantly higher than their Class 5 student peers.

**Improvements in Writing Skills in Each of the Classes 5, 6 and 7 by School  
(20 Project Schools in Pune District)**



In the above graph, the first 4 schools in the left of the graph, which were periodically monitored, showed improvement in writing skills except in Class 7. The performance in the rest of the schools was varied.

Class	Average Score Writing Skills (Max. 60)
Pune (Rural) Std. 7	22.5
Pune (Rural) Std. 9	16.3
Pune (Urban) Std. 7	16.7
Pune (Urban) Std. 9	19.9

While the rural Std. 7 students had scored higher than Std. 9 students from both and urban schools, the differences are not statistically significant.

## **Monitoring Of The Radio Project**

The intensive monitoring of the radio project was as important as the regular testing of the acquisition of English skills by students in Pune District. The monitoring had 4 distinct objectives :

- To see whether and to what extent the principal objective of the project was being met – the acquisition of spoken and listening skills.
- To observe the transaction of the radio lessons in a typical government school system.
- To get feedback from teachers and children about the usefulness of the lessons, their interest and entertainment value.
- To revise radio lessons based on feedback from teachers and children, as well as the observations of the classroom interactions.

### ***Selection of Schools for Monitoring***

3 schools were selected for monitoring each and every radio lesson. These schools did not form part of the 20 schools involved in the pre-testing and post-testing of student achievement. It was felt that intensive formative monitoring in these 20 schools would involve additional inputs which could bias our research findings. To systematise the documentation, a special monitoring format was developed and used.

The other monitoring visits, once a fortnight to each of 8 schools out of the 20 project schools selected for the testing of children's achievement, mainly focused on keeping in touch with teachers, ensuring there were no major problems, and observing classroom transactions without any intervention. This provided feedback about the way the radio programme worked in the system with no supporting materials, staff or training for teachers. These monitoring visits too were carefully documented.

## **What We Learnt From The Monitoring**

### ***Monitoring - Acquisition of Spoken Language***

Long before the end of the first year of the project, our monitoring had indicated that even in the first few months the children were able to string a few sentences. By the end of first year of the programme, they were able to talk about themselves. Their English speaking skills, compared to students in the same schools in higher classes, reinforced our conviction that the interactive pedagogy that had been adopted was effective for teaching spoken English. At the end of 3 years many students were able to express some basic thoughts about themselves, their likes and dislikes, their friends, their school, village, etc. in English. It should be emphasised that these students did not often express themselves in grammatically correct sentences, neither did we expect them to do so.

### ***Monitoring - Reactions of Students***

One of the most rewarding experiences of the radio programme was the extremely positive reactions of most students.

We broadcast the popular story of "Alladin" in 4 parts of fifteen minutes each. The entire story was narrated and dramatised in simple English, with Marathi being used as little as possible. Our monitoring indicated that Class 6 students hugely enjoyed the story and did not want it to end. Their English listening skills had improved to the extent that they were able to comprehend specific details of the story.

The radio programme for Std. 7 included the popular story of 'Ali Baba And The Forty Thieves' which was dramatised entirely in English in 4 radio lessons, each of 15 minutes duration. Equally enjoyed by students was a serialised story featuring the capture of a gang of smugglers by the two main child characters and their dog – shades of Enid Blyton !!

We also produced a series of radio dramas which looked at social and gender concerns such as communal harmony, the pressures on girls to discontinue education and marry early, etc. Classroom monitoring indicated that children liked this variety in their radio lessons.

**Improvement in their spoken English skills was only one of the important consequences of this positive attitude to the radio lessons. What was noticeable in any classroom, which participated in the radio programme was the confidence of students to express themselves in English. They were not embarrassed or afraid to speak in English, and in fact were eager to show their English skills to those who visit their classrooms. This was in stark contrast to the usual “fear” of English that many high school and college students have, despite having studied it as a second language for many years.**

We received many postcards from students on their reactions to the radio programme.  
(See Appendix 4 for a sample of these comments)

#### ***Monitoring and Teacher Survey - Reactions of Teachers***

Teachers were given an important role in the programme. They were expected to complement the role of the 'radio teacher', during and after each radio lesson. Our monitoring indicated that teachers were unanimous in their opinion that both they and their students benefited from their broadcasts.

Informally, midway through the first year of the broadcast, we decided to make a more systematic effort to understand the views of teachers. A short questionnaire was addressed to each of the 612 urban and rural middle schools in Pune district. Replies were received from 409 English teachers. In addition to finding out details regarding listening patterns, teachers were asked to comment on whether their students liked the radio programme and benefited from it. As the following table indicates, teachers responded positively and in great detail to these two questions.

Feedback from School Teachers in 388 Rural Government Schools in Pune District and 21 Pune Municipal Corporation Schools on Improvements in the English Skills of their Class 5 Students After Listening to 43 of the 88 Radio Lessons, 2001-2002

Sr. No.	Teachers' Written Comments on the Impact of the Radio Lessons on their Students	
1	Evoked interest in English	199
2	Gained confidence in speaking English	109
3	Enhanced ability to string simple sentence in English	301
4	Improved conversational skills	189
5	Improved pronunciation and fluency in reciting poems and songs	158
6	Increased vocabulary, general knowledge	210
7	Improved listening skills	56
8	Positive impact on reading, writing, spelling, counting	55
9	Enjoyed drill, practice, songs, poems, humour	124
10	User-friendly instructions and easy programme content	79
<b>With Reference to Teachers</b>		
1	Innovative pedagogy appreciated	24
2	Duration of programme to be increased	13
3	Textbook instruction facilitated	20
4	Monitor appointed to facilitate listening of the programme in the teacher's absence	14

*(Note: When, for example, 301 teachers have written that their students were able to string simple sentences in English, it does not mean that the remaining 108 teachers felt that they were not able to. Answers total more than 409 as many teachers wrote multiple comments). See Appendix 4 for a sample of teacher comments on the radio programme*

### ***Monitoring - Revision of Radio Lessons***

As mentioned earlier, each of the lessons was intensively monitored in 3 schools. In these schools, discussions were held with teachers and students about what they liked and disliked about the lessons, and follow-up activities after the radio lessons were also observed. This feedback was continuously shared with the CLR scripting team who could incorporate it into further lessons.

**This type of intensive monitoring was extremely useful in that it gave a concrete basis on which to take remedial action and plan further lessons.** We were in a position to understand what worked and did not work. For example, at the end of the first year of broadcast, it was decided to completely re-script the interactive drills in all the 88 lessons for the second year broadcasts. We also decided on the basis of our monitoring to scrap entire lessons and include new lessons. For example, on the request of teachers, we introduced concerns overtly related to grammar, as part of a few radio lessons.

### ***Monitoring - Systemic Concerns***

In addition to the overwhelming positive feedback we received from students and teachers, the experience of the monitoring in Pune District was not all positive. It revealed the negative aspects of introducing an innovation in a system of education, which is not held accountable for performance. The problems encountered in some of the schools were as follows :

- Frequent school 'events', and holidays beyond the official holiday list.
- Absence of teachers from classroom for one reason or the other
- Reluctance of teachers to do follow-up exercises.

## Meeting Project Goals And Objectives : What The Research Indicates

The two major goals of the project were :

- To improve the English speaking and listening skills of middle school students (Stds. 5-7) in Pune District through Interactive Radio Instruction (IRI)
- To establish radio as an appropriate distance education technology, and IRI as an effective pedagogy for improving English skills.

While these were the main goals of the project, there were other objectives :

- To ascertain whether the radio lessons improved indirectly the writing and reading skills of students.
- To scale up the project, if successful, and to understand from the implementation of the Pune project what would be required in replicating the project in other states.

### *Improving Speaking and Listening Skills / Indirect Impact on Reading and Writing Skills*

Both the intensive monitoring and extensive evaluation indicated that :

- **The radio programme had an extraordinary impact on large numbers of urban and rural students studying in government schools helping them to start speaking and expressing themselves in basic English. And this was possible despite the fact that their teachers themselves did not know how to speak English. Neither were these students – a large proportion coming from poor families – exposed to any English at all at home or in their neighbourhoods.**
- The most significant impact was on the speaking skills of students and to a lesser extent listening skills. **While the radio programme had no impact on reading skills, it clearly had some, though limited, impact on writing skills.** Our understanding was that the improved ability to say something in English was reflected in improvements in writing abilities.

### *Establishing Radio as an Appropriate Technology / IRI as an Effective Pedagogy*

Our initial understanding that radio was an appropriate technology was reinforced by the monitoring of the project :

- The radios cost less than Rs. 600/- and we had few complaints about their durability.
- In Pune District, the broadcast reception was generally very good.
- During the 3-years of the radio project, there was hardly a day in both urban and rural Pune District where there was an assured 24-hour electric supply. The use of batteries assured us that all radio lessons could be heard, despite this constraint.

The project has clearly established IRI as an effective pedagogy for teaching spoken English:

- It was clearly the active participation of students in every lesson that accounts for the extraordinary impact of the radio programme on their English skills. The fact that every lesson had varied and diverse opportunities for students to react to instructions in English, answer questions in English, or express themselves in English allowed for a quantum jump in not only their English skills, but gave them a confidence that they could express themselves in English, which is essentially a foreign language to them.
- Our understanding from this project is that IRI can be used to teach a variety of other subjects.

While radio has had a long tradition of use in India, educational radio has never really taken off. In the last two decades, television has taken centre stage, and computers are increasingly being supplied to schools. Educational radio has been neglected. **One of the main contributions of the project has been to revisit the use of radio as an appropriate and effective education technology.**

### *Scaling up the Project*

During the first year of the project, we also visually documented the project highlighting the classroom interactions during the radio lessons, and the slow and steady acquisition of the English speaking skills by rural students. We prepared a short video film which incorporated the research findings regarding the quantum jump in English skills of Std. 5 students exposed to the radio programme.

We did not wait for the entire 3-year programme to be completed to scale up the project. The success of the first year of the project enabled us to receive funding for making a Hindi-English version of the Marathi-English radio programme that was being broadcast in Pune District. Using the video, and other publicity materials incorporating the research findings, we actively promoted the programme in Maharashtra and other states.

We have been able to successfully scale up the project :

- In Mumbai, between 2002-2005, the radio programme was broadcast for Stds. 5, 6 and 7 for the Municipal Corporation Schools of Mumbai
- In Delhi, between 2002-2004, the Education Department of the Municipal Corporation of Delhi implemented the radio programme for Std. 4 and Std. 5 students in all its schools.
- In Jharkhand, the 3-year programme covering Stds. 4, 5 and 6 began in 2003. This programme covers most districts in Jharkhand.
- In Uttaranchal, the 3-year programme covering Stds. 4, 5 and 6 began in 2004. This programme covers two districts. This programme is being expanded to 6 other districts in 2005.
- In Rajasthan, the radio programme will be starting in the new academic year, 2005-2006. It is meant for the two districts of Jaipur and Alwar. However, many more districts will be able to listen to the radio programme which is being broadcast on the AIR Jaipur Primary Channel.

### **Looking Ahead - Project Implications**

The extent to which the project succeeded in meeting its objectives went far beyond the expectations of the CLR. It is therefore necessary to understand whether this success has any implications for the future work of our Centre, and other organisations involved in attempting to implement innovations, especially those attempting to scale up innovations in the mainstream government system.

### *Meeting A Real Need*

In our extensive experience with principals and teachers in regional medium schools, various needs have been articulated for improving the quality of instruction and learning. Improving the teaching and learning of English is on top of this agenda of articulated needs. Therefore, there was almost universal support for this project from principals and teachers which accounted to a considerable extent for its success.

The new and comprehensive English radio project that the CLR has launched in Pune District in 2005 which attempts to teach all 4 skills – reading, writing, speaking and listening – is partly a response to teachers and principals asking us to extend the radio programme to include reading and writing skills.

### ***Limited Implementation Requirements Contributed to Project Success and Up-Scaling***

Though the CLR inputs in the project were both intensive and extensive in terms of development of the radio lessons and the research that was conducted, the requirements expected of the educational system were fairly limited. Radios had to be distributed, and teachers provided a 2-hour orientation and a booklet.

What was additionally required of teachers was that they switch on time the radio, help with classroom management during the programme and practice for 15-minutes the 2 or 3 new English structures which formed part of most lessons. Even these structures were separately dictated very slowly during the radio programme to enable teachers to copy them down. Nothing else was demanded of teachers. The vast majority of them, who have little or no knowledge of spoken English, could cope with these limited demands. In fact, the radio programme helped many of them to improve their own knowledge of English, in addition to how to teach English.

From the perspective of state education authorities, the limited implementation requirements of the radio programme, and the considerable reach of a reliable technology like radio, helped in their decision to implement the programme in their states.

### ***Significance of Project Research***

Everybody pays lip service to the importance of research in educational projects, but the Pune radio project is one of the few in which research has played a critical role. There are very few projects in which baseline studies of achievement have been conducted and used with continuous testing of children's achievement during the project to ascertain its impact. Even fewer projects have monitored classroom transactions so intensively.

**This type of research enabled us to understand the impact of the programme. The quality of the radio lessons itself were considerably influenced by the feedback provided by the monitoring. We would have been unable to up-scale the project, had we not been able to provide research documenting the impact on children's achievement.**

### ***The Potential and Limitations of The CLR Pune English Radio Project Accountability – Teachers and The Government Educational System***

Research in the teaching of English as a foreign language indicates that the teachers' own competence in English is the most important variable that impacts on the acquisition of language skills by students. Anybody who has observed English classes in government regional medium schools would clearly understand that it is the teachers own lack of English skills, especially speaking skills, that accounts for the poor acquisition of skills by their students.

The great contribution of the CLR English Radio Programme was to take into account this factor, and use the radio programme to support the teacher in a variety of different ways. **In the schools that we monitored, which showed considerable gains in student achievement, it was clear to us that it was not teacher competence in English which accounted for these gains. The most important factor that determined whether the radio programme succeeded or not in imparting English skills was the professional commitment of teachers to the development of their students.**

Like their counterparts in the government elementary schools of India, these successful teachers were not able to conduct their English classes entirely in English. However, they turned on the radio regularly thus giving their students an opportunity to hear and speak English. The more committed amongst these teachers also gave their students the opportunities to practice the few English structures taught in the radio lessons after the broadcasts. The radio programme did not work in large numbers of classrooms where teachers were periodically absent or could not be bothered to turn on the radio. During our monitoring, we found that students could be doing well in the first year of the programme. However, if their English teacher in the second year of the programme was not interested, any further gains in English skills would be very limited.

In other words, the potential of the CLR Radio Programme is entirely dependent on the accountability of the system in general, and the accountability of teachers in particular. The most striking reflection of this is to be seen in the differential impact of the radio programme on urban and rural students. Though both sets of students started with identical baseline score for speaking skills, with urban students having a slight advantage, the rural students did far better than urban students after listening to the radio programme. Our monitoring also indicated that rural teachers were generally more likely to turn on the radio than their urban counterparts. Rural schools and teachers were generally more committed to the educational development of their students than their Municipal Corporation urban counterparts.

In up-scaling the project, one should be realistic about what to expect in the impact of the radio programme on the English skills of the students. There is little accountability in the government elementary school system at all levels, including ensuring that teachers attend and teach. In this educational environment, there are limitations to any educational innovation that attempts to improve the quality of children's learning in the classroom. The CLR radio programme is no exception. Even in this environment, which is not conducive – merely pays lip service - to educational innovation, the CLR can unequivocally state that its interactive radio programme has been successful in teaching large numbers of students some basic English speaking skills.

### **Funding of the Radio Project**

The Karuna Trust provided us a generous grant for covering the costs of developing all 3-years of the radio lessons, as well as broadcasting them between 2001-2004. We are very grateful for their support.

We are also thankful to Plan International (India) for supporting the intensive monitoring and evaluation of the radio programme.

## **Appendices**

**English Lessons  
Bridgehead to Greater Opportunities**

*Lead Article In "The Times Of India ", January 13, 2000*

**By John Kurrien**

It is the English knowing people of India, constituting less than 20% of the population, who have mainly profited from the communications, education and entertainment opportunities provided by the Internet. They will also be the main beneficiaries of the large number of Web-related businesses and jobs that will soon be generated.

The more Indian languages one knows, the more effective one is likely to be in most walks of life in India. One of these languages should be English. For without functional communication skills in English, many avenues of employment are closed. This is obviously the case in most managerial positions and the professions. English is also often required for a range of lower level occupations. It is needed wherever computers are being used in India - shops, government organisations and industrial assembly lines.

The case for work-related English is not so obvious in contemporary rural India. But like their urban counterparts, rural people are increasingly using consumer products and drugs, whose labels and instructions are invariably in English. But as our villages get more and more integrated with the outside world, knowing English will become an important asset. The computerisation of rural India and the increasing commercialisation of agriculture, with a thrust towards export, will bring with it a growing need for English communication skills.

These trends are part of the ongoing liberalisation and globalisation of the Indian economy. In discussions on these emerging patterns, the 20% of Indians who know English are invariably viewed as providing India with a comparative advantage. On the contrary, a functional knowledge of English will be important for many many more Indians to know, especially the young, to meet the economic challenges of the next century. English is absolutely necessary to function in the global economy and, unlike India, many governments and industries abroad therefore are actively promoting a widespread use of functional English. But luckily this reluctance on the part of our government to promote English is not one that is shared by many of our citizens.

Everybody seems to want to learn English, from street children in Mumbai to tribals in Bihar. Not surprising, given the importance of English in most walks of life. Aspirations for material possessions are now uniformly high in all strata of Indian society. Consequently, a whole range of private English medium schools have sprouted up all over urban and rural India. Many poor, but ambitious parents, living in urban slums and villages pay substantial fees to send their children to these schools, often nothing but substandard commercial teaching shops. Both knowledge and money allow the middle and upper classes to be more discriminating in their choice of schools. English medium boarding schools catering to the rural and urban middle classes and rich are flourishing.

The perceived need for English to improve one's social and economic position has also affected undergraduate and postgraduate education. The most prestigious courses in the humanities and sciences are still conducted in English. In professional education, English is almost exclusively the language of instruction. Selection procedures are heavily biased in favour of students knowing English.

So, should we be switching over the medium of instruction from regional languages to English in our schools, a recent option being considered by the J & K Government for government primary schools in the state? Or do we keep all the benefits of school education in the mother tongue, and ensure that most students acquire functional English communication skills in listening, speaking, reading and writing? Surely the latter. Most regional medium schools in India teach English as a subject from the middle school stage onwards for five to six years. Good teaching in these years should ensure that most students at the end of Std. X should be competent in English.

But after 500-600 hours of instruction in English, many regional medium high school students are unable to speak, read or write even the most basic sentences in English. In Maharashtra, half of them fail in English at the SSC examinations, and thus in the examinations as a whole. English is also viewed as one of the most difficult subjects to pass in other states. Of the fortunate few who pass and join English medium colleges, many are haunted by their lack of English communication skills and diffident about improving them. Their college examination performance falls far below their innate potential, as their minimal English is rarely improved significantly by undergraduate English language courses.

So, what can be done? A major contribution can be made if we improve the teaching of English in most of our regional medium schools, constituting the vast majority of urban and rural schools in the country. We need to begin at the middle school stage. Regional medium students in Stds. V or VI in their pre-teens are eager to learn English, and have the facility to acquire a reasonable proficiency quickly. But after about 3 years of about 300 hours of instruction, many get dispirited as they are barely able to speak, read or write a few simple English sentences.

But what can we expect of our students if most of their teachers themselves do not know or speak English, nor are trained to teach it as a second language. Nothing beyond the sole inadequate English textbook is provided, and that too for the most part is taught in the regional language. This is an enormous problem to be tackled, and one that cannot be wished away. We need to take a fresh look at the recruitment and training of English teachers in our regional medium schools. Much more needs to be done to improve the teaching of English in our government regional medium schools. This should be one of the main priorities of a larger policy to disseminate and democratise the use of English in India. Lack of action can only reinforce the economic and social divide between the haves, who know English, and the have-nots who don't. The opportunities for economic advancement for the latter will be even more limited in the future.

Mother tongue education is facing a grave threat to its very survival. The urban middle class, and more and more of the ambitious poor, have deserted our regional medium municipal corporation schools for private English medium schools. A similar process of educational segregation is becoming visible in rural India. These unhealthy developments will continue, unless our mainstream government schools significantly improve the teaching and learning of all subjects, and English in particular. What would be counterproductive, as some states have done, is to begin teaching English earlier at the primary rather than the middle school stage.

We need to learn from countries like China and Japan that we can support mother tongue education, and also promote English vigorously in our schools. Any initiative to improve English in our government regional medium schools would be welcomed by most sections of Indian society. It would receive overwhelming support from slumdweller, rural agricultural labourers and tribals who send their children to these our mainstream schools.

*(The writer is the Director of the Centre For Learning Resources, Pune, and can be contacted at clr@vsnl.com)*

**The English Juggernaut**  
***Regional Medium Schools In Crisis***  
**Lead Article In “The Times Of India ”, April 30, 2004**

**By John Kurrien**

‘The English Hatao’ movement of the 60’s, concentrated mainly in North India, has gradually been replaced by a pan-Indian demand for ‘English Sikhao’, cutting across all classes. Now more than ever, most Indians consider English to be the language of opportunity providing access to knowledge, power and material possessions.

Not surprisingly, the vast majority of urban and rural parents, like their counterparts abroad, want their children to learn English. This has had a significant impact on the policy and practice of primary and secondary education in postindependent India.

English medium schools, private or government-aided, have expanded rapidly to meet the overwhelming demand for admission from the middle and upper classes. This has had a considerable impact on well-known government-aided schools teaching in the regional medium. Many middle and upper middle class parents, educated in these mainly urban schools, are now sending their children to English medium schools.

To cope with this new demand of parents, educational trusts running established regional medium schools have in many cases had to add English medium divisions to existing classes. Some have started entirely new parallel English medium schools. Others have abandoned their original mission of promoting regional medium education, and have switched over entirely to English medium instruction.

Government elementary schools continue to teach the large majority of children in the regional language. These students would traditionally have started the study of English, as a second language, in Std. 5 or Std. 6. By the time they appear for the Std. 10 board examinations, they would have had 500-600 hours of instruction in English. However, instead of acquiring basic communication skills, most of them are unable to speak, read or write even basic sentences in English.

Illiteracy in government schools is not confined to English alone. Many children complete 5 or even 8 years of elementary education in the regional language, and are functionally illiterate in the regional language. In such schools, where illiteracy is rampant, teachers are not likely to be teaching regularly.

Regular instruction by government school teachers would significantly improve reading and writing in the regional language, but not English skills. The overwhelming majority of teachers, who teach English in elementary schools, do not know English themselves. Neither do they know how to teach it.

Given the abysmally low quality of teaching and learning in all subjects in many government schools, it is little wonder that private alternatives to government schools are flourishing all over urban and rural India. Many poor but ambitious parents are paying substantial fees to send their children, especially their sons, to private schools which are often nothing but substandard, commercial teaching shops. Most of these private institutions teach in the regional language, though many of them claim to be English medium schools.

Regional medium schools, especially government institutions, are facing a grave threat. The urban middle class has by now completely deserted the municipal corporation schools. The

ambitious poor are following in their footsteps. And since private alternatives are rapidly emerging in our villages, a similar process of educational differentiation is becoming visible in rural India.

The response of the political and educational leadership has been symbolic, populist and inadequate. Reversing a long standing educational policy of beginning the teaching of English as a second language in Std 5 or 6, many states have recently started teaching it from Std.1 onwards. Tamil Nadu, a progressive state in the field of elementary education, is considering beginning to teach it from the pre-primary stage.

No research has been cited to justify beginning English earlier. The rationale could be the popular understanding that young children learn languages faster, and the more time students spend learning a second language the quicker they learn it. Does research support these views which are also widely held by the general public and many educators?

These views are myths, according to a World Bank document, "The use of First and Second Languages In Education : A Review of International Experience". In fact, older children and adolescents are more skilled than younger children in learning a second language. Children who are given the opportunity to develop their first language, learn a second language more easily than children who have not had this opportunity. The former are able to transfer academic skills learnt in the first language, to the second language.

Finally, this report highlights the importance of trained teachers who need to have competence in the language that they are instructing in, as well as the ability to teach the language in a meaningful way to children. Rote learning is not enough. However, this type of systematic teacher training has not been undertaken by states who have begun teaching English in Std. 1.

The following account of a Std. 2 English class in a government school illustrates the problem. The young students were heard lustily singing "Aya thanda", but neither they nor their teacher knew what was being sung. Furthermore, the teacher did not feel it necessary to know what the song, "I Hear Thunder", meant.

The long-term vitality of our regional cultures depends on the vibrancy of our regional medium schools. And if these schools have to stem the exodus of students, and are to flourish, then English teaching and learning in these institutions must significantly improve. Public and academic discussions on this issue, conspicuous by their absence at present, need to be initiated. This would include revisiting the decision to start English in Std.1. The core elements of an integrated plan to improve English in our regional medium schools would include teacher-training, syllabus and textbook revision.

Finally, improving English cannot be divorced from an overall strategy to rejuvenate our government schools by making them more accountable for what students learn. Otherwise, these schools will continue to slowly buckle under the relentless onslaught of the English juggernaut.

*(The writer is the Director of the Centre For Learning Resources, Pune and can be contacted at clr@vsnl.com)*

## **Appendix-2**

### **Summary Of Report Of Pilot Audiotape Project For Teaching English In Regional Medium Elementary Schools, 1999-2000**

By the year 1999, CLR had already developed a variety of approaches and teaching learning materials for English as a second language, focusing on improving the English teacher's own knowledge of the language, as much as on upgrading their teaching skills. This focus on teachers had been a consequence of extensive observations of English classes in regional medium schools. Almost all teaching in these classes were conducted in Marathi, since most teachers of English, had extremely limited English skills.

Consequently, little knowledge of English was acquired by their students, in spite of their keen interest in learning the language. The CLR felt that this situation could not improve unless students were exposed to hearing English and provided with the opportunities to speak it during their English classes. Audiotapes incorporating an interactive approach to teaching was viewed as a possible answer to this need. In order to understand the functioning of English lessons based on audiotapes and to demonstrate their effectiveness, a short-term project was undertaken to pilot this approach in selected rural and urban Marathi medium schools.

#### **Lesson Plan**

12 audio lessons were planned and designed by our in-house subject experts, through interaction with the teachers themselves. All the teachers were provided an orientation before the commencement of the project. Each lesson was restricted to an installment of 15 minutes, where the children could hear spoken English and respond accordingly. Further, specific guidelines were provided, during the lessons, for 15 min of follow-up activities to be conducted by the teacher after each audio lesson.

#### **Monitoring of Classroom Participation and Lesson Evaluation**

Five of the 15 schools involved in the pilot project were intensively monitored by the CLR staff, who were present during the transmission of all the 12 audio lessons. Monitoring visits were made in order to understand how the audio lessons worked in the classrooms, and to receive continuous feedback from students and teachers. Extensive notes and recommendations made during these sessions were later used and incorporated in the designing of the Class 5 radio lessons.

This intensive monitoring indicated that students enjoyed listening to the audiotapes, and gradually felt at ease responding to them. By the time all 12-radio lessons were completed, many students were confidently replying in complete English sentences to various questions about themselves. Teachers were unanimous in their views that the audiotapes had helped them as well as their students considerably, to understand how English is normally spoken. These feedbacks provided support to our conviction of the scalability of the project, which was further confirmed through our project evaluation.

## Project Evaluation

The project was evaluated by a comparison of pre-project and post project skills (listening and speaking) of class 5 students, with the help of a test devised by the CLR. The first group of students tested were the class 5 pass outs, at the beginning of the academic session. This accounted for the skills acquired by students during their regular course work without the administering of our programme. The post programme test consisted of the next batch of class 5 students, after they had been exposed to 7 months of our English lessons.

A total of 15 schools were considered for the evaluation, of these, 10 schools had been a part of our project while the other 5 acted as the control group. The student sample consisted of 106 students selected at random, this number decreased to 96 during the post project test due to the absence of 10 students. The results of the test are presented below.

<i>Classification according to the rang of marks (Maximum score 78)</i>	Pre-test		Post-test	
	Project Students	Control Students	Project Students	Control Students
<b>No knowledge/Poor (0 - 34 marks)</b>	80%	80%	<b>8%</b>	72%
<b>Average (35 - 51 marks)</b>	18%	20%	<b>28%</b>	28%
<b>Good/Very good (52 - 68 marks)</b>	2%	-----	<b>45%</b>	-----
<b>Excellent (69 - 78 marks)</b>	-----	-----	<b>19%</b>	-----
<b>Total</b>	100%	100%	100%	100%
<b>Total no: of students</b>	<b>71</b>	<b>35</b>	<b>64</b>	<b>32</b>

The CLR had expected that the audio lessons would have a significant impact on the speaking and listening skills of class 5 students beginning to learn English in Marathi Medium Schools. What was not expected was the quantum jump in these skills by the end of the project, especially in the ability of students to respond to questions by stringing a number of sentences together in English. A further surprise was the performance of the rural students, who with little or no exposure to English outperformed their peers in the urban project schools.

### Up-scaling

The students performed as well in the project schools that were not visited. The CLR is confident that the project can be scaled up and a large project can have a substantial impact on the teaching and learning of English in regional medium schools.

*Extracts taken from a 1999 draft document entitled : "Interactive Radio Instruction : Impact, Sustainability and Future Directions", authored by Alan Dock of the World Bank and John Helwig of the Educational Development Centre.*

### **What Makes IRI Different From Other Distance Learning Programmes?**

IRI is distinct from most other forms of distance education because its primary goal has been the improvement of educational quality. Unlike many distance learning programs that are primarily designed to address access issues, IRI was first used as a tool to use in the classroom to counteract low levels of teacher training, poor achievement among learners, and limited resources. While IRI has demonstrated that it can be used to expand access and increase equity in both formal and non-formal educational settings it retains an emphasis on quality improvement through a development strategy and methodology that requires active learning, attention to pedagogy, and formative evaluation as an integral part of its design.

A second distinguishing feature of the IRI methodology is its requirement that learners react to question prompts and exercise through verbal and physical responses to radio characters. It also frequently includes group work and physical and intellectual activities while the program is on the air. For both the teacher and student, the lesson becomes an immediate hands-on and experiential guide. Short pauses are provided throughout the lessons, after questions and during exercises, to ensure that students have adequate time to think and respond. Interaction is also encouraged within the learning environment among the teacher and learners as they work together to conduct short experiments, do activities, and solve problems using local resources and imaginative situations and stories.

The pedagogy of IRI is more deliberate than active learning alone. IRI series guide participants through a progression of activities related to measurable learning objectives. Educational content is organised and distributed across lessons so that learning builds upon previous knowledge and new learners can more easily construct an understanding of the subject being taught, Activities and problems are first modelled by radio characters so that teachers and learners have an idea of the process they are undertaking and of the skills and support that may be required. All these elements are knit together through story lines, music, characterization, and other attributes available through the audio medium.

IRI programs are tailored specifically to the audience and the situation where they will be used. An important aspect of the design, therefore, is the reliance on audience research, participation, and formative evaluation to ensure that the lessons are engaging and relevant and that learners can achieve the educational objectives. Preparing an IRI series, program planners change the format, activities, and pauses in each programs with each cycle of feedback and observation.

### **Where Has IRI Been Used?**

Table 1, which briefly lists IRI projects that have been implemented or are being developed in over twenty countries, makes it obvious that USAID has been the main proponent of IRI since its first use in 1974. In 1973, as the result of a congressional amendment to the Foreign Assistance Act, which directed the agency to concentrate its efforts on the "poor majority" of the world's least developed countries, USAID refocussed its efforts on the lower-cost alternative of radio and set about reinventing educational radio for the poorest children in the poorest nations of the world. In the past few years, other donor agencies and lending institutions such as the World Bank have also become interested in supporting IRI.

**Table 1 - Countries Implementing IRI Projects Between 1974-1997**

<b>Country</b>	<b>Principal funder</b>	<b>Year begun</b>	<b>Project Title</b>
Nicaragua	USAID	1974	Radio Math
	Kenya	USAID	1980 <b>Radio Language Arts (English)</b>
Bolivia	USAID/Bolivia	1987	Radio Math
Bolivia	USAID/Bolivia	1992	Radio Health
Bolivia	USAID/Bolivia	1994	Early Childhood Dev.
Bolivia	USAID/PVO	1995	Early Childhood Dev.
Bolivia	USAID/Bolivia	1997	Maternal Child Care
Lesotho	USAID/Lesotho	1987	<b>Let's Learn English</b>
Dominican Republic	USAID	1981	Basic Education
Dominican Republic	USAID/DR	1993	Mental Arithmetic
	EDUCA		
Dominican Republic	World Bank	1993	Teacher Training
Dominican Republic	MOEs	1997	<b>English in Action</b>
Costa Rica	World Bank		<b>English in Action</b>
Costa Rica	USAID	1989	Environmental Education
Costa Rica	USAID/Costa Rica	1991	Mental Arithmetic
Honduras	USAID/Honduras	1987	Adult Basic Education
Papua New Guinea	USAID/PNG	1986	Science Education
Ecuador	USAID/Ecuador	1988	Radio Math Pilot
Ecuador	ABEL/Plan Int'l	1997	Early Childhood Ed.
South Africa	USAID/SA	1992	<b>English in Action</b>
	OLSET		
South Africa	USAID/SA	1995	Early Childhood Ed.
Cape Verde	USAID/Unesco	1992	Radio Math
(PALOP countries)	UNDP/Dutch Govt.		Radio Math
Haiti	USAID/Haiti	1995	Civics, Creole, Math
	ABEL/USAID/H		
Guatemala	USAID/Guatemala	1990	Radio Math/Spanish
El Salvador	USAID/EL Salvador	1992	Mental Arithmetic
	IADB	1996	Radio Spanish
Pakistan	USAID/Pakistan	1992	<b>English in Action</b>
	Asia Dev. Bank		Radio Math
Thailand	Thai Government	1980	Radio Math
Venezuela	Mendoza Found.	1991	Radio Math
	CENAMEC/Wld. Bk		
Bangladesh	BRAC/Aga Khan F.	1994	<b>English, Math</b>
Indonesia Government	ADB	1993	Civics, Math , Teacher Tr.
Nepal	Unicef	1996	Early Childhood Ed.
Nepal	USAID/Nepal	1997	Rural Health Worker Tr.

### **Is There Evidence Of IRI's Effectiveness And Its Continued Use?**

IRI has been intensively evaluated since its inception, both formatively and summatively - even as it has expanded beyond the first mathematics and language projects into new subject areas and adapted its designs to new audiences and developments in applied learning theory. A broad range of quantitative and qualitative evaluation techniques have been used, including test-based control and experimental group statistical studies, focus groups, interviews, and case studies. There is a wealth of information on achievement and some information on other indicators, which indicate that in addition to elevating the quality of learning and teaching by enriching and upgrading curricula and materials, IRI projects effectively help address other systemic objectives : increasing access for rural and isolated learners, increasing equity, and increasing the efficiency of educational systems in a cost effective manner.

IRI, a methodology developed to turn a typically one-way technology into a tool for active learning inside and outside of the classroom, continues to be an attractive educational strategy in developing countries twenty-five years after it was first used. The original model for teaching mathematics through IRI, created in Nicaragua by a team from Stanford University in collaboration with Nicaraguan educators during the early 1970s, sought to combine the low cost and broad reach of the radio medium and a clear understanding of how people learn. Since that time, at least twenty countries around the world have developed IRI programs for a variety of subjects, audiences, and learning environments. Many of these programs have been sustained for ten years or more. The methodology has been expanded and adapted to different levels of math, science, health, English, Spanish, and Portuguese, environmental education, early childhood development, and adult basic education for learners of all ages. In each case, the series has been designed by local specialists specifically to capture the interest of the learner and to meet learning objectives in that country. Twenty-five years later, interest in IRI does not appear to be waning. (Bosch, 1997).

*Translation of article written by PMC school teacher in Marathi on her reactions to the CLR radio programme, published (with some editing) in the PMC magazine 'Kalash' in February 2004.*

One day a circular came to our school- 'Lessons for teaching English to Class 5 are going to be broadcast on the radio, make sure that the children listen to these broadcasts.' I was really happy, because that year I had been assigned to Class 5, and I was being given something that was bound to make school more attractive for my children. That happiness was doubled when CLR came and gave our school a radio.

As we started listening to the radio lessons, I found that the lessons were not only helping me in my teaching, but they were also creating in my students a love of English and an interest in learning it. I was amazed by how much difference this interest made to my students learning.

These lessons come on every Monday, Wednesday, and Friday. On these days, the children are excited from early in the morning. "Teacher, today is a radio lesson day," is the constant refrain. Whether or not I am present, one student makes sure the radio has been brought from the principal's office and set up in the class. If it happens to be a holiday, then I record the lessons and play the tape in class, because, ironically, many of my students have TVs but not radios.

At present the Centre for Learning Resources is broadcasting three sets of lessons, for Classes 5, 6 and 7. I too have been listening to this programme with my students for three years. We not only listen, but without fail, we practice for 20-25 minutes after the radio lesson. Sometimes the practice is oral, sometimes I give written practice. CLR observers are witness to this regularity. They have been regularly coming to my class for three years and observing how I conduct the radio lesson, how the practice is done, etc. Besides, the director of this Centre also visited our class, and he was very surprised to see how slum children could speak English so well, ask so many questions. My students asked him nearly 70 questions in English!

Though these lessons are made class-wise, they have not been made according to the textbook. So they are suitable for anyone of any age. But one thing that happened in the first year was that my class began to fall back in the study of the textbook. What should I do now, I wondered. But the answer came from the students themselves. They found that they could understand the textbook lessons faster and more easily. "Teacher, remember we heard this on the radio!" they would say. It was a clear proof of the fact that language is learnt best by listening. The children had begun to practice speaking English spontaneously.

The most important feature of these radio lessons is the participation of the students. Each child has to listen attentively, because she or he never knows when I will call on one of them to answer the question asked by the radio teacher! The lessons have been made with a deep understanding of children's minds. Dramas, poems, travel, television programmes, famous people and places, all these feature in this treasure chest that me and my children have been enjoying for three years. They got opportunities to listen to and tell stories, and to learn many poems that they recite beautifully.

During this year, the students are constantly coming up with words or sentences and asking me how to say it in English. Sometimes I am not able to answer, and at such times I

mentally thank my students, because they have made me refer to English dictionaries, grammar books, and story books that I would not otherwise have read. In the dramas and stories, the children also absorb important values like cleanliness, helping their mothers, caring for the old and disabled, equality between the sexes, and so on.

For the last three years, my students and I have been maintaining a notebook where we note all that has been taught in each lesson, and which we use for our practice. If all of you use this invaluable resource, your children will surely have a firm foundation of English. My experience has proved that this actually happens, and the CLR has observed this and congratulated my class on this achievement.

Prathiba Nandkumar Hadap (Joshi)  
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### **Other Responses From Teachers (Translated from Marathi)**

The headmistress of Urdu school, Loni Kalbhor : “My children remind me of the programme timings if I forget. I really like the programme and so do my students. They also love the songs and poems.”

Sadhana Deolekar ZP school teacher from Versave village: “My students cannot speak even Marathi properly but answer perfectly well in English and that is only due to the We Learn English programme. I appreciate the graded lessons and the interesting method of teaching English.”

The staff of a ZP in Maval Taluka, Pune write as they have no radio in school, they listen to the programme at home and share it with the children the next day. They appreciate the simple language used in the lessons and also the fact that different topics are covered such as cookery to superstitions. They hope that the programme is not discontinued.

### **Some Students’ Responses (Translated from Marathi)**

Manjushri Lonkar (Pune): “Dear Sunita Mavshi, I am afraid to speak English as I don’t have the vocabulary needed for it. I really like your style of teaching. Can you give me private tuitions? I would like to meet you and talk to you.”

Vishwas Tanpure ZP school Khed: “I can’t wait for Monday, Wednesday and Friday to come. I love answering the questions asked in English.”

Monica Vadki, a ZP school student: “I write down in my notebook what I have learnt from the radio programme. I want Ranjana and Santosh to visit my school.”

Mukund, ZP student from Pinpri Sandus: “We have learnt to speak English through your programme. We like ‘Gamtya’ and his stories. Please continue the programme next year.”

Varsha Gade, ZP school, Daund : “We liked the lesson on Rani Laxmi Bai. We liked the questions you asked. Yesterday we heard the last programme and were very sad. We want the programmes to be longer next year.”

Roopali Gawde, ZP school Kondhawale, Mulshi: “Because of Ranjana, Santosh, Sunita Mawshi, we have learnt to speak a lot of English. We like the jokes Sharad Dada tells us.”

Amit Borkar, ZP school student: “At first we used to find English very difficult, but after listening to this radio programme, we find it very easy and we also like it.”

Meena Gengje a Std. XII student: “Due to my family background and the lack of funds I could not enroll in a spoken English course. This programme has helped me and my friends to learn to speak English.”