The Teacher Foundation

A REPORT ON
THE EVALUATION OF A PILOT PROJECT
ON
INTERACTIVE RADIO INSTRUCTION
In the Indian State of Chattisgarh

Developed for Educational Development Centre, India
By
The Teacher Foundation
Bangalore, India

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INTRODUCTION

OBJECTIVES

- To analyse the impact of IRI program on classroom pedagogy and teacher behaviour by observing teachers in selected IRI Schools across two rounds.
- To study and compare the impact of IRI program for Post-IRI Time and Non-IRI Time during Round I Evaluation.
- To study and compare the impact of IRI program for IRI-Time, Post-IRI Time and Non-IRI Time during Round II Evaluation.
- To administer the Teaching and Learning Quality (TALQ) Scale and use the indicators in the scale to assess educational success through IRI intervention.

EXECUTIVE SUMMARY

The overall purpose of the study was to evaluate the impact of IRI program on classroom teaching practices in selected IRI Schools across two rounds i.e., Round I and Round II. The study was conducted in two districts in the State of Chattisgarh during 2004-05 i.e., Abanpur and Kanker. Teaching and Learning Quality (TALQ) Scale developed by EDC was used to measure educational success through IRI intervention. The 4 categories of pedagogy measured on the 4-point rating scale included: Teacher Knowledge and Skills, Classroom Environment, Student Participation and Student Activities. The scores on the rating scale ranged from a minimum of 0 to a maximum of 3.

During Round I, 3 observations were made and recorded using the TALQ Scale in an IRI School, which included one Post-IRI and two Non-IRI. During Round II, 4 observations were made and recorded, which included one IRI Time, one Post-IRI time and two Non-IRI time. Classes observed during IRI-Time in IRI Schools were Classes 1 and 2.

It was observed that during Round I, Teacher Knowledge, Classroom Environment and Student Participation was higher during Post-IRI Time when compared to Non-IRI Time in the State. Abanpur scored much better than Kanker during Post-IRI time in the categories of pedagogy - Teacher Knowledge and Skills and Student Participation and slightly better in Classroom Environment and Student Activities.

During Round II, Student Participation is higher during IRI, Post-IRI and Non-IRI Time compared to other categories of pedagogy in the State. Only Student Activities were high during IRI-Time when compared to Post-IRI and Non-IRI Time. Teacher Knowledge, Classroom Environment, Student Participation and Student Activities were high in Abanpur compared to Kanker during IRI and Post-IRI but slightly lower in all categories of pedagogy during Non-IRI time.

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METHODOLOGY

LOCALE OF THE STUDY

The study was conducted in two districts in the State of Chattisgarh during 2004-05. The two districts selected for the evaluation are Abanpur and Kanker.

RESEARCH DESIGN

A comparative study was undertaken to analyse the impact of the IRI program on teaching practices in IRI schools during Round I and Round II.

The evaluation was conducted in two rounds. The first round was conducted during Nov-Dec 2004 and the second round during March 2005. The interval between the two rounds was about 3-4 months.

Note: Though the instrument was administered and data was collected from the teachers of Control schools, the data was not used in the study for analysis and comparison purposes. The reason for this was, the Control schools did not match with IRI schools/ the data did not reflect the appropriate selection of schools and hence subsequent to discussion with EDC, the Control schools were dropped from the study. However, the data collected is presented to EDC for their reference.

SELECTION OF SCHOOLS

Initially a list of IRI and Control schools, both rural and urban, covered in the EDC initiated IRI program was given for the two districts of Chattisgarh. As suggested by EDC, from this list, TTF chose 8 IRI schools and 4 Control schools from each district depending on the distance of the school from the BRCs office and also the distance between schools in consultation with the BEOs of the respective regions.

Since each TTF evaluator had to cover a maximum of 3 schools in a day for 3 days, which is inclusive of 2 IRI schools, and 1 Control schools, the distance was the major criteria in choosing the schools. The list of schools selected was intimated to EDC. The school selection was further altered when the evaluators visited the selected schools. EDC was kept posted of any changes in the school selection.

In addition, certain criteria were adhered for selecting or dropping some of the IRI/Control schools for the study. The criteria are listed as follows.

Criteria used for selection of IRI schools included:

- School chosen should have implemented the IRI programme from the date of initiation of broadcast of IRI programme in that particular district.
- IRI equipment available in IRI school and in working condition.
- Only IRI teachers observed by evaluators in the respective schools. IRI trained teacher had to be present in school on the 3 days of observation.
- Observation done on 3 consecutive days of the same IRI teacher.

Criteria used for dropping some of the IRI schools included:

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- IRI teachers not available in school for observation. The reasons for teacher's absence from school varied - on deputation for another Training programme, on leave due to personal reasons, deputed on government duty, participation in teacher strikes/agitations.
- IRI programme not implemented in IRI schools from the first day of broadcast due to 'casualness' on the part of the teacher, headmaster, government officials such as BEO, BRC, CRC, CRP
- Non-availability of radio equipment in the IRI school due to lack of coordination on the part of the school and the Education Department officials

Criteria used for the selection of Control schools were:

- The teacher and the students of the Control school should not have been exposed to the IRI programme in school at any time on their own initiative
- The teacher and the school should be representative of a typical government school

Criteria used for dropping some of the Control schools included:

- Control school using IRI programme regularly.
- Teacher in Control school with outstanding achievements and hence not representative of a typical sample
- Teachers not available in school for observation for three consecutive days. The reasons for teacher's absence from the school varied- on deputation for another Training programme, on leave due to personal reasons, deputed on government duty, participation in teacher strikes/agitations.

The study was conducted in Two Rounds i.e., **Round-I and Round-II**. During Round-I, 8 IRI schools, 4 Control schools were observed and during Round II, 6-8 IRI schools and 2-4 Control schools were observed per region. The decrease in the number of schools-IRI/Control, during Round II is attributed to the following reasons:

Reasons for dropping one IRI school in Round II included:

- IRI teacher not available in school for observation due to prolonged absence from school e.g. Saraswati Mandovi of GPS Sarangpal - Kanker is on maternity leave.

Reasons for dropping two Control Schools included:

- Teachers not available in school for observation. The teacher's absence from the school due to participation in teacher strikes/agitations
- A teacher from a Control School with outstanding achievements and hence not representative of a typical sample e.g. one teacher from a Control school in Chattisgarh had been nominated for Rajyapal Puraskar (Governor's Award)

The details of number of schools selected Round-I and Round-II in Chattisgarh are as follows:

	ROUND I		ROUND II	
	IRI SCHOOL	CONTROL SCHOOL	IRI SCHOOL	CONTROL SCHOOL
SCHOOLS OBSERVED	**16**	**08**	**15**	**06**
SCHOOLS SELECTED FOR ANALYSIS	**15**	**06**	**14**	**06**

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SELECTION OF TEACHERS

The teachers selected for the study both from IRI and Control Schools satisfied the above set criteria for the study. The selection of teachers was done by the evaluators in consultation with the BEO's/BRPs when they visited the schools. The same teachers were observed during both Round-I and Round-II. During our visit to schools, no feedback was given to the teachers. The observations were done in an unobtrusive and unthreatening manner with very little interaction with the teachers.

SCOPE OF VARIATION WITHIN THE SELECTED SAMPLE

- The number of IRI and Control schools selected for the study was not equal (Though the Control schools were dropped during analysis of the study)
- Teachers' profiles varied in terms of educational qualification, teaching experience, subject expertise, previous training in education, socio-economic status, position and status in school, years of experience, age, familiarity with the IRI program etc
- Variation in age amongst students of the same class/classes within the same school and across different schools.
- Broadcast problems in terms of clarity of the program. Some schools are far flung and hence the clarity may have been adversely affected.
- Proximity of the schools from the BRC/Panchayat offices – which may have accounted for a higher level of implementation of the IRI program.
- Even though the program was designed for multi-grade classes (Class 1 & 2), the class size may have affected the performance.
- Even though the medium of instruction was officially Hindi, children were occasionally taught in the local Chattisgarhi language.
- Some students were first generation learners.

INSTRUMENT FOR DATA COLLECTION

Teaching and Learning Quality (TALQ) Scale developed by EDC was used to measure the educational success through IRI intervention. Based on the preliminary feedback given by TTF evaluators on the Scale, necessary changes were made before it was administered in the field. The 4 categories of pedagogy measured on the 4-point rating scale included:

I. Teacher Knowledge and Skills
II. Classroom Environment
III. Student Participation
IV. Student Activities

The scores on the rating scale ranged from a minimum of 0 to a maximum of 3.

OPERATIONAL DEFINITIONS

A Typical IRI School

An IRI school may be defined as *a government run school where the teacher is trained in IRI intervention, and where both students and teachers have been initiated into the IRI programme from the first day of IRI lesson broadcast / from the day decided by EDC; and continue to be familiar with the IRI programme through regular participation in IRI programmes during the time of this pilot study as per norms pre-determined by EDC, Bangalore*.

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Such a school would typically have:

- Teacher/s trained in using the IRI equipment and educational intervention needed for students
- A Radio provided by EDC - needed for the IRI Programme
- Regular exposure to IRI lessons through IRI broadcast for both the IRI teacher and the select segment of students as determined by EDC, Bangalore
- Support and coordination by BRCs, CRCs and the EDC monitoring team and EDC Staff for the successful implementation of IRI Programme
- Provision of batteries, electrical power for using the Radio
- Provision of printed learning material/ lesson plans to support the IRI programme
- Provision of IRI equipment and learning material

IRI Time

IRI Time may be defined as *an observation made in an IRI School during the IRI broadcast.*

Post IRI Time

Post IRI Time may be defined as *an observation of a regular class made in an IRI School immediately after the IRI broadcast.*

Non IRI Time

Non IRI Time may be defined as *an observation of a regular class made in an IRI School on any other day other than an IRI broadcast day.*

A Typical Control School

A typical Control school may be defined *as a government run school which does not have IRI intervention in terms of teacher training and student exposure to the IRI programme in school during the time of this pilot study and has been declared as a Control School as per norms pre-determined by EDC, Bangalore.*

Such a school would typically have:

- No intervention of IRI programmes to the teacher and students during school hours
- Checks by EDC monitoring team to ensure the teacher nor the students are exposed to IRI programmes during school hours

PROCESS OF OBSERVATION

- Initially there were to be 3 Rounds of Observation that TTF had been instructed to carry out which eventually reduced to 2 Rounds. This was owing to paucity of time and impending final examinations. This was a decision taken by EDC, Bangalore after consultation with TTF.

- TTF selected evaluators for the evaluation of the IRI pilot study who had direct school teaching and/or experience in education development work and practitioners of new education approaches. These evaluators were taken through 2 training programs to provide an understanding to administer TALQ Scale for evaluation and in understanding the pedagogies involved in IRI instruction, child-centered learning. Follow-up review and

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training were done internally by TTF for evaluators post Round-I observation and pre Round-II observation of the IRI pilot study.

- Each Evaluator was given a minimum of 3 schools per visit, which normally included 2 IRI Schools and 1 Control School for observing the teachers and students for 3 consecutive days. This was possible in Round I. **In Round II since some of the IRI and Control Schools were dropped, the number of schools an Evaluator observed varied from a minimum of 2 to a maximum of 4 per visit**. However each school was observed as required, for a period of 3 consecutive days.

- The same teacher, whether IRI or Control was observed in Round I and Round II.

- During **Round I,** each Evaluator slipped in and observed one IRI lesson broadcast in each IRI School but did not score the observation. But during **Round II**, each evaluator observed at least one IRI lesson broadcast in each IRI School allotted per visit and used the TALQ Scale to score the observation.

- Each Evaluator observed Non-IRI classes in each IRI School which included one Post-IRI time and two Non-IRI time observation during both rounds.

- Therefore, **in Round I**, 3 observations were made and recorded using the TALQ Scale in an IRI School, which included **one Post-IRI** and **two Non-IRI**. During **Round II,** 4 observations were made and recorded using the TALQ Scale in an IRI School, which included **one IRI Time, one Post-IRI time and two Non-IRI time**.

- Each Evaluator observed **three** typical classes in a Control School and used the TALQ Scale to score the school during both Rounds of observation.

- The visit was made as unobtrusive as possible. There was minimum or no intervention by the TTF Evaluators.

- Subjects observed by Evaluators during IRI broadcast included:
    1. English
    2. All topics and subtopics for the broadcast of IRI lessons were according to the schedule pre-determined by EDC, Bangalore.

- Classes observed during IRI-Time in IRI Schools were Classes 1 and 2.

- Classes and subjects observed during post-IRI time in IRI Schools was teacher/s dependent ranging from Class 1 to Class 7.

- Classes and subjects observed in Control Schools was again teacher/s dependent ranging from Class 1 to Class 7.

- Each evaluator was required to collect the information using TALQ scale on the Daily Observation Sheet and Three Day Summary Sheet. Scoring for each category of pedagogy was given in reference to the TALQ scale.

- Besides, each evaluator for each round also provided Photographs of the school/classroom/teacher/students/class layout during observation; drawings of layout of classroom showing location of desk/chair, students – boys and girls – Blackboard and all learning resources; and any other relevant/interesting information

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PROCESS OF DATA COLLATION AND ANALYSIS

- On receipt of the Evaluators' Three Day Summary and other data collected by individual evaluators the data was collated. Each Evaluator's scores for one observation, two observation or three consecutive days of observation for an individual teacher/school was entered in an excel spreadsheet for each category and sub-category of pedagogy for each school/teacher.

- To bring the scores numerically on par with three observation scores, the individual scores were multiplied by 3 in case of one observation. In case of two observations, the score was divided by 2 and then multiplied by 3. Average score for each category of pedagogy for each school was taken for graphical representation purposes.

- To bring the scores of IRI time (one observation across 3 days), Post-IRI time (one observation across 3 days), Non-IRI time (2 observations across 2 days) numerically on par with Control School scores(3 observations across 3 days), the following processes were followed:

IRI Time Scores: One day IRI time scores were entered as is

- The One day score of IRI time was multiplied by 3 to arrive at the total three day scores to bring it numerically on par with Three Day Scores in Control Schools
- A sum of all the IRI scores(arrived at as above) was taken for each category of pedagogy in all the IRI schools of the region and an average score was calculated. This was to standardize the values across regions where the number of schools varied.

Post-IRI Time Scores: One day Post-IRI time scores were entered as is

- The One day score of Post-IRI time was multiplied by 3 to arrive at the total three day scores to bring it numerically on par with Three Day Scores
- An average of the total three-day Post-IRI scores was taken for each category of pedagogy depending on the number of IRI schools in each region.

Non-IRI Time Scores: Two day Non-IRI time scores were entered as is

- The Two-day score of Non-IRI time was divided by 2 to arrive at a one-day score, which in turn was multiplied by 3 to arrive at the total three-day scores to bring it numerically on par with Three Day Scores in Control Schools.
- An average of the total three-day Non-IRI scores was taken for each category of pedagogy depending on the number of IRI schools in each region.

Average scores were used for drawing graphs to compare Round I and Round II evaluation of IRI-Time, Post-IRI Time and Non-IRI Time observations in Chattisgarh. Though data was collected and collated for Control schools during both rounds of evaluation, it was not used for analysis purposes. This decision was in consensus with the decision made by EDC.

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RESULTS AND DISCUSSION

The results and discussion of the study are presented under the following headings:

1. Comparison of Round I and Round II

1.1 Comparison of Post-IRI and Non-IRI – Chattisgarh

1.2 Comparison of Post-IRI and Non-IRI – Abanpur

1.3 Comparison of Post-IRI and Non-IRI – Kanker

2. Round I

1.1 Comparison of Post-IRI and Non-IRI Time – Chattisgarh

1.2 Comparison of Post-IRI and Non-IRI Time – Region wise

3. **Round II**

1.1 Comparison of IRI-Time, Post-IRI and Non-IRI Time – Chattisgarh

1.2 Comparison of IRI-Time, Post-IRI and Non-IRI Time – Region wise

1.3 Comparison of IRI-Time, Post-IRI and Non-IRI Time – Abanpur

1.4 Comparison of IRI-Time, Post-IRI and Non-IRI Time – Kanker

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2 ROUNDS OF QUALITATIVE EVALUATION OF THE IMPACT OF IRI – CHATTISGARH

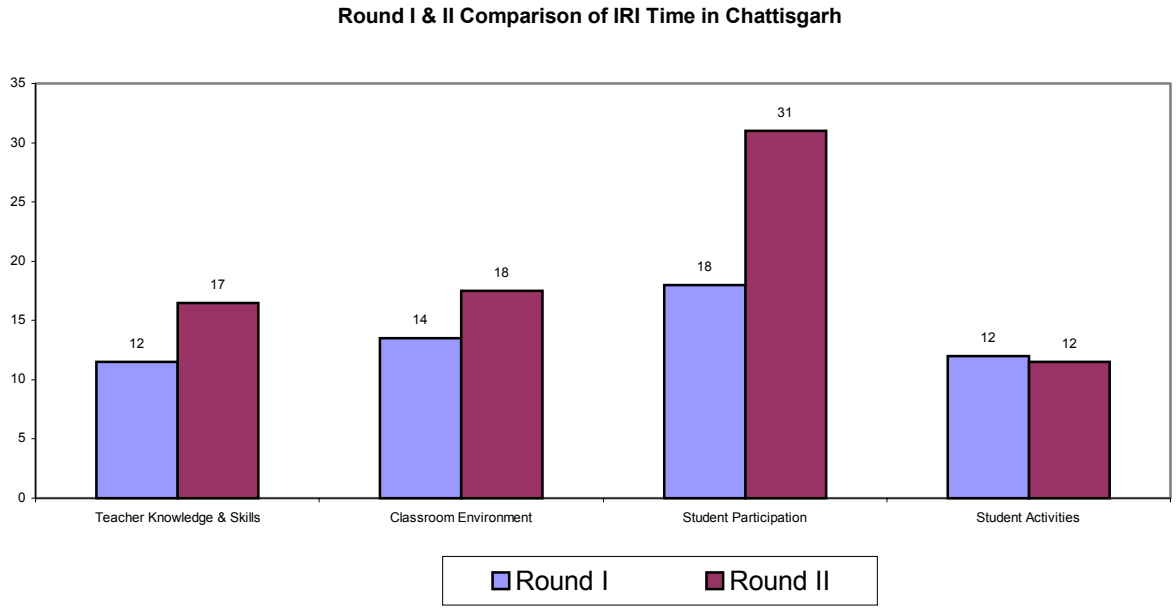

FIGURE 1

It is evident from the above Figure 1 that the three categories of pedagogy namely, Teacher Knowledge and Skills, Classroom Environment and Student Participation have shown improvement during Round II. Student Activities has not shown any difference between the two rounds of observation. The same information is presented with a break-up of Post-IRI and Non-IRI Time in Figure 2 during the two rounds.

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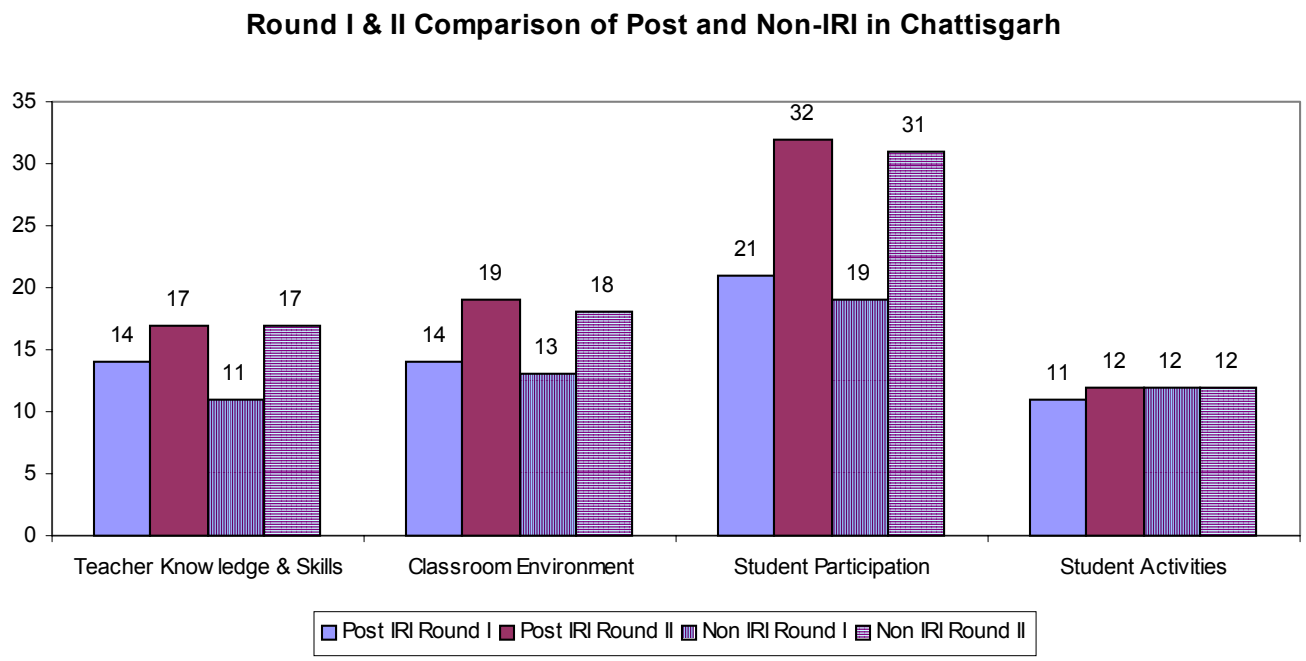

FIGURE 2

A Comparison of Observations done during Rounds I and II conveys that Teacher Knowledge, Classroom Environment and Student Participation have shown significant improvement in Round II. Student Activities showed marginal increase in scores during Post-IRI time and remained the same during Non-IRI time during both the rounds. The impact of the IRI programme is evident from the data as there is improvement in scores during Round-II.

The impact of IRI however seems to be maximum in enhancing Student Participation and lowest in enhancing Student Activities. The latter could be owing to the minimal planning of lessons that teachers do in their routine classes – hence resulting in the neglect of planning activities for students

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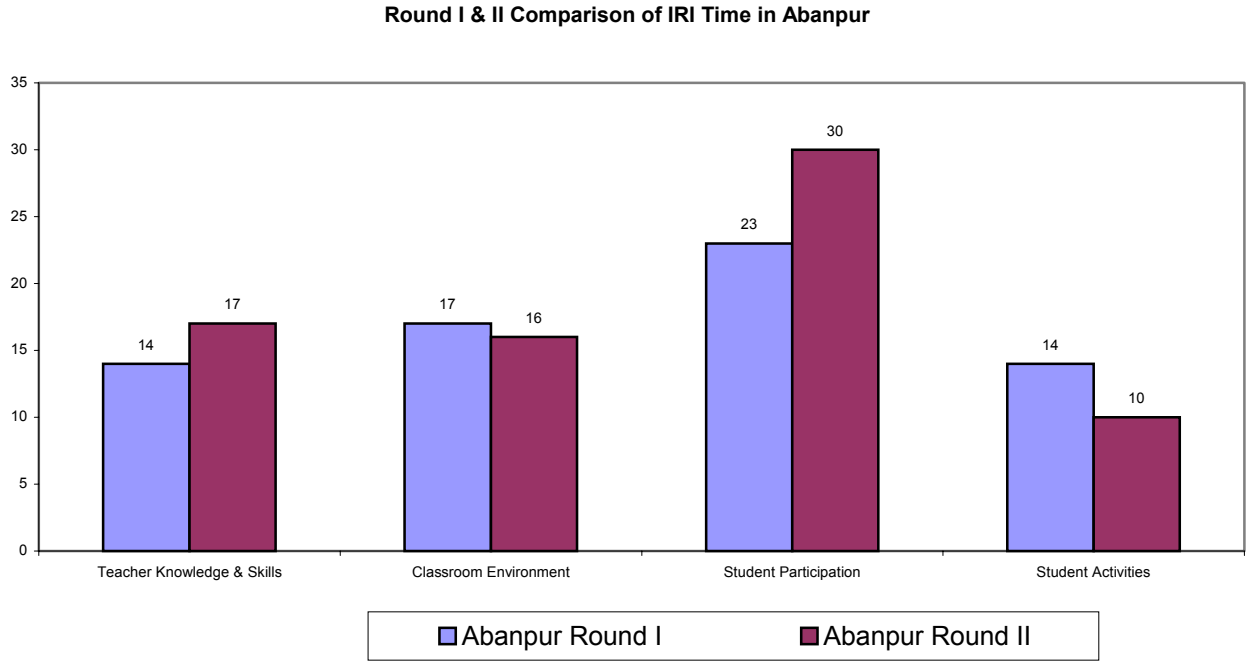

FIGURE 3

Figure 3 indicates the total IRI Time (Post-IRI +Non-IRI) in Abanpur. As indicated below, there is a mixed performance in the categories of pedagogy. Teacher knowledge and Skills and Student Participation showed improvement during Round II.

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Round I & II-Comparison of Post and Non IRI - Abanpur

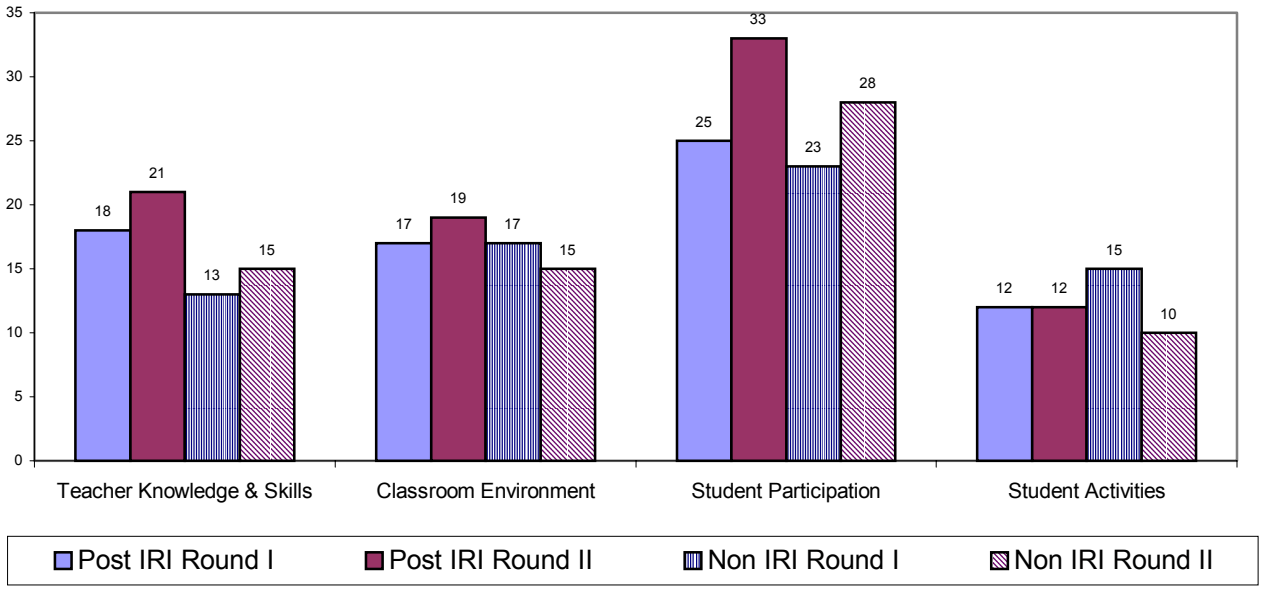

FIGURE 4

The data in Figure 4 conveys a mixed performance in Abanpur – there is indication of improvement, in some categories of pedagogy, during Round II – Teacher Knowledge and Student Participation. This is more evident in the Post IRI sessions, rather than in Non-IRI time. This could be on account of the 'wash over' effect of the IRI class in the Post-IRI session the teacher teaches. So while there seems to be an immediate impact of the IRI class in a post-IRI session, the innate lack of understanding and coherence on the part of the teacher (regarding IRI) is unlikely to ensure transfer of learning to Non-IRI time. It also highlights the critical role that teachers play in the overall learning of their students. Lack of understanding on the part of a teacher is likely to result in non-comprehension for her/his students.

It is also important to compare the obvious dissonance between Student Participation and Student Activities. The former has been rated very high, but the latter has been scored quite low in Round 1 and Round 2, post-IRI as well as Non-IRI time. The category 'Student Activities' calls for teachers planning their lessons – which most teachers don't do. So most of the time it's only during the IRI broadcast, that there is any planned activity.

Regarding Student Participation – this may not always be an indication of good practice on the part of the teacher. For instance, if there were any evidence of some kind of student involvement, the score for Student Participation would go up.

Student activities remained the same across both rounds in the Post-IRI sessions as this category calls for teachers planning their lessons, which most teachers don't do.

There is a slight decrease in scores in Classroom Environment and Student Activities in Non-IRI sessions during Round II – which is disappointing and could be teacher –specific.

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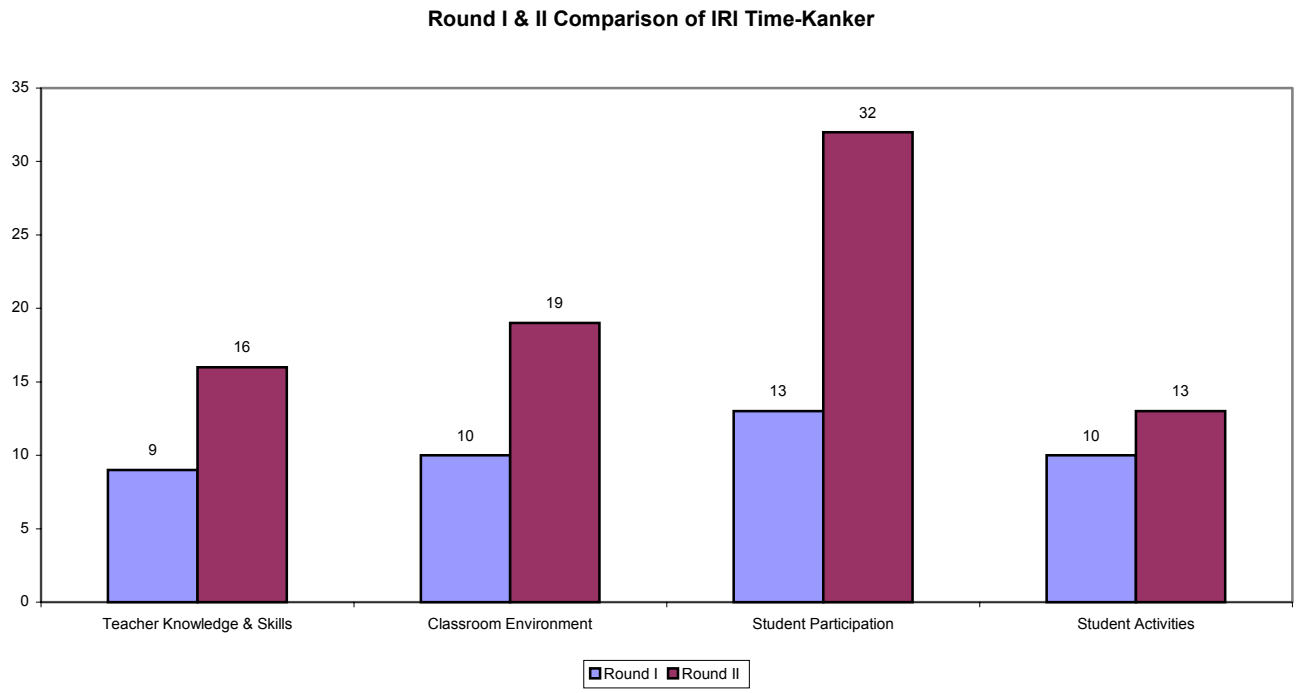

FIGURE 5

Figure 5 shows the total IRI Time in Kanker across two rounds of observation. During Round II all the categories of pedagogy have shown improvement. Significant improvement is seen in Teacher Knowledge and Skills, Student Participation and Classroom Environment.

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Round I & II-Comparison of Post and Non IRI - Kanker

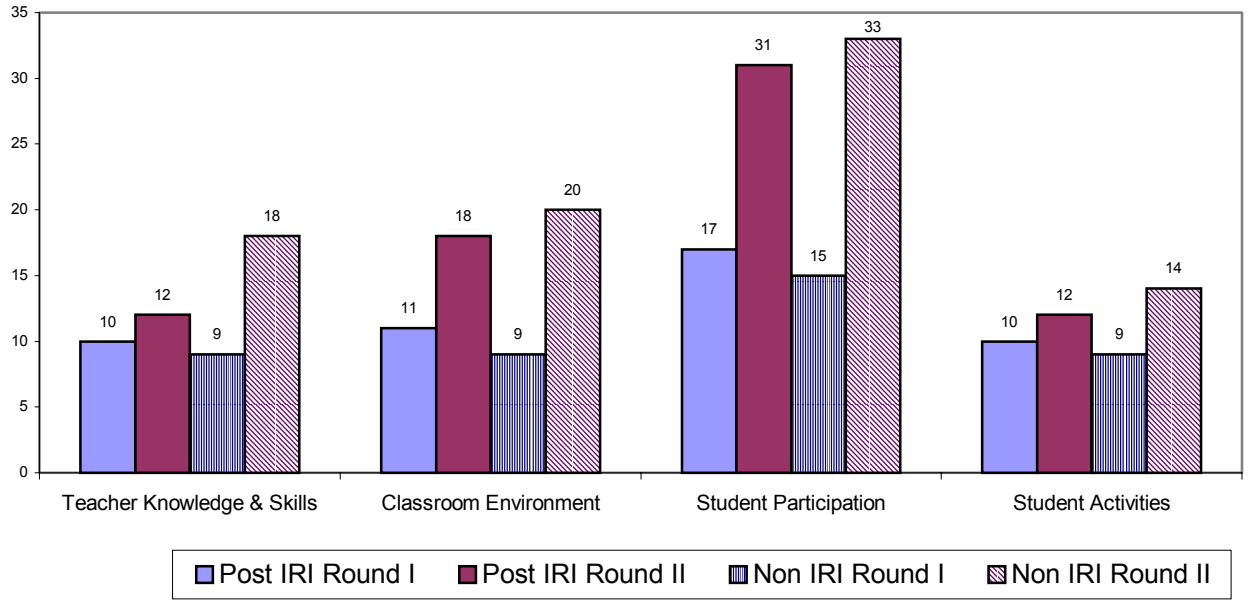

FIGURE 6

Essentially the pattern of change is similar to Abanpur – but the improvements in Round II are far more significant in Kanker, especially if one were to look at the data from the Non-IRI time. All the categories of pedagogy have shown improvement in Round II during Non-IRI Time.

The lower score in Post-IRI sessions as compared to the non-IRI time could be attributed to the fact that, during IRI time and Post-IRI time, the teacher is teaching a language he/she is quite unfamiliar. The teacher is struggling to cope with the language, him/herself. However in non-IRI time, these very same teachers are teaching subjects they are more fluent in and they are using ideas from the IRI broadcasts!

Figure 6 shows a huge difference in scores between Student Participation and Student Activities.

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SUMMARY

Round I and II

1. During Post-IRI, Teacher Knowledge, Classroom Environment and Student Participation have shown significant improvement in Round II. Student Activities showed marginal increase in scores during Post-IRI time and remained the same during Non-IRI time during both the rounds.

2. In Abanpur, Teacher Knowledge and Student Participation showed improvement in Round II in both Post-IRI and Non-IRI Time. Classroom Environment improved in Round II during Post-IRI Time but dropped during Non-IRI Time. Student activities remained the same in both the rounds during Post-IRI Time but reduced during Non-IRI Time.

3. In Kanker, there was improvement in all the categories of pedagogy in Round II. Increase in Student Participation and Classroom Environment was very significant during both Post-IRI and Non-IRI Time.

4. Overall, the **earliest and greatest impact** of the IRI program seems to be on **Student Participation** as is evident from the above results. This is because the IRI programs are designed to encourage higher Student Participation during the lesson. Even though the time interval between the two rounds of observation was a mere 2 months, the impact is quite evident. The impact on the other categories of pedagogy is not as much, since recording change in these categories would take a longer time and much more thought and intervention on the teacher's part. This is particularly relevant with regard to Teacher's Knowledge and Skills – the transfer of learning is less evident, because of IRI Program being in English, a language the teachers feel very inadequate with. If the IRI lessons had been in other subjects (which of course was not the purpose, in Chattisgarh), the improvement and impact of IRI on Teacher's Knowledge would have been far more significant.

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PERSONAL FEEDBACK - QUOTES FROM TTF EVALUATORS:

TTF evaluators have quoted some of the observations, which are presented as follows:

1. One TTF evaluator comments of one school in **Kanker** *"Students looked curious to know things but seemed to be suppressed or were not encouraged by the teachers. There is no culture in the classroom to ask, explore, and discuss learning. The teaching was teacher- and curriculum-centered and not child-centered, in general. There were no other resources, except students' capacity and ability to learn by observing the environment.".*

2. Commenting on one school in **Abanpur**, the evaluator says, *"When the teacher is also trying to listen to the instructions during the program, students cannot pay complete attention. So they get lost in their own world and for the teacher it becomes difficult to get their attention back quickly to do the instructed activities. In limited time the teacher is not able to complete the activity with the large number of students and neither can he get attention from all the students."*

3. Another evaluator's comment after observation of a school in **Kanker** was that there is *"A general air of 'busyness' but the learning looks aimless and without any clear goals and targets. This was a multi-grade situation and both the classes flitted from English to Hindi to Math, with no clear beginning for each, nor mention of purpose."*

4. As a TTF evaluator for **Abanpur** schools mentions, *" In the Post-IRI lesson on Raksha Bandhan, the teacher explained the content very well, giving examples"*

5. Another evaluator commenting on a Post-IRI lesson in **Abanpur** mentions, *" the teacher made a neat, colourful chart of the human body, he explained the parts using it and then asked the students to show the bones, muscles etc, from the chart and from their own body".*

6. Here's an evaluator's observation of an IRI class in Chattisgarh: "*Boys and girls just could not participate in the activity (making a paper ball) nor the interactive bit between boys and girls (boys jump 3 times, girls ask the boys "what are you doing" " we are jumping" and vice versa), owing to the teacher's non-comprehension*"

7. An evaluator comments after an observation in an IRI school in **Abanpur**, *" The students are willing to work/participate in classroom/school work such as cleaning rooms, laying durries, giving water to the guests."*

8. Another evaluator comments on an observation in an IRI School during Non-IRI time in **Kanker**, *" 4 boys naturally formed a circle and seemed to discuss – without the teacher asking them to."* This would also be viewed as positive participation – but there may not be curricular meaning….

9. As one TTF evaluator put it, *"Teacher is very knowledgeable about the materials and activities in Hindi and Maths, including many references from Students' personal experiences."* This was seen in a few IRI schools. So this would demonstrate a higher score during Non-IRI Time.

10. In some other IRI schools, however, the post-IRI lesson consisted of a played back session of the IRI broadcast. According to an evaluator, "*The teacher did not have a plan beyond the IRI class – and so he replayed the IRI lesson and carried on as best as he could. Nor did he have a clear plan before the IRI lesson.*"

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11. *"In the post IRI session the teacher went about the replayed lesson in a slightly haphazard manner – he used some aspects of IRI lesson replay and some were from memory of old lessons (this lacked coherence – so it is unlikely the children would have made a great deal of sense, apart from some disjointed words and sentences in English)"*

12. According to a TTF observer in **Kanker**, *"Teacher includes many references to students' personal experiences during Maths and Hindi lessons. But she never uses students' personal experiences to support instruction in English."*

13. One explanation for the big difference in **Kanker** too, between Student Participation, which has been scored high, and Student Activities could be as the TTF evaluator puts it *" The teacher talks or demonstrates an activity more than students talking or practising an activity. She does not distribute resources for students to use"*

14. As another evaluator in **Kanker** says about one school she observed, *" the students had lots of energy, and they were able to even say what day of the week it was, what month of the year etc."* Yet the same evaluator says this of another school, *"The kids were probably 7 or 8 years old. Low energy in class may be because there were very few in the class…. During the IRI class on the 1st day they7 sat very quietly while the teacher was tuning the radio (which happened through the class)*

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ANALYSIS OF DATA FROM THE INDIVIDUAL ROUNDS

ROUND I

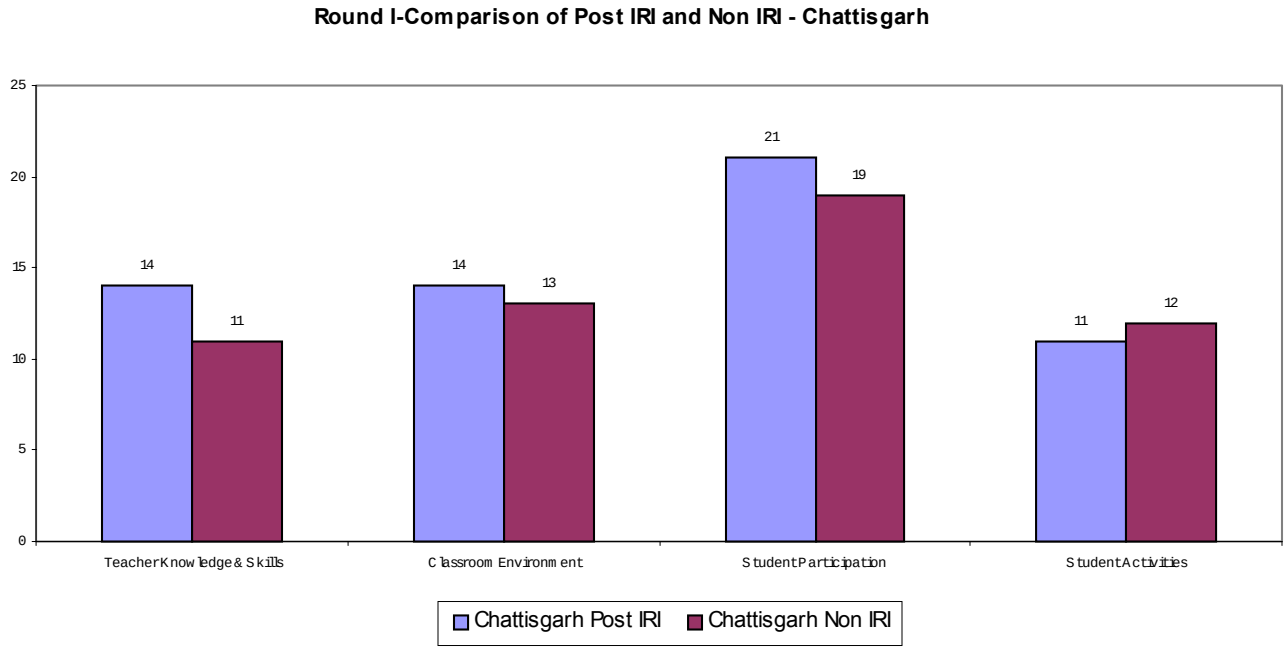

FIGURE 7

It is evident from the graph that Teacher Knowledge and Skills, Classroom Environment and Student Participation is slightly higher during Post-IRI when compared to Non-IRI time. Student Activities is slightly lower during Post-IRI time. The higher scores for Post-IRI time could be attributed to the fact that in some cases, the teachers had recorded the IRI lesson, for Post-IRI teaching. Besides, the influence of the IRI broadcast seems to have stayed on for the period immediately after. Student Activities – perhaps the resources required for the activities were not always sufficient for the Post-IRI session– hence the negligible dip in score. It could also be non-comprehension of the IRI student activities said in English, on the part of the teacher, since as mentioned earlier many teachers played back the recorded IRI broadcast, during the post-IRI Time.

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Round I-Comparison of Post and Non IRI Time in Chattisgarh - Region-wise

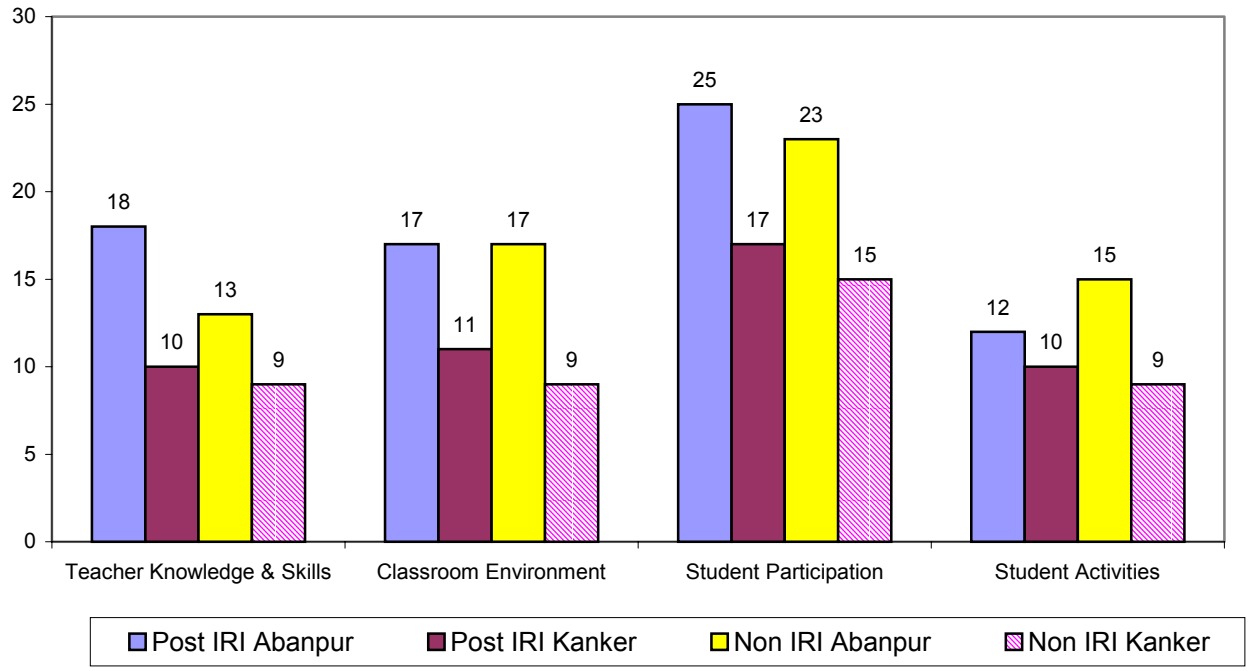

FIGURE 8

Figure 8 indicates the comparison of Post-IRI and Non-IRI Time in the two regions of Chattisgarh. Abanpur scored much better than Kanker during Post-IRI time in the categories of pedagogy - Teacher Knowledge and Skills and Student Participation and marginally better in Classroom Environment and Student Activities.

During Non-IRI time also Abanpur scored better than Kanker in all the categories of pedagogy.

One possible reason for the lower Post-IRI Time scores in Kanker could be because the schools in this region are far more rural and therefore the IRI broadcasts were not always very clear. Besides, the difference between Post-IRI and Non-IRI Time scores in Kanker is far less than the corresponding scores in Abanpur. Here again it could be because in this region students and their teachers have far less exposure than their more urban counterparts in Abanpur. It is also interesting that the lower scores recorded for Post-IRI Time Students Activities as against Non-IRI time in Chattisgarh, is owing to lower corresponding scores in the Abanpur region only.

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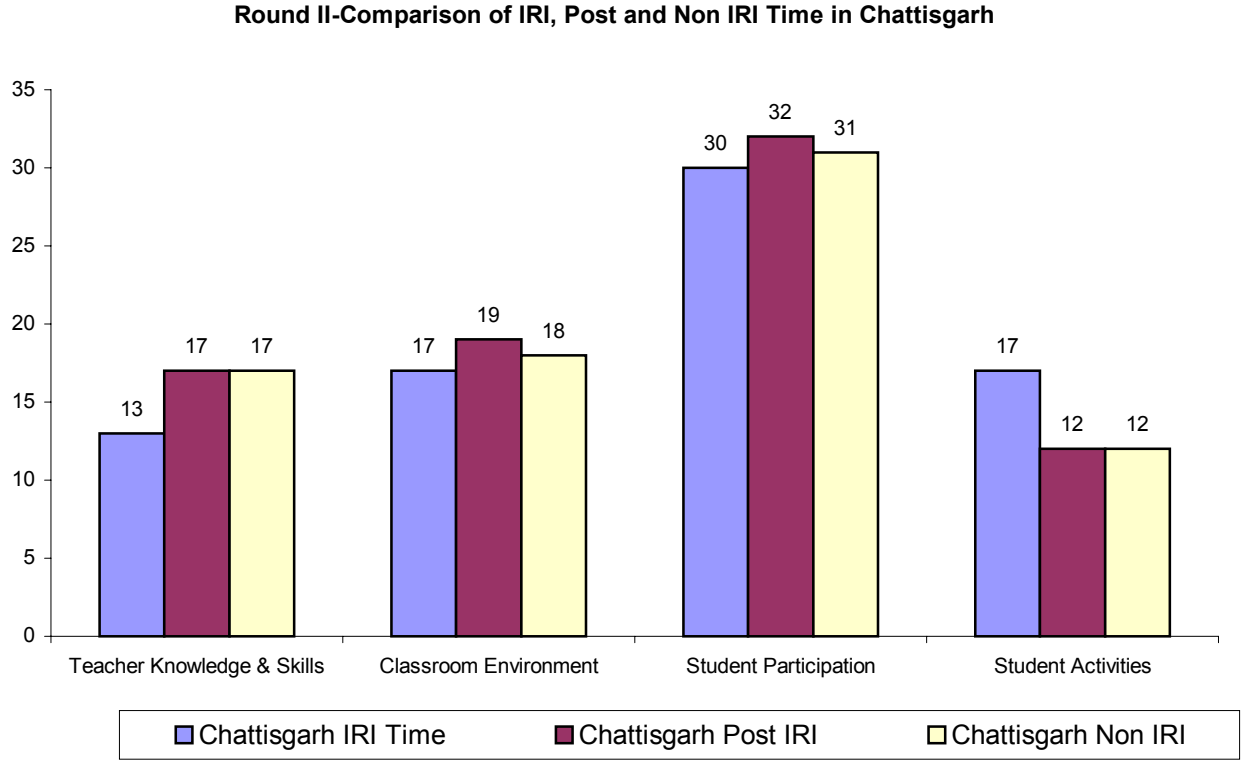

FIGURE 9

In Round II, an additional observation was made during the IRI broadcast that was observed and recorded using the TALQ scale. In this round, a comparison between IRI-Time, Post-IRI and Non-IRI was made.

It is interesting to note from Figure 6 that the student participation is significantly higher during IRI, Post-IRI and Non-IRI Time compared to other categories of pedagogy. Also from a high of **21** in Round I for Student Participation, Round II shows a rise in scores to a high **32** for Post-IRI Time. Student Activities was higher during IRI-Time. This is because the broadcast lessons have so many Activities built in to them. While Student Activities have not increased in scores from Round I for Non-IRI Time, it is evident that the teachers are genuinely attempting to get their students involved in the Activities during Post-IRI Time.

Post-IRI scores were slightly higher in classroom environment and student participation but the scores remained the same for teacher knowledge and skills, and student activities. The lower IRI-Time score for Teacher Knowledge was expected owing to the teachers' own deficiency in English.

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Round II-Comparison of IRI, Post and Non IRI Time in Chattisgarh-Region wise

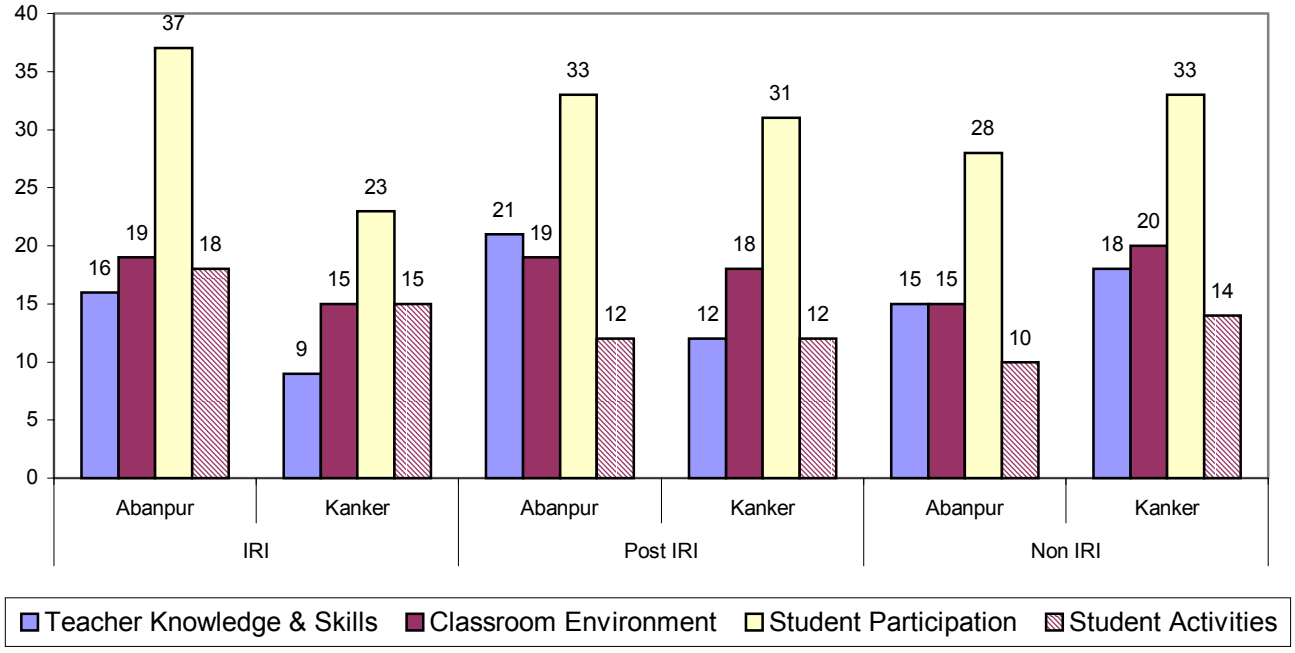

FIGURE 10

Figure 10 shows higher teacher knowledge and skills, classroom environment, student participation and student activities in Abanpur during IRI and Post-IRI but slightly lower during Non-IRI time in all categories of pedagogy. **This is unlike in Round I where Abanpur was high in all categories.**

Teacher knowledge was very low during IRI time in Kanker but considerably high during Non-IRI time. However, Teacher Knowledge and skills, classroom environment and student participation showed improvement from IRI time to Post-IRI to Non-IRI time in Kanker.

The consistent high scores during IRI, Post-IRI and Non-IRI Time for Student Participation in both the regions is indicative of significant improvement in classroom practice during the Round II observations. It is also not surprising that the IRI Time score (23) for Student Participation in Kanker is distinctly lower than their Non-IRI Time score (33) Again it is due to the essential inadequacy of the teacher and the students in English. Non-IRI classes could be dealing with other, more 'familiar' subjects for the teachers. But transfer of learning from IRI broadcasts is evidently happening to Non-IRI classes.

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Round II-Comparison of IRI, Post IRI and Non IRI - Abanpur

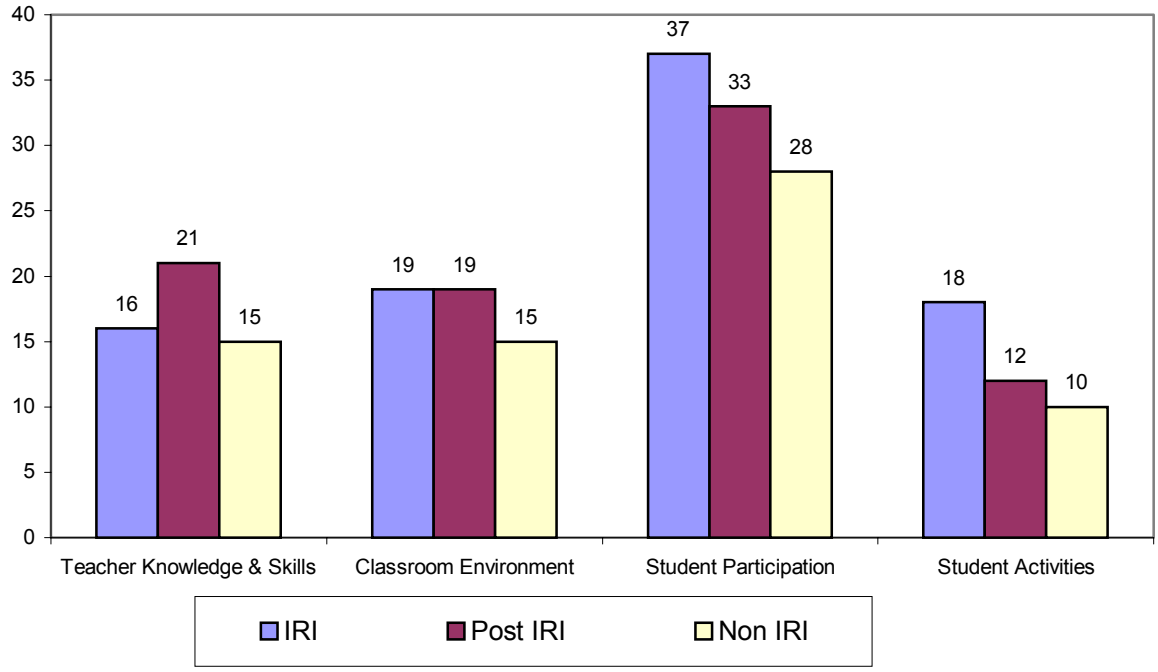

FIGURE 11

In Abanpur, student participation and student activities were high during IRI-Time when compared to Post-IRI and Non-IRI Time but teacher knowledge and skills was high during Post-IRI. Classroom environment was the same during IRI and Post-IRI. Student activities was very low during Non-IRI Time. Overall from the data presented it seems evident that the transfer of learning of IRI practices to Non-IRI classes too, is lower in Abanpur as compared to Kanker *(seen in the next page)*

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Round II-Comparison of IRI, Post and Non IRI - Kanker

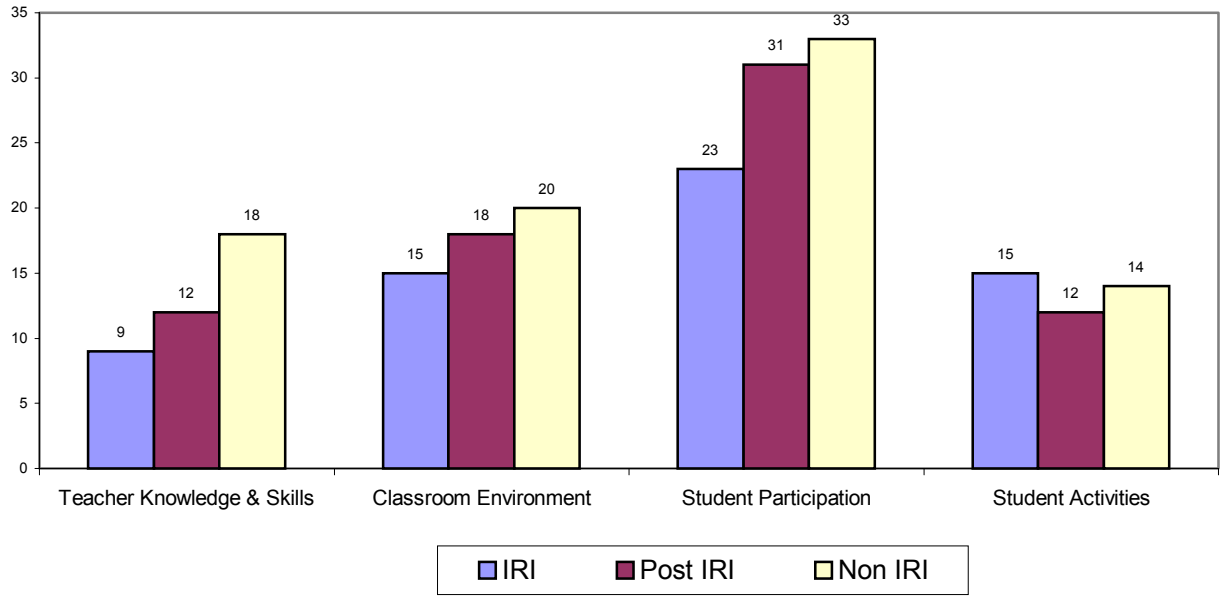

FIGURE 12

Figure 12 indicates an improvement in teacher knowledge and skills, classroom environment and student participation from IRI to Post-IRI to Non-IRI Time. Student activities was almost the same during IRI and Non-IRI Time and low during Post-IRI Time. However compared to Round I, there is a significant overall increase in the scores for Student Activities.

As mentioned earlier, the data demonstrates transfer of learning, in terms of improved classroom practice. The lower scores during IRI Time again can be attributed to the teachers' inadequate comprehension of English especially with regard to Teacher Knowledge and Skills.

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SOME SUGGESTIONS

1. The objectives and methodology of the lesson needs to be clearly defined in the beginning of every IRI lesson. Teachers in IRI schools are not as yet, aware of the importance of introducing and connecting goals and methods of lessons they were teaching. When this is done through IRI lessons, teachers will begin to implement such meaningful teaching practices while they are teaching.

2. Understanding English Language is a major barrier to IRI intervention in Chattisgarh. Lesson design of English lessons needs to address this. Lack of familiarity with the language will result in conceptual errors. For e.g. The teacher in GPS, Borgaon, Kanker misunderstood the word 'smell' to be 'smile' when the function of the body part, nose was introduced in the IRI English lesson. So while he pointed out to 'nose' and repeated the word 'nose' correctly, but when the word 'smell' was introduced, he said 'smile'. There are chances of students connecting the nose to smile!

3. If IRI has to make a long-term mark in acquiring English language skills, teachers must be equipped a little more with language skills themselves, besides the pedagogy of teaching English. The teacher is an important medium through whom the children acquire knowledge of English. Just IRI broadcasts alone in English don't seem to work, as far as the students are concerned.

4. IRI intervention must encourage teachers to enhance Classroom Environment. The lesson design must promote more use of tools by students. Also when the Radio teacher praises and uses an encouraging tone, IRI teachers will learn to practise being more openly appreciative of their students. Teachers can also be made aware of this through Training.

5. Most IRI teachers use songs and games but generally they are not connected to the lesson the teacher is delivering in class. Some teachers still believe that children learn only when they write continuously. Writing and drill work is the only way to ensure learning happens according to them.

6. Making teachers aware of the significance of IRI and introducing them to other ways of assessing students will help teachers use activities and group work as necessary elements of child-centred learning.

7. Many teachers have not understood the significance of song, movement and rhythm in contributing to the joy of learning and learning meaningfully.

8. Each IRI lesson could have an interesting worksheet, which the teacher can use for assessment, revision, recall or to reinforce a concept taught through the IRI broadcast. This would be most helpful in subjects such as Mathematics, English, Map Work, Science Experiments and so on.

9. Teachers in IRI Schools are using group activities, but there needs to be greater awareness and action by them to include all students in these activities. The brighter students generally get called on since the teacher is so particular about getting it right.

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SUMMARY

Round I

1. Teacher Knowledge, Classroom Environment and Student Participation was higher during Post-IRI Time when compared to Non-IRI Time in the State.

2. Abanpur scored much better than Kanker during Post-IRI time in the categories of pedagogy - Teacher Knowledge and Skills and Student Participation and slightly better in Classroom Environment and Student Activities.

3. Abanpur scores were better than Kanker during Non-IRI time in all the categories of pedagogy.

Round II

4. Student Participation is higher during IRI, Post-IRI and Non-IRI Time compared to other categories of pedagogy in the State. Only Student Activities was high during IRI-Time when compared to Post-IRI and Non-IRI Time.

5. Teacher Knowledge, Classroom Environment, Student Participation and Student Activities is high in Abanpur compared to Kanker during IRI and Post-IRI but slightly lower in all categories of pedagogy during Non-IRI time.

6. Teacher Knowledge, Classroom Environment and Student Participation showed improvement from IRI time to Post-IRI to Non-IRI time in Kanker in comparison to Abanpur.

7. Student Participation and Student Activities were high during IRI-Time when compared to Post-IRI and Non-IRI Time but Teacher Knowledge was high during Post-IRI in Abanpur.

8. Teacher Knowledge, Classroom Environment and Student Participation showed improvement from IRI to Post-IRI to Non-IRI Time in Kanker.

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ANNEXURE:

1. **Round I & II - Schedules**
2. **Round I - Raw Data**
3. **Round II – Raw Data**
4. **Round I – Graphs**
5. **Round II – Graphs**
6. **Round I & II – Graphs**
7. **Categories of Pedagogy**
8. **Daily Classroom Evaluation Instrument**
9. **Three Day Classroom Evaluation Form**

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