C H A P T E R II

STUDY OF THE TRANSMITTING END

2.0 INTRODUCTION

Presented below are the methodological details and outcomes regarding objective 1 which has been given in Chapter I. For convenience, it is stated here again.

To study the school broadcast programmes in terms of:

(a) instructional objectives,
(b) number of programmes broadcast,
(c) content coverage,
(d) script writing, and
(e) quality of the programmes.

This was framed to evaluate the planning of the programmes at the transmitting end and suggest appropriate inputs for its improvement. Data for this objective were collected from the official records of the A.I.R., Cuttack, and the experts involved in production of programmes. These data were qualitatively analysed to get a comprehensive picture of the planning of the programmes at the transmitting end.

2.1 INSTRUMENTATION

Data in respect of instructional objectives, number of programmes broadcast, content coverage and quality of the

programmes were to be collected from official records. So, no instrument was necessary. But for studying the details of script writing a questionnaire for the experts was designed by the investigator (Appendix III). The questionnaire had items on aspects like script writing, production of programmes and need of teachers' training on use of broadcasts.

Before developing the questionnaire, a visit was paid to the A.I.R., Cuttack and preliminary information regarding script writing and production of programmes was collected by meeting a few experts and some persons involved in the production of SBP. After identifying different components of script writing and production of SBP, a preliminary draft of the questionnaire was prepared and given to a few researchers and some experienced persons working in the A.I.R. for scrutiny. The questionnaire was revised on the basis of the comments received and finally printed and kept ready for try-out.

2.2 SAMPLE

As the All India Radio (A.I.R.), Cuttack is the only station which provides instruction for the secondary school students of Orissa in order to supplement the classroom instruction, the materials produced by them were taken for the study of this objective. The samples constituted were:

2.2.1 For Studying Instructional Objectives:

All the objectives on different subjects for different

grades stated in the pamphlets of SBP from 1975-76 to 1979-80 academic years.

2.2.2 For Investigating into the Number of Programmes Broadcast:

All the programme charts of SBP from 1975-76 to 1979-80 academic years.

2.2.3 For Assessing the Content Coverage:

(i) Programme chart of SBP for Grade-VII for the year 1978-79.

(ii) Scripts of the programmes broadcast in the 1st term of 1978-79 academic year for the students of Grade-VII.

(iii) Text books on English, Oriya, History, Geography, General Science and Sanskrit for Grade-VII effective in the year 1978-79.

(iv) Syllabus prescribed by the Board of Secondary Education, Orissa for Grade-VII for 1978-79.

2.2.4 For Studying the Procedure of Script Writing:

All the 70 experts registered by the A.I.R. during the year 1978-79 for the production of school broadcast programmes.

2.2.5 For Getting an Idea about the Quality of Programmes

Scripts and transcripts of all the programmes in

Oriya, History, Geography, and General Science produced by the A.I.R., Cuttack in the 1st term of 1978-79 academic year for the students of Grade-VII.

2.3 COLLECTION OF DATA

The sources of data to be collected in respect of sub-objectives (a), (b), (c) and (e) were purely documents and official records and so no instrument was needed for the collection of data. This is clear from the objectives and sample taken for the study. Thus, the data were collected by establishing rapport with the officials at the transmitting end by paying several visits to the A.I.R., Cuttack.

Permission was taken from the Director General, A.I.R., New Delhi, to conduct the study on the SBP of A.I.R.,Cuttack (Appendix I). Pamphlets, charts and other supporting materials were collected from the Producer of Educational Broadcast Programmes. The authorities were requested to make necessary arrangements for supplying the scripts and transcripts required for the study. A temporary pass, valid for one year, was issued by the authorities to the investigator for entry into the A.I.R. studios at Cuttack (Appendix II). As the materials were not allowed to be taken out of the campus, the scripts of the SBPs were copied in the Educational Broadcasts Unit of A.I.R., Cuttack. The transcripts of the programmes were collected by transferring them from the original tapes to cassettes with the help of the Librarian

and the Production Assistant. Procurement of scripts and transcripts was a continuous process for a period of six months beginning from July 1978.

The prescribed syllabus and textbooks were collected from the Board of Secondary Education, Orissa.

Questionnaire for the experts were given to all the 70 persons registered by the A.I.R., Cuttack, for production of programmes. As all of them were residing in the city of Cuttack and Bhubaneswar, the data were collected by meeting them at their residences or their working places. In all, 56 experts responded.

2.4 ANALYSIS AND INTERPRETATION

After collecting all the materials, data concerning the study of instructional objectives and number of programmes broadcast were tabulated separately in a systematic way. For assessing the content coverage, the contents of each programme were checked against the unit specified in the syllabus. Text books were also referred to in each case to know the actual amount of coverage in respect of each unit of the topics prescribed for study in the class. To get an idea about the quality of the programmes broadcast, items like mode of presentation, quality of voice, accent, style of language, clarity of speech, use of illustrations, logical sequence, clarification of concepts, validity of the content presented, sound effect, overall appreciability were selected by the

investigator in consultation with an expert of educational technology. These items were checked against the scripts and transcripts by going through them. They were analysed qualitatively according to the judgment of the investigator alone. The information from the experts collected through the questionnaire were subjected to analysis in terms of the percentage of responses. The findings of the study of this objective are reported below in different sub-headings taken for study.

2.4.1 Instructional Objectives of the SBP:

The objectives initially stated by the Director General, A.I.R. aim to "help teachers and students with updated information, new methods and techniques and angles of presentation which are not normally available to a school to reinforce classroom instruction, and also to provide enrichment and thus afford a new learning experience to the children". However, specific instructional objectives are spelt out at the transmitting end keeping in view the general objective stated above which comes as a directive to all the A.I.R. stations. Thus, the instructional objectives formulated by the A.I.R., Cuttack, in different years for different grades and subjects are shown in the Table 2.1.

Table 2.1(a)

Objectives of School Broadcast Programmes For Various Subjects - 1975-76 to 1979-80

Grade-V

Year	English	Oriya	History	Geography	General Science	Sanskrit
1975-76	1.Active participation with teacher 2.Correct pronunciation and language learning.	No programme	No programme	No programme	Not started	No programme
1976-77	No programme	Develop interest, curiosity, and inquisitiveness. Pleasure through new knowledge, right pronunciation, relate thought with language.	No programme	No programme	Developing curiosity, inquisitiveness and creation of scientific outlook.	No programme
1977-78	1.Exposing the students to good English 2.To support the effort of teachers which are unable to offer their pupils opportunities to learn English well. (Only for CIEFL's English programmes).	Same as 76-77	No programme	No programme	Same as 76-77	No programme
1978-79	Same as 77-78 (English by radio-CIEFL).	Same as 76-77	Development of general knowledge, speech style and quality of disciplined citizenship. (Social Studies).	No programme	Same as 76-77 + Identification with new inventions	No programme
1979-80	Widening and supplementing classroom teaching, enriching vocabulary, love for English, skill of writing and speaking correct English, understand English when written and spoken, good pronunciation, use of structure.	Same as 76-77	Social Studies 1.Teach geographical environment, social life, regional changes and their causes of occurrence. 2.Comparing geographical situations 3.Development of interest 4.Making ideas strong, clear and nice.		Same as 76-77	No programme

Table 2.1(b)

Objectives of School Broadcast Programmes for Various Subjects - 1975-76 to 1979-80

Grade-VI

Year	English	Oriya	History	Geography	General Science	Sanskrit
1975-76	No programme	Not started	No programme	Not started	No programme	No programme
1976-77	1.To teach structures 2.Develop ability to speak, to understand structure, correct pronunciation and comprehension.	No programme	No programme	No programme	Creation of scientific outlook, application of science to day to day life.	No programme
1977-78	Same as 1976-77 No.2	No programme	No programme	No programme	Same as 1976-77	No programme
1978-79	Same as Grade-V 1977-78 (English by radio, CIEFL)	Same as Grade-V 1976-77	No programme	No programme	Same as 1976-77	No programme
1979-80	Same as Grade-V 1979-80	Same as Grade-V 1976-77	Develop a sense of nationalism and national integration	No programme	Same as 1976-77	No programme

Table 2.1(c)

Objectives of School Broadcast Programmes for Various Subjects - 1975-76 to 1979-80

Grade-VII

Year	English	Oriya	History	Geography	General Science	Sanskrit
1975-76	Not stated clearly	Not stated	No programme	No programme	Not stated	No programme
1976-77	To develop the ability of understanding about what is read and what is listened. To help in expressing ideas with limited vocabulary. To develop the skill of correct writing.	No programme	No programme	No programme	To develop critical and scientific outlook, quality of good citizenship, and mental discipline. To relate science to real life situations.	No programme
1977-78	No programme	Develop literary thinking, comprehension, and expression within limited words. Develop skill of correct writing.	Same as Grade-VI 1979-80	To create interest in learning Geography through facts, concepts, laws, principles, along with regional changes and their causes of occurrance. Develop love for nation. Make concepts strong and clear.	Same as 1976-77	Not stated
1978-79	Widening and supplementing classroom teaching, develop skill writing and speaking correctly Help students understand English both written and spoken. Enrich vocabulary, improve pronunciation and improve the use of new words and phrases.	Same as 1977-78	Same as Grade-VI 1979-80	Same as 1977-78	Same as 1976-77	Not stated
1979-80	Same as Grade-V 1978-79 and 1979-80 CIEFL Programmes	Same as 1977-78	Same as Grade-VI 1979-80	Same as 1977-78	Same as 1976-77	Not stated

Table 2.1 (d)

Objectives of School Broadcast Programmes for Various Subjects - 1975-76 to 1979-80

Grade-VIII

Year	English	Oriya	History	Geography	General Science	Sanskrit
1975-76	Widening and supplementing classroom teaching. Correct pronunciation.	Enlarging knowledge horizon in respect of language and literature.	To discuss the role of glorious past for bringing unity and brotherhood.	To help students know the geography of the native country before knowing that of other countries.	To present the topic keeping relationship between the subjects of science and the experimental environment.	Not stated.
1976-77	Same as Grade-VII 1978-79	Not stated.	No programme.	Same as Grade-VII 1977-78	No programme.	Not stated.
1977-78	Same as Grade-V 1977-78 (English by Radio, CIEFL)	Relating thought with language. Developing interest, study habit, habit of correct writing, reading, expression, constructive thought, creativity and personality.	Study of historical characters, search for truth, cultural unity, tolerance, universal brotherhood and generosity.	Same as Grade-VII for 1977-78	To help students learn about the scientific facts, laws, actions, reactions, happenings, use of scientific instruments. Develop scientific thinking and curiosity.	No programme.
1978-79	Same as Grade-V 1977-78 (English by Radio, CIEFL)	Same as 1977-78	Same as 1977-78	Same as Grade-VII for 1977-78	Same as 1977-78	Not stated.
1979-80	Same as Grade-VII 1978-79 and Grade-V 1977-78 (English by Radio, CIEFL)	Same as 1977-78	Same as 1977-78	Same as Grade VII for 1977-78	Same as 1977-78	Not stated.

Table 2.1 (e)

Objectives of School Broadcast Programmes for Various Subjects - 1975-76 to 1979-80

Grade-IX

Year	English	Oriya	History	Geography	General Science	Sanskrit
1975-76	Not stated	Not stated	Not stated	Not stated	Not stated	Not stated
1976-77	No programme	Not stated	Developing tolerance, generosity and the quality of national integrity.	To teach the effect of nature and geographical nature of different countries with their socio-economic development and way of life.	To clarify misconceptions, develop scientific study, interest and the ability to search for truth.	Not stated.
1977-78	Same as Grade-VIII 1976-77	Relating thought and language. Developing imagination, curiosity, appreciation, inquisitiveness, interest and ability for literary discussions.	Same as 1976-77	Same as 1976-77	Same as 1976-77	Not stated.
1978-79	Same as Grade-VIII 1976-77 and Grade-V 1977-78 (English by Radio CIEFL).	Same as 1977-78	Same as 1976-77	Same As Grade-VIII 1976-77	Same as 1976-77	Not stated.
1979-80	Same as Grade-VIII 1979-80	Same as Grade-VII 1977-78	Same as Grade-VIII 1977-78	Same as Grade-VIII 1979-80	Same as 1976-77	Not stated.

The analysis of the table shows that in the academic year 1975-76 only the objectives for Grade V in respect of English and for Grade VIII concerning English, Oriya, History, Geography and General Science were stated. But from the academic year 1976-77 for majority of the subjects covered through the SBP, objectives were framed and in the later periods (from 1977-78) all the subjects except Sanskrit had specified objectives for different grades.

While looking at the statements of different objectives, it can be commented that the nature of these objectives is very general. This trend is seen from 1975-76 to 1979-80 without any change. These general objectives like development of the writing skills, creativity, qualities of good citizenship, etc. can be considered as the objectives of teaching different subjects in secondary school level as a whole, as it is described in different committee and commission reports. Although the statement of the general objectives is found to differ according to the nature of the subjects, it remains the same for the same subject for different grades. However, these general objectives formed for SBP in fact cannot be different from those for any other educational situation irrespective of the method or media used. But so far as the use of different methods and media is concerned, emphasis is to be given on different types of specific objectives with relation to different grades, subjects, contents, etc.; so that organized efforts can be made for the achievement

of those specific objectives through suitable means in different situations. If teaching through radio is to be understood as one of the media of teaching, the importance of its use in different situations can be visualized only with relation to some types of specific objectives of instruction. For example, looking towards the limitations of the medium, a specific objective like development of the quality of appreciation of a poem or the essence of a prose piece can be made possible through the radio instruction. On the other hand, an objective like developing writing skills cannot be achieved because of the one way communication nature of the medium. Further, the statement of such specific objectives with reference to the content and the nature of the students make it easier to select and use various activities through the radio programmes in different situations.

As it is observed that the objectives of the instructional programmes through radio are not presented in specific forms, it can create some decision making problems in connection with the adjustment of the SBP with general teaching programmes conducted in schools. For instance, the statement of an objective like development of correct writing says little about the role of teaching through radio because such a general objective requires the use of other media. In such a situation, the role of this medium is very limited or its use may not be relevant. Even if there is a need of radio teaching, as a supplementary medium, it is very difficult to say to what

extent it is useful for the achievement of such a general objective. The case of other general objectives like development of the qualities of good citizenship, creativity, etc. will create similar problems in teaching through radio programmes. Hence, to decide about the appropriate use of broadcast programmes, immediate need arises for mentioning specific objectives of teaching in relation to the subject, its contents, students' background, etc. Emphasizing the maximum development of such objectives, attention should be paid towards identification and use of effective activities through radio programmes from time to time.

Keeping in mind the role of SBP to supplement the classroom instruction, efforts are to be made to study the gaps found in school teaching programmes for attainment of instructional objectives which can be considered as the basis of organizing specific objectives with reference to the contents of different subjects. Analysis of these instructional objectives, to be developed through radio programmes can be done with reference to some important content units taken from the text books of the respective classes. In this regard, a panel of school teachers should be formed at the transmitting end, who can frame instructional objectives of the SBPs in advance. The training of teachers for this purpose has to be emphasized.

Table 2.2

Number of Programmes Broadcast

	1975-76 Grades						1976-77 Grades						1977-78 Grades						1978-79 Grades						1979-80 Grades					
	V	VI	VII	VIII	IX	Total	V	VI	VII	VIII	IX	Total	V	VI	VII	VIII	IX	Total	V	VI	VII	VIII	IX	Total	V	VI	VII	VIII	IX	Total
1.English	11	-	9	12	10	42 (34.42)	-	19	21	17	-	57 (39.31)	-	19	-	-	11	30 (16.12)	-	-	8	-	6	14 (5.85)	13	9	6	5	5	38 (15.4)
2.English by Radio (CLEFL)	-	-	-	-	-	-	-	-	-	-	-	-	28	-	-	30	-	58 (31.18)	32	30	-	25	27	114 (47.69)	-	-	25	25	25	75 (30.04)
3.General Science	5	-	9	5	5	24 (19.67)	10	10	9	-	9	38 (26.20)	10	12	10	7	8	47 (18.81)	7	6	9	6	5	33 (13.80)	6	7	5	4	4	26 (10.52)
4.Oriya	-	6	6	5	7	24 (19.67)	14	-	-	3	3	20 (13.79)	14	-	7	5	4	30 (16.12)	8	13	7	5	6	39 (16.31)	18	17	6	6	5	52 (21.05)
5.History	-	-	-	4	4	8 (6.51)	-	-	-	-	10	10 (5.39)	-	-	8	6	6	20 (10.75)	-	-	8	6	6	20 (8.36)	-	18	5	6	6	35 (14.13)
6.Geography	-	6	-	8	6	20 (16.39)	-	-	-	10	10	20 (13.79)	-	-	12	4	6	22 (5.37)	-	-	7	6	-	13 (5.43)	-	-	3	4	4	11 (4.43)
7.Sanskrit	-	-	-	1	3	4 (3.27)	-	-	-	-	-	-	-	-	1	-	2	3 (1.61)	-	-	2	2	2	6 (2.51)	-	-	1	2	2	5 (2.0)
8.Social Studies	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	4	5	-	-	-	-	5 (2.0)
9.Quiz	-	-	-	-	-	-	-	-	-	1	2	3	3	3	-	-	-	6	1	-	-	-	-	1	-	-	-	-	-	-
10.Debate	-	-	-	-	-	-	-	-	-	2	2	4	1	2	-	-	-	3	2	-	-	-	-	2	-	-	-	-	-	-
11.Game	-	-	-	-	-	-	2	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	16	12	24	35	35	122	26	29	30	33	36	154	56	36	38	52	37	219	54	49	41	50	52	246	42	51	51	52	51	247

(Figures in brackets indicate percentage in terms of total number of programmes in the same year).

2.4.2 Number of Programmes Broadcast

This has been studied by taking into consideration the number of programmes broadcast in respect of different subjects and grades in a period of five years beginning from 1975-76. They were collected from the charts of the SBP, which are sent to schools every year at the beginning of the academic session. The information in respect of the number of programmes which were arranged in a tabular form (Table 2.2) gives a comprehensive picture of the whole system.

Observing the table, it was found that :

- the number of programmes broadcast for any particular grade over an academic year was quite inadequate to cover the syllabus.
- no planned approach has been made to select the number of programmes for different grades to be broadcast every year.
- the number of programmes for different grades has been found to have increased at varying rates during the period 1975-76 to 1979-80.
- subjects like Mathematics, Physiology & Hygiene, Agricultural Sciences, etc. were totally neglected.

- programmes for Grade X did not have any provision in the system.

- more emphasis has been given to English which occupies 34, 39, 47, 54 and 45 per cent of the total number of broadcasts through the academic years 1975-76, 76-77, 77-78, 78-79 and 79-80 respectively.

- programme availability was on the increase in subsequent years during the period 1975-80.

- in the years 1975-76 to 1977-78, General Science programmes were given more emphasis next to English but in recent years it has been replaced by Oriya programmes.

- the non-syllabus based English by radio programmes prepared by the CIEFL, Hyderabad, has been given more emphasis in comparison to other syllabus based programmes in recent years.

- the programmes were also broadcast at a time which is the usual time for examinations and evaluation of answer papers.

- the repeat programmes broadcast on Sundays did not have place on the charts.

With reference to the general objectives of SBP, emphasis is to be given to the development of the school teaching programme as a whole instead of a few subjects as highlighted by the SBP at present. If this be so, analysis of the needs of SBP for different subjects referring to the nature of the content can help to see the scope of the broadcast programmes for all subjects throughout the school stage. The school syllabus may remain unchanged for a few academic years but due to the limitations of the resources at the transmitting end, particularly, availability of sufficient broadcasting time and number of programmes, it may not be possible to cover all units prescribed in the syllabus for all the grades every year. For overcoming this problem, the programmes broadcast in a particular year should be stored and in subsequent years relevant changes can be made for teaching different topics considering their importance. The number of programmes to be broadcast for different subjects can be decided according to the broadcast teaching needs of the receiving end. With the facilities available at the transmitting end, these stored programmes may be made available to the schools through cassettes. According to the need, the schools can utilize these programmes in addition to the regular broadcasts. Sometimes, in addition to the programmes of school teaching activities, some non-syllabus based programmes like "English by Radio" by CIEFL, Hyderabad, which are broadcast at present should be considered on a secondary basis giving prior importance

to organized curricular activities . Hence, looking towards the proportional adjustment of different subjects in school syllabus for different grades, these non-syllabus based English by radio programmes have to be organized in a systematic order. Continuous efforts for studying the broadcast teaching needs, as stated earlier, will help to look towards the appropriate use of different programmes for subjects under both syllabus and non-syllabus based programmes, where pivotal roles can be played at the planning level.

2.4.3 Content Coverage

Here an attempt has been made to see the amount of content covered by the SBP in respect of the syllabus units prescribed by the Secondary Board. Keeping in view the strategies to be developed on the programmes of Grade VII, the investigator selected those programmes to study this aspect. Hence, all the programmes of Grade VII broadcast in the academic year 1978-79 were analysed in order to measure the content coverage. Special attention was given to study the programmes broadcast in the first term of the academic year 1978-79 for which both the scripts and the transcripts were collected. The contents of the scripts were checked against the contents of the text book units as prescribed by the syllabus. The coverage in respect of different subjects were studied by the judgment of the investigator.

2.4.3.1 Content Covered by General Science Programmes

Twentytwo units have been prescribed in the syllabus in the text book for Grade VII which carries 100 marks for the examinations. Nine programmes were included in the SBP which represent all the General Science units for the academic year 1978-79. Branchwise break-up of the number of programmes are given in the Table 2.3 which shows the coverage against the units prescribed.

Table 2.3

Content Coverages of General Science Programmes

Branch of Science	No. of Units in the Text Book	No. of Programmes Broadcast	Approx. Percentage of coverage
Botany	7	3	20
Zoology	3	2	67
Physics	4	1	50
Chemistry	4	1	25
Astronomy	4	2	13
Total	22	9	* 35 (Content coverage)

* Percentage is in respect of the actual amount of contents (teaching points) through the programmes, not in terms of number of programmes.

The content coverages studied in respect of the individual programmes are given below :

"PHULARU PHALA" (Fruit from Flower) covers about 15 per cent of the unit 6 in the text book. Important aspects like structure of different types of fruits and flowers are neglected. Stress has been given on fertilisation process which is difficult to understand in the absence of visuals and is usually taught in higher classes. This aspect of the programme has neither been prescribed in the syllabus nor has a place in the text book meant for Grade VII. The broadcast also preceded the classroom teaching instead of following it. Seven minutes time given for the song could have been cut down to discuss more of the content of the topic.

"DHANA CHASA" (Paddy Cultivation) covers about 20 per cent of the unit-7 in the text book. All the important aspects of the portion prescribed by the syllabus was taken care of. A divergence has been made in selecting a person who is the Dean of the Faculty of the local Agricultural University, whom the A.I.R. authorities thought to have better knowledge in comparison to the usual experts.

"NAKSHYATRA MANDALA" (Constellation) covers about 40 per cent of the unit-19 in the text book. Important aspects like different layers of Sun have been left out. Usually, this topic

is taken for study in the 2nd term of the academic year but the programme is broadcast in the 1st term. It is a point to note that team teaching approach has been introduced which is a novelty in the broadcast programme. All the twenty minutes time available has been utilized in discussing the contents of the topic.

"MANISARA BHABISYATA BASASTHANA CHANDRA" (Moon, the Future Residence of Man): This programme, leaving aside the curricular aspects like phases of moon, lunar and solar eclipse etc. has stressed upon man's landing on the moon and his future plans for making moon as his residence. It covers only about 10 per cent of the unit-20 in the syllabus.

"MANUSYA KANKALA O TAHARA SANCHALANA" (Human Skeleton and Its Movement): covers all aspects of unit-10. Stress on the movement aspect of the skeleton is found to be absent. Attempt has been made to develop scientific outlook of the students by bringing dramatised inserts.

"ANU JAGAT" (World of Micro-Organisms) covers the entire unit-3. The programme is broadcast in the second term of the academic year. This is generally taught in the beginning of an academic year.

"MOULIKA O JOUGIKA PADARTHA" (Elements and Compounds) covers the whole of unit-11. This is also a topic broadcast in

the second term which is generally taught in the first term of an academic year.

"MAPA PRANALI" (Measurement Process): This programme covers two units viz. units 16 and 17 - a practice not ordinarily observed in other programmes. Elements of measurement process which have got direct bearing in the day to day life are also included.

"JIBA JAGATA" (Living World) covers the whole of unit-8 prescribed in the text book.

It is observed that out of twentytwo syllabus units available, five units are given 100 per cent, one unit 40 per cent, one unit 25 per cent and two units 15 per cent or less coverage. The rest thirteen units were not taken into consideration at all. Taking together the coverage amounts to around 35 per cent of the total syllabus units. It is also observed that one science programme follows another after a gap of 15 to 45 days.

All the programmes studied above are under four different headings given in the SBP pamphlet to schools. They are : Ame O Ama Sarira (We and Our Body), Jiba Jagat (Living World), Janiba Katha (Things to be known), and Nua Duniya (New World). No relationship has been found in between these captions and the contents of the broadcast.

2.4.3.2 Contents Covered by Geography Programmes

For nine units prescribed by the syllabus in the text book for fifty marks of examinations, seven programmes were included for the whole academic year.

"PRAKRUTIRA CHIDIA KHANA" (Nature's Zoo): This programme covers about 20 per cent of one of the eight sub-units of unit-8. Approximately 2.5 per cent of this unit is covered by the programme broadcast. Birds and animals of Africa have been highlighted through this programme. Although the topic comes in the middle of the text book, it is taken as the first programme in the Geography series.

"KETOTI PRADHAN SILPA" (Some Important Industries) covers about 50 per cent of unit-5. Important aspects like chemical industries, oil industries, mineral industries, paper industries, etc. are not touched at all.

"PRUTHIVIRA JANA BAHULA O JANA BIRALA ANCHALA" (Thickly and Thinly Populated Areas of the World) covers the whole of unit-6. Main stress has been given to thickly populated areas although in the text book equal importance has been given to both.

"KRISHNA HIRAKA" (Black Diamond) does not show the coverage of any unit in the text book. This programme succeeds in giving additional information both to the teachers and students, which is not ordinarily available in the text book.

"SAMUDRA VITARE BAGICHA" (Garden in the Sea): There is no such topic in the syllabus. However, it slightly touches unit-8.

"PINE BANARA DESHA" (Land of Pines): The caption does not specify the topic. It seems it refers to Canada and South of the Tundras where about 10 per cent of the content is covered.

"AMA PAIN TUME O TUMA PAIN AME" (You and We for Each Other) covers the whole of unit-9.

Out of nine units available in the prescribed text book, two units are given full coverage, one unit 50 per cent coverage and one unit 10 per cent coverage. The rest five units are totally neglected. The percentage of coverage is around 29. One programme succeeds another after a gap of one month to two and a half months.

The programmes broadcast in Geography were under the headings of 'Life and Career', 'Nature and Society', 'Our Wealth' and 'One Flower With Many Fragrance'. Nothing meaningful with respect to broadcasts on Geography is found to be present in the title of these headings.

2.4.3.3 Content Covered by History Programmes

There are twenty-two units having sub-units varying from one to four in the text book meant for fifty marks in examinations. Eight broadcast programmes were provided in the whole year in respect of History.

"SHIKARI KRUSHAKA HELA" (Hunter Turned Into Farmer) covers the entire unit-1 which throws light on the paleolithic and neolithic age. Programme has been broadcast at a time very much suitable for classroom instruction for the particular topic.

"AMA NADI KULARA ADI SAVYATA" (Early Civilization of Our River Banks) covers the whole of unit-4. It describes the civilization prevailed in Harappa and Mohen-jo-daro. A linkage is found to exist with the previous programmes.

"EUROPIYA SAVYATARA ADI PEETHA" (Original Base of European Civilization) covers the entire unit-12. This programme highlights the eaflier civilization in Athens and Sparta. A linkage with the previous programme is observed.

"BIGYANARA PUNARJAGARANARA PATHA PRADARSHAKA - COPERNICUS, NEWTON, GALILEO AND HARVEY" (Re-emergence of Science - Copernicus Newton, Galileo and Harvey): This programme covers the whole content of unit-16. No linkage is found to have existed in any of the earlier programmes.

"PASCHIMA EUROPARE GYANARA PUNARJAGARANA" (Renaissance in the Western Europe) covers the entire unit-17.

"ROOSH BIPLAVA" (Russian Revolution) takes care of about 50 per cent of the contents given in unit-21.

"GANATANTRARA PRATISTHA" (Establishment of Democracy) and MANAVA SEVARE PRUTHIVI PANCHAYAT (World Panchayat in the Service of Man) gives the coverage to unit-22. This is a unique situation where more than one programme is given to one unit.

Out of the twentytwo units in the text book, six units are given full coverage and one has been covered 50 per cent. The remaining 15 units are not touched at all. The total content coverage of History is around 30 per cent. Also it is observed that there is no systematization of presentation from unit point of view. Sudden skip overs are noticed. More emphasis has been given to the units which are towards the end of the syllabus. One history programme succeeds another after a gap of one to three months. The captions given to the headings in the pamphlet such as, 'Sadhana O Sidhi', 'Ame O Amara Adhikara', 'Sangha O Sanghati' and 'Jibana O Jibika', are sometimes misleading.

2.4.3.4 Content Covered by Oriya Programmes

Thirtyeight units are available in the text books of Prose, Poetry and non-detailed study (NDS), which carry 55 marks for the examinations. To cover these units only seven broadcast programmes were introduced. Branchwise break-up of the number of programmes is given in Table 2.4 which shows the approximate coverage.

Table 2.4

Content Coverages of Oriya Programmes

Branches	Units Available	Number of Broadcasts	Coverage in Percentage
Prose	14	3	21
Poetry	14	3	21
N.D.S. (Non-Detailed Study)	10	1	10
Total	38	7	* 18

* In terms of actual amount of content through the programmes, not in terms of number of programmes.

All the seven programmes cover seven units of the syllabus giving 100 per cent coverage to each unit. The rest twentysix units are not touched at all. In the first term of the academic year all the programmes broadcast were on Prose and Non-Detailed Study. Similarly, the programmes broadcast in the second term were Poetry only. Grammar, essay, letter writing, etc. were totally neglected. Content coverage concerning each of the Oriya programme broadcast taken for the study is given below.

SATYARA PUJARI ACHARYA HARIHAR covers 100 per cent of the unit prescribed in the prose text book. This topic is generally taught towards the end of the academic session. But surprisingly it has been taken as the first programme of school broadcasts for Grade VII.

PARIBARTANA: A full unit of the prose text is covered

through this programme. Like the previous one, this programme was broadcast before its teaching in the regular classroom.

BAGALA BAGULI also covers the content of a full unit of non-detailed study. This was the only topic taken for broadcast from ten other units available in the text book.

GEORGE BERNARD SHAW: Through this programme, the complete life history of Bernard Shaw has been discussed. All important aspects of Shaw's life given in the text book have been covered. This shows that the unit in the text book has been given 100 per cent coverage. The broadcast of the programme was not synchronized with the day to day teaching programmes in the schools.

MATIRA MANISHA, UDDAM SINGH AND GRAMAPATHA are the three poetry lessons taken for broadcast in the second term of the academic year 1977-78. Although all these topics give 100 per cent coverage to each of the topic prescribed in the Oriya text book, lack of synchronization of these topics with the teaching scheme is found to exist in respect of all these three poetry lessons.

The caption headings in the pamphlet such as "SANGRAMA O SANKETA", "GALPA O GALPIKA" and "PALLI BICHITRA" did not provide any meaning in relation to the topic of broadcast.

2.4.3.5 Contents Covered by Sanskrit Programmes

In the text book prescribed, there are twentytwo units

in Prose and five units in Poetry for study in the whole academic year. Two programmes taken for SBP do not appear to be sufficient for covering a considerable amount of content. Besides, the language used for the broadcast being Sanskrit, may not help the students understand as in the classroom they are taught the subject in the regional language.

2.4.3.6 Contents Covered by English Programmes

English has a larger share in the curriculum for which 200 marks are provided in the examinations. It has aspects like prose, poetry, grammar, translation, precis, essay, letter writing, etc. It is observed that only English prose has been included in the SBP for Grade VII leaving aside the other important aspects. The programmes taken were 'GOOD MANNERS', 'THE MAGIC POOL', 'SIR RONALD ROSS AND MALARIA', 'THE SLEEPING PRINCESS' (two programmes), 'MAHATMA GANDHI', 'NEWSPAPER' and 'A LETTER'. All the eight programmes give full coverage to seven units of the prose text. But the dates of broadcast of these programmes do not synchronise with the regular classroom schedule. Although twelve and ten pieces are available in respect of prose and poetry respectively, all the eight programmes taken are on prose only. This shows 66 per cent coverage in respect of prose, and only about 8 per cent coverage in respect of the whole subject. Like other subjects, no caption to the programme heading is assigned to the lessons of English.

Content coverages in respect of different subjects taken for SBP for Grade VII in the session 1978-79 is shown in the following table.

Table 2.5

Content Coverages on Different Subjects

Subjects	No.of Programmes	Pergentage of Content Coverages
History	8	30
Geography	7	29
General Science	9	35
Oriya*	7	18
English*	8	8
Sanskrit*	2	7

* Except Grammar, Essay, Translation and Re-translation units.

The above table shows that organized effort has not been made to give wide coverage to the syllabus units. It is surprising to note that History and Geography which carry only 50 marks each for the examinations, come next to General Science in the table. Important subjects like English and Oriya where more radio-genic topics are available, have not been given due importance. Full justice is not given to the aspect of content coverage. This may be due to non-availability of broadcasting time. In this case need for provision of more time of broadcasting is felt.

The above descriptions prompt the investigator to comment that till now no effort has been made to systematise

the SBP with respect to contents of different subjects. From this analysis, it has been observed, many programmes of school broadcasts cover the contents of the topic which seem to be very common in nature. The role of such programmes for supplementing the classroom instruction may not be as important as is expected. The extent to which it has to cover the topics of different subjects has not been decided with any objective background. On the one hand many topics have been selected for broadcast programmes in a haphazard way, on the other, the emphasis on the coverage of broadcast programmes for different subjects have been neglected a lot. To make these arrangements successful, proper investigations into the reactions of teachers and subject experts towards the present system of SBP can be of great use. Appropriate selection and arrangement of different topics can be made on the basis of the opinions of academic personnel involved in teaching these subjects at school stage.

2.4.4 Script Writing

The analysis of the data collected from the experts on the aspects like way of contact, script writing, training requirements etc. is reported below :

- The experts who were contacted by the A.I.R. for production of SBP, were mostly local school teachers. Rarely are experts taken from colleges and university departments. Out of them 57 per cent are trained graduates, 23 per cent are post-graduates and the rest are untrained graduates and below.

Fiftytwo per cent of the experts have produced more than 5 programmes each.

- A.I.R. contacted 91 per cent of the experts by sending contact letters directly to them. Seventyseven per cent of the experts were contacted through the school authorities. Only one expert has reported that he voluntarily offered for a programme. Of the experts, 73 per cent and 18 per cent have expressed that they were contacted two weeks and four weeks in advance respectively. A large section (80 per cent) have stated the time given is sufficient for preparation.

- For one programme the experts received remuneration varying from Rs.25/- to Rs.90/-. Of them, a large section (82 per cent) have reported that they received only Rs.40/- as remuneration towards production of a programme.

Almost all the experts have desired more remuneration.

- Of the experts 59 per cent and 27 per cent have stated that in connection with production of a programme, they had to go to the A.I.R. once and twice respectively. A few (9 per cent) had to go to the A.I.R. more than twice. Most of the experts (89 per cent) were satisfied with the behaviour of the A.I.R. authorities.

- It is surprising to note that only 8 per cent of the experts were given any choice to select a topic for script writing. The rest were asked to write on a topic which the producer wanted.

Only about 1/3rd of the experts have reported to have received guidelines on script writing. A majority of the experts consulted the producer before writing the script. A few have expressed that their scripts were not checked sincerely. Of the experts, 63 per cent have stated that sometimes they consulted their colleagues in connection with writing the script.

- Only one expert has reported that he was given library facility in the A.I.R. before writing the script.

- Almost all the teachers consulted the text books before writing the script. Most of them did not get any scope for referring to the scripts of other programmes in the A.I.R. About 1/3rd of the experts even did not find scope for meeting other experts in connection with the improvement of the programmes.

- While going for script writing, aspects like understanding level of the students, interest of the listeners, subject matter of the topic, providing information not available with the classroom teacher were kept in mind by 79 per cent, 77 per cent, 71 per cent and 57 per cent of the experts respectively. A few have reported to have considered aspects like simple language, good examples, entertainment, and utility of the facts in the day to day life.

While all the English experts considered pronunciation and understanding of subject matter, 50 per cent of them kept in mind the improvement of speech, style and vocabulary while writing scripts on English programmes.

The following table shows the forms in which the experts have written their scripts.

Table 2.6
Forms of Script Writing by the Experts

Sr.No.	Forms	Percentages
1	Discussion	57
2	Feature	50
3	Question-Answer	41
4	Drama	34
5	Lecture	25
6	Interview/Debate/Quizzes	17

The table shows that most of the programmes were written in the discussion, feature and question-answer form. Dramatisation form has not been considered by majority of the experts.

- Almost none of the experts have received any training on script writing. A majority of them felt the necessity of getting such training.

- All the experts have stated that the programmes were recorded in the A.I.R. studios. Almost all of them sought the cooperation of their students for recording a programme. But surprisingly, the students who presented the programme did not get any remuneration along with the experts.

- Of the experts, 78 per cent, 32 per cent and 11 per cent needed sound effects, instrumentalists and singers respectively while recording a programme.

- More than 70 per cent of the experts spent upto two hours for recording a programme. Seventyseven per cent have reported to have conducted a rehearsal before the final recording of a programme.

A majority of the experts (68 per cent) listened to the tapes after recording. Fiftyseven per cent felt the need for modification of the programme after listening. Eightysix per cent felt that presenting a programme was always interesting.

- Seventy per cent of the experts have reported that they were granted duty leave for recording the programmes.

- Of the experts 82 per cent invited criticisms on their programmes.

- Sixtythree per cent of the experts felt that a programme would be better if a team approach is made. Seventyfive per cent have suggested that the programmes on a particular subject should be undertaken by a group of experts who should be responsible for the whole series.

- A large section of the experts (84 per cent) felt that the SBP helps the rural school teachers to teach better.

- About 60 per cent of the experts felt that teachers do not know how to use SBP in the classrooms. They felt that the teachers should be trained in the utilization of SBP.

Seventyfive per cent of the experts have suggested that the training should be a self-instructional programme which should consist of a guide book along with some training programmes over radio.

- Eightytwo per cent of the experts have suggested classroom activities at the listening end. Preliminary discussion before the broadcast, discussion after the broadcast, use of maps, charts, pictures etc. during the broadcast and home assignment in connection with the contents of the broadcast have been suggested by 66 per cent, 39 per cent, 30 per cent and 25 per cent of the experts respectively.

Some Suggestions and Comments Given by the Experts

Suggestions

- "Good broadcasters should be rewarded".
- "Real experts should be given scope to present programmes".
- "Survey of the needs of the students in terms of their difficulties in connection with SBP should be made".

- "A.I.R. guidelines for script writers should come as suggestions but not as directions".

- "Regular meeting of script writers and organization of seminars are essential".

- "There should be freedom in script writing".

- "Rehearsal before recording should be given utmost importance".

- "Reference books should be provided by the A.I.R.".

- "Scripts should be invited through advertisements and an expert committee should select the best script".

- "Experts should sit in the beginning of a year to decide the topics for broadcasts".

- "Programmes should be more in dramatized form".

- "Regular evaluation is essential".

- "Students' listening forum should be established".

- "Some recordings are needed in real situations".

Comments

- "Neither the topic nor the mode of presentation is chosen by the experts".

- "Fixation of time hampers the freedom of the expert".

- "Sound effects suggested in the scripts are distorted. For example, western funeral music was given for Indian".

- "Programmes are too few".

- "SBP is huge wastage of money".

Discussion

Writing scripts and presenting them in different settings of school broadcasts are two different things. While one requires the expertise in technology of writing the script, another requires expertise in the art of presentation of the fact. Further, taking decision about the objectives of instruction and content coverage, is to be related to the modes of writing the scripts needed for different types of presentations. Sometimes, it may be feasible to get all these done by a single person in an effective way but according to the variety of programmes, collective efforts can be made for their success as a whole. As it is observed at present, almost all the script writers are subject teachers of secondary schools of Orissa irrespective of their teaching experiences. These teachers play the role of both script writers and programme presenters. None of them gets training neither for writing the scripts nor for presenting them. It is mentioned later in this chapter that most of the scripts are of poor quality in many respects. This could have been

resolved by the expertise of script writers and presenters. Since they are not trained in this respect, the school broadcast unit of A.I.R. should take proper care for programme development and presentation. As it is observed, the script writers are drawn mostly from the high schools situated near the radio station. Similar types of programmes are mostly presented by these teachers as they are restricted to a few teachers continuously for years together. Attracting talented teachers for writing the scripts from different institutions spread over the entire state can strengthen the qualitative aspect of school broadcast programmes. Motivating these teachers for participation in school broadcast programmes by giving right remunerations and awards will be more useful. In this context, direct contact with the teachers' organizations may be more helpful to the organisers to identify right persons for different programmes. Proper guidelines for writing different types of scripts are to be provided to every writer in advance. Along with that, necessary materials should be supplied for the development of effective skills for writing the scripts. After the scripts are written, a body of experts both in content and instructional technology, should scrutinise the scripts before presentation. Such a body of experts can consist of experts of the school subjects, the technical persons from the Educational Technology Cell of the Government of Orissa, and A.I.R. personnel. As presentations made by professional artists are more attractive, successful

efforts should be made to use A.I.R. artists for presentation of relevant programmes. As it is commented earlier, artificiality has crept into the presentation of instructional programmes. This was observed in teachers and students while acting the role of leader and participants. Hence efforts should be made to avoid such limitations. After recording, every programme is to be tried out in real classroom situation as a pilot tryout which should invite reactions from the clientele and thus its limitations can be identified. Feedback from them will be helpful for further improvement. Continuous evaluation of these programmes will help both the organizers and participants of broadcast programmes for its maximum improvement.

2.4.5 Quality of the Programmes

To get an idea about the quality of the programmes, all the sixteen scripts and transcripts, four each on General Science, Geography, History and Oriya, broadcast in the first term of 1978-79 academic session for grade VII were taken for study. Certain observations were arrived at by going through the scripts and transcripts minutely. The findings in this aspect are purely on the basis of investigator's objective judgment.

The following aspects were taken as the components while judging the quality of the programmes. They are: (1) mode of presentation, (2) quality of voice, (3) accent, (4) style of language, (5) clarity of speech, (6) Use of illustrations, (7) logical sequence, (8) clarification of concepts, (9) validity

of the content presented, (10) sound effects and (11) overall appreciability. These were selected with the assumption that a particular programme is successful to a considerable extent when those basic aspects are taken care of.

In the following paragraphs, an attempt has been made to analyse the quality of the programmes under the head of four different subjects such as (i) History, (ii) Geography, (iii) General Science and (iv) Oriya. English has been left out because of investigator's lack of competency in judging a programme prepared in a foreign language. The transcripts of the programme were listened to carefully by playing the recorded programmes through a tape recorder again and again. Also the scripts were referred simultaneously, to arrive at the comments on the quality of the programmes with respect to the above mentioned aspects.

History Programmes: In all four different lessons of history (names mentioned earlier), three different teachers have written the scripts. Referring to the introduction part of these lessons, except one, the programme presentation has not been made keeping in view the students' previous knowledge. The nature of the programmes was of student teacher discussion where three different teachers have taken the responsibility of leading the discussion conducted in a group of two or three pupils. All the discussions were conducted in a simulated classroom situation.

The quality of voice of all the teachers and the participants was appreciable but the accent of the teachers in two programmes was having wide variation in pitch. However, along with the music and the sound effects given, all the programmes had a good degree of auditory clarity. The style of language of the programmes in two cases was simple and understandable as it was of the colloquial form and in the rest it was of text book type where the teachers simply read the script while presenting the programmes. It has been observed that the talks were more descriptive in nature where very little emphasis was given on illustrations for clarification of different concepts. Illustrations could have been given on relics. It is marked that logical sequence in presentations had been maintained properly. But it seems many concepts have remained un-clarified at different stages of the programmes. In all the programmes, the script writers have maintained the validity of the content, while writing the script. Out of the four programmes, only one programme has got some sound effects. Even if sound effects are there, they are not appropriate to the contents. Referring to the nature of the programmes, their nature of presentation, quality of voice and accent of the broadcasters it can be commented that due to lack of novelty, the programmes were not interesting. In general, as a subject, History can be taught through radio by applying many interesting approaches like dramatisation, story telling and features along with appropriate

sound effects. But in these programmes, the discussions did not look natural in a simulated classroom situation. The presentation by the experts were like lectures, where the pupils could not act as free interactors. The programmes could have been more natural if many illustrations were given in a meaningful way to describe the difficult terms and concepts.

Geography Programmes: Four different lessons on Geography (names mentioned earlier) were presented by three experts, the scripts being written by them individually. In all the four programmes, introductions have been given through general talks. Nothing specific was mentioned about the content where the listeners can find the relationship between the introduction given and the topic of broadcast. Two programmes were started in the feature form which were again switched on to the form of classroom situation. Although it does not reduce the quality of the programmes, the sudden skip-over affects the logical continuity in listening. In the remaining programmes, one was a complete feature and the other was a lecture-cum-discussion. In two of the programmes, the narration by the experts was very fast. The other two programmes had normal voice pace and one of them had a high degree of appreciability in this respect. In one programme, the accent was felt to have failed in maintaining the quality of the programme. Considering the clarity of speech, it can be mentioned that the mechanical reading approach of script has affected the overall quality of

the programmes. The language of presentation in two programmes was observed to be very much bookish in nature. Sound effects given through three of the programmes did not appear sufficient for effective presentation. Only one programme has appropriate sound effect in accordance with the contents of the programme. However, it is a point to be noted that through all the programmes of Geography, appropriate illustrations were provided wherever needed. Still many concepts could not be clarified due to the very limitations of the medium, that is inability to use maps, globe, charts, etc. Maintenance of logical sequence has been followed in both the scripts and the transcripts of all the programmes. Though the validity of content had been taken care of in all the programmes, one out of four lacked the quality of overall appreciability.

General Science Programmes: The scripts of the four General Science programmes taken for the study were written and presented by four different experts, one of them being a lady. All the programmes were prepared in the simulated classroom situation in the form of teacher student discussions. The presentations were simply knowledge oriented and explanatory type. It can be mentioned that the quality of voice and accent of the experts were upto the mark in three programmes but in the remaining one, the voice of the expert was a little harsh which affected the quality of listening. As in the case of programmes in History and Geography, the text book form of the

language has been taken while writing the scripts of all the programmes in General Science. Of these programmes, two had a high degree of clarity of speech, the other two needed improvement in this aspect. In two of the programmes, it is observed that many concepts have been presented in a limited time. As they were presented in a mechanical manner, it might have been difficult for the students to understand them. Also, while clarifying the concepts in one programme, it was observed that the previous knowledge of the students has not been considered at the time of writing the script. In one programme, definition of concepts have been presented with many good illustrations but the students might have found it unusual as it falls beyond their level of perception. In other programmes though illustrations were provided, many more could have been given at different stages. Coming to the aspect of logical sequence, it has been noticed that the sequence in the case of three programmes was all right but in one programme, although subject matter was presented in order, gaps were found in different stages where relationship between two concepts has not been established. In respect of the validity of content, the experts have maintained the standard except in one case where serious mistakes were noticed. In none of the programmes sound effects were given even though there was sufficient scope for that in some cases. However, all the programmes were found to be appreciable except one which has scope for improvement.

Oriya Programmes: All four different lessons broadcast in the first term of 1978-79 academic session were taken for studying the quality of programmes. The scripts of all the programmes were written by four different authors independently. Out of them two programmes were presented by the A.I.R. artists and the rest by the experts concerned with the help of participants brought by them. Form of presentation in the case of two programmes was dramatisation and the rest were having the form of discussion. Except a few participants, all had a good quality of voice and accent. Like other programmes, the text book form of the language is also noticed here. As it is a language subject, sufficient attempt has not been made to clarify the terms and concepts used but it is interesting to listen to the use of difficult words in different situations. In the dramatised form of the programmes, the illustrations given were appropriate. It is a point to mark that logical sequence has been maintained in all the programmes. Coming to the validity of content, in one of the programmes, mistakes were observed in the presentation of facts. One of the dramatised programmes, presented by the A.I.R. artists was having a high degree of appreciability but in the other dramatised programme, where the participants were the school students, only the introduction of appropriate sound effects have increased the quality of this type of programmes. Two biographies which were presented in the discussion form could have been improved to feature or dramatisation to make them more appreciable.

As the programmes belonged to Oriya language, the overall performance of these programmes was satisfactory. They could have been made more appreciable had all of them been presented by the A.I.R. artists as it happened in the case of one dramatisation. Care should have been taken to present the facts in a more objective manner.

General Comments: Looking towards the qualitative aspects of all the programmes presented for different subjects, it can be commented that: (1) Instead of introductions made twice, once by the announcer and again by the expert, care should be taken for introducing different lessons through some interesting programmes that can create readiness in the minds of the students. This introduction part will be more strengthened if at the listening end teacher in charge of broadcast programmes can have some activities for a few minutes before the broadcast. (2) During the broadcast, it has been observed that in most of the lessons (80%) teaching was organized in a simulated classroom situation having discussion of one teacher and two or three students. Instead of these type of classroom programmes, situations like visits to different places while teaching Geography and History, visit to garden, and observations in laboratories for teaching Science, dramatisations and story telling for teaching History, group discussions, features and dramatisation for teaching literature would have been more appropriate by taking complete twenty minutes time provided for that. (3) It was also observed that for different subjects

reasonable steps have not been taken to take decision about content coverage of different subjects within the fixed time limit of broadcast. Sometimes many concepts have been included in the presentation of lessons without looking towards the previous background and understanding level of students. (4) The speed in presentation and flow marked in them could have been checked, as in all programmes, it becomes a classroom teaching situation. (5) The discussions continuing from 15 to 20 mintes may create problems in sustaining readiness of students throughout the programme. Breaking the programme into different parts alongwith some musical sounds and having varieties in the nature of presentation of different parts could have been taken care of. (6) Many situations where attempts have been made for giving illustrations through showing some pictures, globes, maps, objects like flowers, skeleton, photograph, etc. suffer from a great limitation. First more stress has not been given towards clarification of concepts through illustrations as most of the parts of presentation are of lecture type. Second, even though attempts have been made to give illustrations in some cases, the students, at the listening end, will not get its use in a proper way because radio programmes are communicated for listening only. Instead of using these techniques, programmes should be enriched by the addition of songs, interesting voices, dramatization, etc. This may be more suitable and hence develop appreciable aspects in students. (7) In many cases where objectives of cognitive domain are considered more important,

only listening to the programmes may help students to be conscious about memorisation of some facts. If other instructional objectives belonging to higher mental processes are to be taken care of, simply presenting the matter through discussions will not be sufficient. It is to be supplemented by presenting some other materials and activities in the classroom for making the programme more interesting and lively. While listening to these programmes the illustrations given and discussions made on different concepts are to be projected in some visual forms before the students observing the programmes. For example, when broadcast is made about flowers, and different elements of flowers are taught, the same concepts can be clarified more clearly if some visuals about the elements of the flowers can be projected before students along with the radio programmes being broadcast.

The relevance of broadcast programmes can be achieved only when some immediate follow-ups can be made at the end of every broadcast sessions. Different kinds of follow-up programmes can be arranged to clarify the doubts of students which may develop during the broadcast programmes. Bringing pre-broadcast, broadcast and post-broadcast together requires organized activities at both transmitting and listening ends. Continuous efforts should be made for systematizing different activities done at the two ends.

On Radio Production Techniques

The quality of the programmes can be improved by improving the techniques of production of programmes. Commonly used production techniques may not be sufficient to produce SBP which is specifically meant for school children. To a great extent, children differ from adults in respect of their understanding. So minute scrutiny has to be done on the techniques of production, while trying to bring an improvement in the quality of the children's programmes. Hindrance in listening and understanding the programmes by the children, can be avoided if the psychological background of the children is taken care while planning for production of programmes. The producer should screen a programme by keeping himself as one of the audience of students. He should try to understand a programme in the way children do. He should never assume that as adults with their wide range of mental references understand a word or sound, children will likewise understand it. Speech clarity is fundamental to the understanding of the listeners. R.L. Hilliard, writing on radio broadcasting, states: "The conscientious radio broadcaster aims to transmit sound in such a way that the listening public will be able to understand speech clearly and enjoy the reproduction of music. This seems a rather simple objective, yet the achievement of it is often difficult, and unfortunately, at many stations is never accomplished. After leaving the transmitter, sound is subject to all sorts of losses and quality degradation before it reaches the listener's ear. Therefore, it is necessary

to keep the technical quality of the sound as high as possible at all times while it is under the control of the station. The station must not relax its efforts to provide 'clean' audio, especially much of the audience may be listening on inexpensive table model sets and tiny portables". Secondly, voice has a significant effect on understanding. Voices of too high or too low pitch are often distorted. Selecting a good voice should be the focal point at the time of planning for production of SBP. It also happens that the pronunciation differences come as blockade in understanding a radio broadcast. This should be taken into consideration along with the voice. Thirdly, the actual language of broadcast. Because of their limited vocabulary and inadequate experience in a particular area of study, children may not be able to follow a programme and appreciate its contents. More difficulty may arise when they will listen to the languages other than their mother tongue. The fourth factor which improves the quality of a radio programme is the use of unexplained sound effects. Sound effects are used to add depth and explanation to words and to help the creation of a picture in the mind of the listener which ultimately leads to better understanding of the subject matter. The listener interprets a sound he listens to, in relation to the sound he already knows. Sometimes, it may happen that an unknown sound may be interpreted as a similar known sound. This can produce a completely different mental picture from the one intended by the producer. In this respect Ball C.H. writes: "In tests carried out in Kenya, 22 per cent of the children tested were unable to identify the lowing of a cow. Some thought it was an elephant, a leopard, a man, trees, engine of a car and 7.3 per cent

thought it was a hyena. Of a group of teachers from a rural area who were tested, 30 per cent thought the same was made by a hyena. One teacher's method of identifying the two sounds, cow and hyena, was 'If the sound goes down at the end it is a cow, if it goes up at the end it is a hyena'. So, while introducing sound effects the producer should be very careful in providing the appropriate one with which the children are familiar. Fifthly, the use of dramatization also play a great role in improving the quality of the programmes. But, it requires more thought before inserting it. While doing it, thought should be given to the relevance of drama or play acting to the culture of the listening children.

Even though good programmes are produced, it may also happen that the external noise like noise from the neighbouring classrooms, the children in the playground, street sounds, etc. may hamper the quality of listening at the receiving end. These are beyond the control of the producer but if he is aware of them he can take them into account while planning for speech quality and structure of the programme.

All those things discussed above are possible if practical researches are carried out as both the methods and techniques of the production of SBP, and its use by the consumers. This can be done by making 'on the spot' surveys, experimenting and retesting the research results, and observing the practitioners in action. Writing on researches in mass media, Lot Senda says, "Research into the application of mass media technique to education cannot be carried out in abstract. Greater resources for research and experimentation with new techniques should be made available, and a systematic analysis of the learning process as it applies to developing countries, carried out".

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