

CHAPTER II

REVIEW OF RELATED LITERATURE

The importance of audio-visual training in teacher education has been well recognised in the countries like U.S.A., U.K., Japan, West Germany, and other Western European countries. Several researches have been done on the subject and the literature on the audio-visual education has also been elaborately published in those countries. But in India, this movement for the development of audio-visual education is still in an infant stage and its progress is slow. Hence, there is a serious paucity of literature in this field in the country. The author, therefore, tried to refer to foreign as well as the Indian sources of the literature in this field. The attempt was made to collect the available related literature on the organisational aspects of the training programme in the teacher training colleges from the sources stated below :

1. Microfilms of some related research work done abroad in this field from the University Microfilms, Inc., Ann Arbor, Michigan.
2. INSDOC (Indian National Scientific Documentation Centre) functioning under the Council of Scientific and Industrial Research under the administrative control of the Director, National Physical Laboratory, New Delhi.
3. N.C.E.R.T. (National Council of Educational Research and Training), working for improvement of teacher education at the All India level in New Delhi.

In addition to contacting the above major sources for collecting the related literature an effort was also made to refer to all the available latest standard books, journals and periodicals in the libraries of National Institute of Audio-Visual Education - now the Department of Visual Education; Sardar Patel University, Vallabh Vidyanagar; Extension Education Institute, Institute of Agriculture, Anand; Faculty of Education and Psychology, M.S. University, Baroda; Central Institute of Education, Delhi; the foreign agencies like B.I.S. (British Information Service), U.S.I.S. (United States Information Services) in Bombay. Some selected teachers training colleges in Gujarat, Maharashtra, Madhya Pradesh and Rajasthan States were visited to get up-to-date picture and clear understanding of the existing organisational

aspects of audio-visual education programmes in the teacher training colleges in India.

For the systematic presentation of the literature, reviewed from the above sources, it was organised and classified into various heads as follows :

1. Views on principles for the organisation of audio-visual education training programmes.
2. Views on objectives of audio-visual education training programmes.
3. Views on curriculum of audio-visual education training programmes.
4. Views on staff selection.
5. Views on audio-visual aids and equipment facilities.
6. Views on the budget items in audio-visual education department.
7. Views on research and publication.
8. Views on the evaluation of audio-visual education training programmes.
9. Views on the development of audio-visual education in India.

The details under each head are given in the pages to follow.

Views on Principles for the Organisation of Audio-Visual Education Training Programmes

Audio-visual education in the present times is in the

process of development and growth. Continued growth, however, depends upon the manner in which the able and capable leadership in the effective administration and organisation of audio-visual education programme is available. The administration of audio-visual education programmes demands wide spread appreciation of their use and importance in education. The groups which should share this appreciation and responsibility are given by Wittich and Schuller as follows : " the board of education, the superintendent of schools and the teacher. "¹

Thus, the responsibility is to be jointly shared both by the administrators and the teachers. Similar view is expressed by Kinder and the leadership role of administrators is emphasized by him in these words :

Unfortunately, dedicated teachers cannot, of themselves, insure a good audio-visual program; there must be, at several levels administrators working to carry out policies effectively. Administration is not an end in itself; it exists, in this instance, to make sure that equipment and materials are available and that teachers know effective techniques of utilisation. Administrators, then, must provide the leadership necessary for a good audio-visual program in the class-room.²

Hence, the leadership is essential for effective
organisation and administration of audio-visual education

¹Walter Arno Wittich and Charles Francis Schuller, Audio-Visual Materials, their Nature and Use (New York: Harper & Brothers, 1957), p.510.

²James S.Kinder, Audio-Visual Materials and Techniques 2nd Edition. (New York: American Book Company, 1959), p.519.

programme. Administration of audio-visual education training programme, therefore, is of prime importance for the efficient promotion of learning experiences in audio-visual education. Views of some experts in the field are given here. Noel writes :

If order and direction are to be given to the educational uses of audio-visual materials a department of audio-visual education should be with adequate personnel and facilities. The overall purpose of such a department then should be to facilitate the instructional process by providing those materials and professional services (a) which will enable teachers, pupils and supervisors to get and use audio-visual educational materials and equipment in accordance with good instructional practices, (b) which will enable administrators and other members of the professional staff to use audio-visual materials for interpreting the total educational programme to appropriate groups.³

Thus, through the planned organisation of audio-visual education training programme, it will be possible to help and encourage teachers in use of the modern teaching techniques and the audio-visual instructional materials. Wittich and Schuller stressing upon the importance of systematic organisation of audio-visual department have stated their view-points as follows :

³Francis W. Noel, Audio-Visual Materials of Instruction. (Chicago: The National Society for the Study of Education, 1949), pp. 183-84.

... what is needed are well-organised, thoughtfully planned and administered programs for improving instruction through the use of modern audio-visual materials and techniques. Where to approach are the problems of administering an effective and useful audio-visual program. Administering an audio-visual program involves :

1. Survey and appraisal of audio-visual methods.
2. Plans for meeting audio-visual instruction needs.
3. Execution of audio-visual policies and plans.
4. Evaluation.⁴

Supporting the importance of planning and administration of the audio-visual programmes, Amo DeBernardis has outlined the following principles on which such programmes should be based :

- (a) Fit the program to the needs of the teacher,
- (b) provide for group planning,
- (c) proceed slowly
- (d) provide for effective leadership,
- (e) keep size of the group small,
- (f) provide for adequate time,
- (g) provide adequate facilities, materials and equipments.⁵

Hence, the above views clearly indicate that the planning of the audio-visual education training programme, organisational aspects (like syllabus, use and availability

⁴Wittich and Shuller, Op.cit., p.514.

⁵Amo DeBernardis, Op. Cit., pp. 123-24.

of instructional materials and equipment facilities, administration of the course, training procedure, staff, budget, research and publication) and evaluation of the programme are inevitable in the effective organisation of the audio-visual education training programme. Wait, in 1953, studied the audio-visual programmes in the selected teachers colleges in the United States for his doctoral thesis in the University of Indiana on these lines. The planning of his study included the following items :

1. Study of the organisation and administration of audio-visual education department.
 - (a) Staff
 - (b) Services
 - (i) On-campus
 - (ii) Off-campus
 - (c) Finance
2. Production and preparation of materials.
3. Equipments and materials.
4. Future plans.
5. Housing facilities.
6. Pre-service and In-service training.⁶

Since the needs for organisation and administration of audio-visual education programmes in India are similar,

⁶C.V.Wait, "A Study of Audio-Visual Programs in Selected Teachers Colleges in the United States for the Purpose of Identifying and Describing Some Effective Administrative Patterns." (Doctoral thesis, Indiana University, 1953), p.15.

the 'Wait Plan' was found to be the practical and useful model for such studies. The present study is also largely based on the approach adopted by Wait.

Views on Objectives of Audio-Visual Education Training Programmes

Changes in the social needs due to technological advances, demand educational changes. The changes in educational programmes include the changes in curriculum and teaching methodology.

Teacher - a hub of the teaching - learning process, needs a change in his own behaviour. This is mainly done by teacher - education institutions. Hence, it is necessary to know the kinds of opportunities the teacher - trainees are given to imbibe the desired changes in their knowledge and skills of teaching methodology. The proper organisation of the audio-visual education programme will include the following three major functions :

- (a) Imparting knowledge of philosophy and principles of audio-visual education.
- (b) Equipping the teacher with the skills of preparation and effective use of various instructional materials and operation and handling of audio-visual equipment.
- (c) Maintaining audio-visual library, research and publications in the field and administration of audio-visual programme.

Hence, to meet with the goal of making the desired changes in the teacher's knowledge and techniques of teaching, there should primarily be established objectives of the department accordingly. The establishment of the objectives of the department serves many important purposes. Brown and Thornton have given some purposes as follows :

Perhaps most importantly, it helps to clarify both for the instructor and the student the purposes of various course activities and requirements and to signify in a general way what is to be gained from each. Second, clearly stated objectives help to structure course content, to identify the bounds of course activities, and, in the process, to save student's time by eliminating trial-and-error methods. Third, well stated objectives help to guide the selection and organisation of learning experiences and instructional resources. Finally, they provide useful clues for evaluating student achievement.⁷

The audio-visual education department has a specific role to play in the teacher education programme as far as training the teacher in the teaching techniques by instructional materials is concerned. Hence, the department of audio-visual education should have its own objectives to achieve the goal of preparing the competent teachers in audio-visual education.

Larson and Bindrup have enlisted some principles for framing objectives of audio-visual education as under :

⁷James W. Brown and James W. Thornton, Jr. College Teaching. (New York: McGraw Hill Book Co., Inc. 1960), p.121.

1. Impact of developments in instructional technology and organisation for instruction.
2. Development of new knowledge in supporting disciplines relevant to the teaching-learning process and situation.
3. Providing guidelines for the development, selection and use of appropriate curriculum materials for teacher education.
4. Developing a resource file and clearing house of materials and information regarding the utilisation of instructional technology in teacher education.
5. Reporting periodically on new and promising uses of instructional technology in teacher education.
6. Preparing a comprehensive guide for the selection and development of projects designed to prepare, introduce and evaluate technological instructional units and systems in teacher-education.
7. Development of a strategy or change in teacher education.
8. To identify individuals, institutes which are actively engaged in utilisation, experimentation and research, related to programmed instruction in teacher education.⁸

The goals are therefore, fixed generally on the changing needs of the society as it is revealed in the statements given above.

⁸ John A. Larson and Jewel Bindrup, "The Library Curriculum Centre Hub of School Program" Audio-Visual Instruction, 7 : 8. (October, 1962), p. 526.

McKown and Roberts have suggested the specific objectives for the audio-visual education programmes in the following list :

- (a) To help the teacher to recognise and appreciate the place and possibilities of audio-visual aids in general.
- (b) To familiarize the teachers with the literature in the field, both descriptive and evaluative.
- (c) To teach the basic principles to be observed when using audio-visual materials.
- (d) To acquaint the faculty with the various types of audio-visual aids, their instructional possibilities and the advantages and limitations of each.
- (e) To demonstrate the different types of equipments and to provide instruction in operating them.
- (f) To familiarize the group with the techniques and procedures to be observed when utilising these tools in the class-room.
- (g) To acquaint the staff with the audio-visual center and its services.
- (h) To show the procedures to be followed in requesting materials or service from the centre.⁹

The objectives should therefore, be fixed by the department on the basis of the audio-visual education skills and competencies expected in the teacher. Supporting this view Weaver and Bollinger have given a detailed analysis of the objectives of the audio-visual education on the basis of

⁹Henry C. McKown and Alvin B. Roberts, Audio-Visual Aids to Instruction. (New York: McGraw Hill Book Company, 1949), pp. 546-47.

the skills and understandings to be developed in the teachers as follows :

A : Skills and Abilities :

Teachers should be able to -

1. Use visual aids effectively in the classroom.
2. Plan and arrange the best possible physical conditions for advantageous use of teaching materials.
3. Select the appropriate visual materials for specific situations and student needs.
4. Evaluate the technical and educational worth of the various visual materials.
5. Measure the effectiveness of various teaching aids and adjust or change them in accordance with the demands of the teaching situation.
6. Operate, lubricate and service, within limits, various projectors and duplicating equipment.
7. Display effectively interesting materials on the bulletin boards and in display cases.
8. Make posters, slides, models, graphs and other desirable materials.

B : Knowledge and Understanding -

In addition to having certain skills and abilities, it is necessary that teachers -

1. Should know the sources of desirable teaching aids which are free or distributed at a nominal cost by local or national organizations.

2. Should know the extent of visual aids available in their subjects and their potentialities as learning media.
3. Should know techniques for proper maintenance, filing and storing of materials and equipment.
4. Should know the important features of various types of projectors and duplicating equipment.
5. Should understand the psychological basis underlying the use of visual aids in the classroom.
6. Should understand the organization of a visual education program in a school.
7. Should understand methods for maximum use of visual materials.¹⁰

It appears from the current literature on the subject that the determination of objectives is the foundation stone for the construction of the future programme of audio-visual education in the teachers colleges.

Thus, the objectives of the audio-visual education training department of the colleges lead to the adequate organisation and administration of the training programme. After determining the destination or goals, the curriculum planning in audio-visual education becomes the first important step in the direction of achieving them. The curriculum planning should be consistent with the established

¹⁰G.G.Weaver and W.E.Bollinger, Visual Aids, Their Construction and Use. (New York: D.Van Nostrand Co., Inc., 1963), pp.336-37.

objectives of the department of audio-visual education. The curriculum planning procedure has been discussed on the basis of the views of various experts in the following paragraphs.

Views on the Curriculum of Audio-Visual Training Programme

The curriculum in audio-visual education in the teachers colleges must respond to the needs of the schools for which the teachers are prepared. A good teacher knows that he should challenge his pupils, that he should help them find answers to their problems, and he should create the learning situation that they acquire skill to work independently and develop desirable interests to become self-reliant individuals. For creating such an ideal learning situation in the schools, the teacher during his training in the college should also be provided with all the possible opportunities of acquiring those skills and abilities of teaching in such a manner.

The curriculum, therefore, should be such that the teacher may be exposed to all the modern principles of teaching and learning. Erickson gave the details of the curriculum of short training courses in audio-visual education as follows :

To develop in teachers the ability to -

1. Construct good bulletin-board displays.
2. Operate and use a tape recorder.
3. Produce hand-made slides.
4. Formulate valid teaching purposes.
5. Operate the audio-visual equipment available in the school.
6. Produce graphic transparencies.
7. Construct exhibits and dioramas.
8. Use instructional motion pictures effectively.
9. Produce radio programs.
10. Produce motion pictures with magnetic sound tracks.
11. Take good pictures for teaching purposes.
12. Select and teach map interpretation.
13. Select and use filmstrips effectively.
14. Operate and use "short-exposures" equipment effectively.
15. Write scripts for the production of audio-visual materials.¹¹

For making the curriculum more elaborate, Weaver and Bollinger have given the details of three major courses as follows :

- A : The Use of Available Teaching Aids.
- B : The Design and Making of Desirable Aids.
- C : The Operation of Projector and Duplicating Equipment.¹²

¹¹Carlton W.H. Erickson, Administering Audio-Visual Services. (New York: The Macmillan Company, 1959), p.99.

¹²Weaver and Bellinger, Op.cit., p.340.

Each of the courses will consist of a number of activities. The following outlines suggest the content that should be included in such training.

Course A : The Use of Available Teaching Aids :

1. Use of motion picture - sound and silent.
2. Use of slide films - sound and silent.
3. How to evaluate films - motion and slide.
4. Use of slide - 2" x 2" and 3½" x 4".
5. Use of charts, diagrams, graphs, cartoons, flat pictures.
6. Use of stereoscope.
7. Use of opaque projector.
8. Use of blackboard.
9. Use of text books and hand books.
10. How to handle school journeys.
11. How to solicit commercial aids from manufacturers.
12. How to prepare lesson plans and student guides when using motion pictures.

Course B : The Design and Making of Desirable Aids :

1. What constitutes a good aid.
2. Special features in the design of the different types of aids, shape, size, colour, materials, animation etc.
3. Ways of improving commercial charts for educational purposes.

4. How to make good mimeograph stencils.
5. How to make hand-made slides.
6. How to make photographic slides.
7. How to make baloptican blow-ups.
8. How to make photographic blow-ups.
9. How to design and construct models.
10. Short cuts in blackboard drawing.
11. How to mount, label, preserve and store visual materials.

CourseC: The Operation of Projector and Duplicating Equipment :

1. Operating a sound and silent motion picture machine.
2. Operating a slide film projector.
3. Operating a sound slide film projector.
4. Use of opaque projector.
5. Operating a mimeograph.
6. Use of liquid duplicator.
7. Use of hectograph.
8. Preparation of copy for photo-offset duplication.
9. Solar printing frames.
10. Spee Dee Printer.

Hence, if the teacher is given training in the above courses with a wide range, the objective of developing ideal

learning situations in the school can be achieved. This may ultimately result in the justification of the social needs for which the changes in education are desired. It is apparent from the expert views given above that the curriculum should be planned with the broader scope of developing proper understandings, attitudes and skills in the trainees in the field of audio-visual education. For planning such a curriculum representation of the procedures of audio-visual materials, commercial dealers, extension leaders and educators at various levels, be secured to form a curriculum planning committee.

After determining the courses of study, the important aspect of organisation is to appoint proper staff for the operation of the programme. Curriculum is a plan of action and the teacher has to carry it out effectively. Therefore, there should be an adequate staffing pattern in the department of audio-visual education. Some views of the experts in the field are presented in the following pages.

Views on Staff Selection

Staff of the audio-visual education department is the executive team for conducting better programmes. The head of the audio-visual education department/section or the person in charge should be an outstanding teacher, curriculum worker, leader, subject specialist and good administrator.

Wittich and Schuller gave the following requirements as essential for the head or director of audio-visual department of a university :

1. A successful experience in classroom teaching.
2. Professional training in audio-visual methods, supervision and administration.
3. Competence in curriculum planning and its philosophy.
4. Abilities to demonstrate audio-visual theories, plans and techniques.
5. Continual professional contact with colleagues in connection with curriculum, teaching methods, and audio-visual education.
6. Ability to work well with lay people and with teachers, fellow-supervisors, and administrators.¹³

The trainer should therefore, be able to assist the teacher trainee in the proper selection and use of audio-visual aids, procuring the materials and informations, and providing the up-to-date knowledge about the field.

Becoming more specific about the qualifications of the director, Kinder has suggested that the qualifications of the Director should include :

- Three to five years successful teaching experience.
- Special training in audio-visual education.
- Interest and enthusiasm for audio-visual techniques.
- Familiarity with audio-visual materials.
- Organisational and administrative ability.
- Knowledge of curricular construction.¹⁴

¹³Wittich and Schuller, Op.cit., pp. 326-27.

¹⁴Kinder, Op.cit., p. 527.

The subordinate staff of the department should also be competent in the field and cooperative in work. Kinder has advised the following cadre of the staff in the department :

Clerks and secretaries are needed for classifying and cataloguing materials, and for keeping records of requisitions and incoming and outgoing materials. Materials must be scheduled and inventories made. Technicians are needed to repair and maintain films and machines. An expert projectionist may be needed to instruct teachers and student operators, and to assist community groups with their programs. Large school systems usually employ truck drivers for daily or weekly distribution and exchange of materials. Any school that proposes to produce photographs, slides, filmstrips, or motion pictures will need specially trained technicians for this work. Graphic artists and persons trained to do expert layout and display work are needed.¹⁵

The organisation and operation of the entire training programme is a cooperative activity. Hence, there should be a team of trained workers under the able leadership of the head of the department of audio-visual education. Weaver and Bollinger have also suggested the staff and their professional qualities :

A : Regardless of the situation the individual selected should possess the most of the following desirable qualifications :

¹⁵Ibid., p. 530.

1. Enthusiasm for the job in addition to qualities of leadership.
2. Mechanical abilities to a reasonable degree.
3. A comprehensive knowledge of education.
4. Experience as a teacher.
5. Interest in curriculum development and improvement in teaching techniques.
6. Ability as an organizer and administrator.
7. Personality and appearance that invite respect.

B : The responsibilities delegated to this individual are both administrative and supervisory.¹⁶

This indicates clearly that only academic qualifications are not enough for the head of audio-visual education, but he should possess sufficient experience and expertise in the field as well as the spirit of team-work and the keen interest in the field of audio-visual education.

There is a dearth of such qualified and experienced persons in this field in India. To meet with this difficult situation, creating more training centres in audio-visual education may be necessary. But it may face the limitations of funds and expert personnel to run the new centres. So strengthening the existing training programmes may help in the direction of solving the problems.

¹⁶Weaver and Bollinger, Op.cit., p. 293.

Well-planned curriculum and the adequate staff without the required audio-visual aids and equipment facilities do not serve the purpose of the programme. Audio-visual aids and equipment facilities are the instruments for the trainee to fulfil the objectives of the curriculum. Hence, audio-visual aids and equipment facilities have also an importance in the organisation of audio-visual education training programme in the teacher's college. Views of experts on the availability and kind of the audio-visual aids and equipment facilities in the department are explored in the subsequent pages.

Views on Audio-Visual Aids and Equipment Facilities

The teacher trainees should be exposed to the opportunities of gaining the direct purposeful experiences of selecting and using the instructional materials and operating and handling of the equipments and machines in the training colleges. This needs the audio-visual education department to be fully equipped with the up-to-date instructional materials and equipments. The materials required in the colleges as stated by Dale are given in the form of the "Cone of Experience" in Figure 1.

The types of learning experiences stated in the cone of experience are explained by Dale as follows :

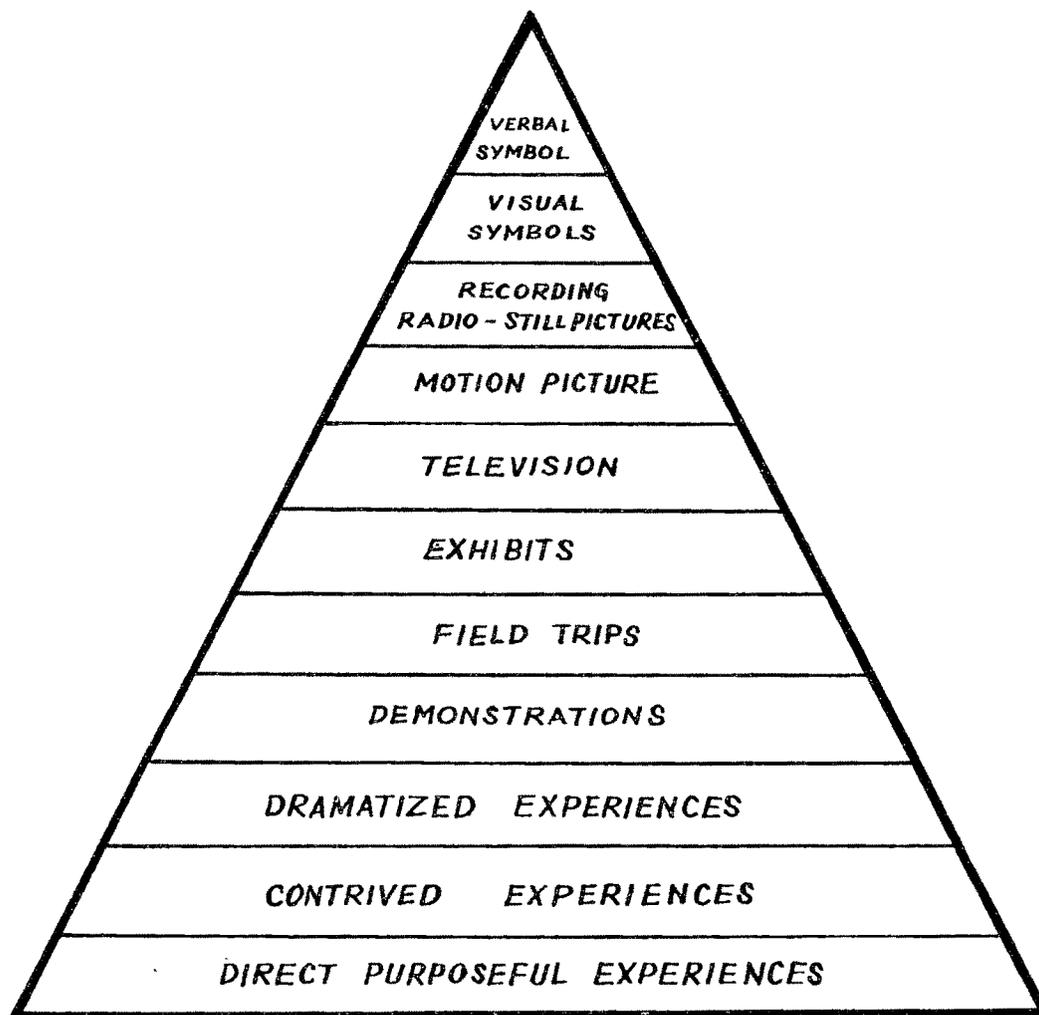


FIGURE - 1

CONE OF EXPERIENCE

Source: Edger Dale, *Audio Visual Methods in Teaching*. (Henry Holt Co. New York) 1959, P. 43.

1. Direct, purposeful experiences represent direct reality itself as we experience it at first hand. It is the rich, full-bodied experience that is the bed rock of all education. It is the purposeful experience that is seen, handled, tasted, touched, felt and smelled. These experiences are not only direct; they are purposeful. In performing a laboratory experiment you have direct participation, with responsibility for the outcome.
2. Contrived experiences, the second stage in the development of increasingly abstract experience may be illustrated by models, mock-ups, objects, specimens. A contrived experience differs from the original in size, in complexity, or in both. We simplify by means of a working model if the model makes the real-life original and easier to understand. A contrived experience is, therefore an "editing" of reality. When reality is not possible due to the shape, size, biological factors, geographical reasons the contrivance is made to substitute these experiences to present the replica of reality.
3. Dramatized experiences are the past events of abstract and symbolic nature. Dramatic participation, however, can help us get closer to certain realities that are no longer available at first hand. We can participate in a reconstructed experience, if not the original.
4. Demonstrations are visualised explanations of important facts or ideas or processes. The demonstrators shows how certain things are done.

5. Field trips include such experiences as excursion, school outing, study tours for visiting different places, people and processes. The observer remains passive since he only watches the events as they are. He has no authority or ability to alter the event.
6. Exhibits are essentially something that appeal the sense of perception. No active participation of the learner is involved except observation. Exhibits generally include the use of displays, bulletin-boards, and posters. Exhibits can be classified as the ready-made and the home-made.
7. Motion picture has several advantages over the other media. Motion pictures compel attention, heighten reality, bring the distant past and the present into the class-room, enlarge or reduce the size of objects, present the process that cannot be seen by the human eye, builds a common denominator of experience, promote the understanding of abstract relationships and offer a satisfying aesthetic experience. It makes the classroom a miniature world.
8. Television gives concreteness to the reality and uniformity of communication. Any telecast may use a battery of audio-visual materials. It can introduce models, demonstrations, exhibits, and chalk boards also. This versatility is the notable advantage of television. It has the limitation that the communication is only one way.

9. Still Picture, Radio, Recordings include Photographs, Illustrations, Filmstrips, Slides, Opaque projector, Radio, Tapes, etc. These visual or auditory devices may be used by an individual or group.
10. Visual symbols include flat maps, chalk boards, sketches, cartoons, comic strips, diagrams, charts etc. This is an abstract representation of the reality. The teacher must see that the symbolic aid is geared to the level of the learners - that they have been prepared to use the new language of visual symbols. One of the best procedures is to have students make their own charts, graphs and the maps.
11. Verbal symbols come at the final stage. They bear no physical resemblance to the objects or ideas for which they stand. There is a common learning element in reading, listening and viewing: the gaining of new experience usually crystallised in words. And through each mode of communication our ability to respond successfully to verbal symbols is increased. Words are the natural medium of exchange between teacher and students. Frequently, however, it must be learned when words should be spoken and heard rather than written and read. The words used should be clear enough in themselves to convey the meaning. When using them with classes, we resort to such additional aids as filmstrip projectors, opaque projectors, playback, and public-address systems.¹⁷

¹⁷Edger Dale, Audio-Visual Methods in Teaching, (New York: Henry Holt and Company, 1959), pp. 44-53.)

Thus, the Cone classifies the sensory aids in terms of the concrete and abstract nature of learning experiences. Learning experiences are most effective when they are direct and least effective when they are verbal and merely symbolized.

Similarly, Kinder has also classified the learning experiences in three major heads covering all the instructional materials and methods in the appropriate position. The classification is mainly based on the effectiveness of the learning experiences. The first-hand experiences are given the prime importance in the learning process. The classification is shown in Figure 2.

Audio-visual education recognises the values of all types of instructional materials. Their selection should be based on learning objectives and the conditions under which pupils learn. Kinder states : " Direct learning through first-hand experiencing furnishes the bedrock of all understanding, in much the same way as a firm foundation supports any building."¹⁸

The learning experiences are classified on three basic types : direct experiencing, vicarious experiencing, and symbolized experiencing. The direct learning through first-hand experiences involves the learner's sensory

¹⁸Kinder, Op.cit., p. 46.

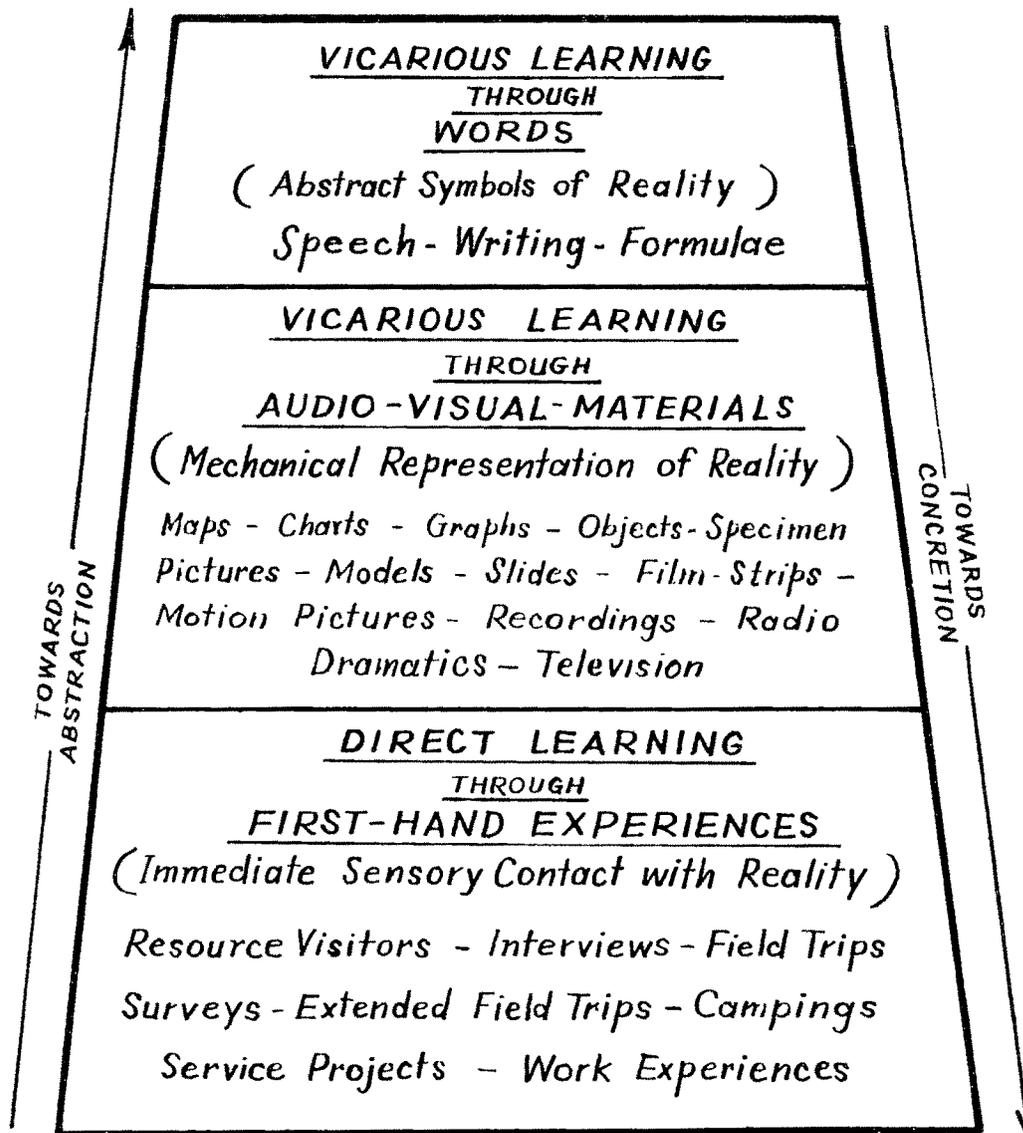


FIGURE - 2

THREE TIER LEARNING PROCESS

organs actively in the learning process through personal contact methods. From the review of expert opinion on the subject, it appears that the fundamental method for the effective learning is through direct experiences. But such direct experiences may not be possible all the times. Therefore, the next alternative to substitute these experiences, the contrivance is made through the various techniques and aids. This method is very widely accepted for use in the schools and colleges. These contrivances are known as audio-visual aids or audio-visual instructional materials and methods.

There is a flush of audio-visual instructional materials in the market as a result of the industrial and technological development in the foreign countries. But in India there is comparatively less availability of such materials in the market. The simple inexpensive materials locally prepared may help for the present time. However, the audio-visual instructional materials need commercial production on a large scale and a wide market for sale in the country.

As a matter of fact, decisions about objectives, curriculum, staff, audio-visual aids and equipment will be an exercise of mere imagination if they are not supported financially. Budget is therefore a main spring in the programme of audio-visual education. In the entire budget

of a teacher training college due recognition should be given to the various heads of audio-visual education training programme. The balanced budget should be prepared, covering all the major heads of audio-visual education to cater to the financial needs. The details about the budget items of audio-visual education are discussed in view of some experts in the following pages.

Views on Budget Items in Audio-Visual Education Programme

The allocation of adequate funds is of the prime importance for the visual aids training programme. Erickson writes : " (1) Salaries and wages (2) Operating experiences, and (3) Capital outlay " as the major heads of the budget of audio-visual education. Kinder gives further details of the itemwise budget per pupil in audio-visual education as follows :¹⁹

Salaries	S	0.85
Capital improvements plant	S	0.30
New equipment	S	0.40
Replacement of equipment	S	0.20
Repair and maintenance	S	0.09
Audio-visual office supplies ...	S	0.03
16 m.m. films	S	0.30
Research and experimentation ...	S	0.05
		2.22
Total	S	2.22

¹⁹Ibid., p. 539.

Similarly Weaver and Bollinger have also outlined three major heads of budget as follows : " Three aspects of the program must be considered when establishing a budget -

- A : The initial purchases and installation.
- B : The expense of normal operation.
- C : The funds for expansion and growth in the way of materials and equipment. "²⁰

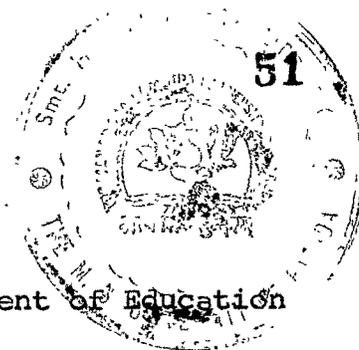
Regarding the details of the items of budget of 40 colleges and universities, Snow found from his survey the following facts included in their budgets :

- Materials : Purchase of motion pictures
Purchase of filmstrips and slides
Purchase of records and tapes.
- Equipments : Projectors, Record players, Microphones, Cameras etc. Teaching machines, repair of equipment.
- Miscellaneous: Amount spent for office supplies.
Amount spent for lamps, belts and other minor repairs.
Amount spent for room darkening.
- Staff: Clerical, Film and Equipment, Projectionists, Technical, Electronics technician.²¹

Hence, all the items required for the audio-visual education department should be carefully considered in planning a budget. Larson, has recommended the detailed budget categorise

²⁰ Weaver and Bollinger, Op.cit., p 291.

²¹ Carl B. Snow, "A Survey of Audio-Visual Budgets," Audio-Visual Instruction, 8 : 4 (April, 1963), p. 253.



as established by the California State Department of Education
as follows :

I. Salaries :

- A : Professional staff.
- B : Technical and clerical staff.

II. Operating expenses :

- A : Office
- B : Cataloging
- C : Transportation
 - 1. Supplies and equipment
 - 2. Personnel
- D : Maintenance
 - 1. Equipment
 - 2. Supplies
- E : Fixed charges
 - 1. Utilities
 - 2. Insurance
- F : Instructional supplies
 - 1. Consumable
 - 2. Replacements

III. Capital out-lay :

- A : Equipment
 - 1. Office
 - 2. Production
 - 3. Inspection and repair
 - 4. Transportation
 - 5. Storage facilities
- B : Audio-visual equipment and materials :
 - 1. New materials - slides, filmstrips, maps

2. New equipments - Projectors, Radios,
Recorders etc.²²

The literature cited above indicates clearly that the elaborate planning of the budget for audio-visual education is made in the United States. This means that there is an adequate financial support and enough availability of the instructional materials in the market. But in India, the position is quite different so far the funds are concerned. Therefore, no such elaborate and specific planning of the budget for audio-visual education is usually seen. As the availability of funds is not within the power of the administrator or Head of the audio-visual education department he has to operate under financial limitations.

Given adequate budget resources, the audio-visual education department could engage itself into research activities besides the training programme. The results of such studies and researches could be published in brochures, pamphlets and bulletins for the use of trainees, schools and even community. It will be a great service to the growing field of audio-visual education in India. The views on the significance

²²L.C.Larson, "What Basis should be used in Planning the Budget for an Audio-Visual Program?" Suggested Answers to Some Pertinent Questions in the Audio-Visual Field, The Forty-Eighth Year Book of the National Society for the Study of Education Part I Audio-Visual Materials of Instruction. (Chicago 37, Illinois: The University of Chicago Press, 1949), p. 245.

of the research and evaluation in the field are briefly mentioned here.

Views on Research and Evaluation in Audio-Visual Education

The audio-visual education department should conduct research in the field to make its programme up-to-date and adequate. Weaver and Bollinger stressing upon the importance of research in audio-visual education state :

There is a need to develop better techniques in the use of visual materials. Consequently departments of educational research will attempt to develop the proper psychological approach to their uses. Teachers, at the present time, have at their disposal various teaching aids, but they fail to secure maximum educational return from them because of a lack of the proper utilisation.²³

Several researches and publications in audio-visual education have been done in some foreign countries. The beginning efforts of research in the field have also started in India. But there is a vast field of research in audio-visual education to be explored in the country. More efforts are needed to encourage research in the field to develop audio-visual education programmes.

The important component of research is a continuous evaluation of the programme of the audio-visual education department. The required changes in the teaching techniques

²³Weaver and Bollinger, Op.cit., p. 371.

can be done through the critical evaluation of the programme. In order to know the performance of an audio-visual education training programme evaluation is very essential. Evaluation programme will focus the attention on the places where improvement in the training programme is needed and will point out the strong features also. The evaluation programme thus, helps in adjusting the training programme to the needs of the teachers and opens the directions for improvement in teaching methodology.

Erickson writes : " It is the emphasis upon growth towards valid goals in qualitative as well as quantitative characteristics that makes the process of evaluation and appraisal, rather than measuring and testing. " ²⁴

Now with reference to the evaluation of audio-visual education training programme he specifically states " In a very real sense, evaluation of the audio-visual service programme has the same reference point, curricular purpose, because it either fails or succeeds in terms of its contribution to improvement of learning where it counts most in the learner himself. " ²⁵ Noel and Leonard have suggested the detailed criteria for evaluation of teacher education programmes in audio-visual education as follows :

²⁴ Erickson, Op.cit., p. 431.

²⁵ Ibid., p 432.

Philosophy and General Knowledge of those Persons
Responsible for Instructing Teachers in the Use of
Audio-Visual Teaching Materials :

1. Do they have an understanding of the important developments and practices in this field ?
2. Do they have an understanding of the important research studies in audio-visual education ?
3. Are they familiar with significant literature in audio-visual education ?
4. Do they lend their support to plans and movements designed to strengthen or improve audio-visual education ?
5. Do they have an understanding of the philosophical and psychological factors underlying the use of audio-visual materials ?
6. Are they encouraging and directing students to do research in this field ?

Nature of the Instruction and Learning Opportunities
in Audio-Visual Education :

1. Are courses provided in this specific field ?
2. Is the instruction of high quality ? Have the instructors had practical experience in the use of audio-visual materials ?
3. Does the instruction reach all students preparing to teach ?
4. Are the courses academically recognized, and is adequate credit given for them ?

5. Is the audio-visual approach applied in all courses where useful, thus providing instruction by example ?
6. Does classroom practice reflect a knowledge and understanding of the basic principles and methods of audio-visual education and the place of these materials in the instructional program ?
7. Is good audio-visual practice evidenced in the proper utilisation of blackboards, display cases, bulletin boards, and other medium of instruction adaptable to audio-visual methods ?
8. Does the instruction in audio-visual education involve the study of all the important materials and actual practice with materials and equipment ?
9. Have provisions been made so that students may examine and appraise materials in their teaching fields of interest ?
10. Is emphasis placed on helping students to acquire skill in actually selecting and using audio-visual materials ?
11. Are audio-visual materials presented in their total relationships to learning, to curriculum objectives, and to methods of instruction ?
12. Are students given opportunities to demonstrate their skill in the use of audio-visual materials and equipment ?

Provision of materials and equipment, and provision for the Audio-Visual Program :

1. Are audio-visual laboratory facilities provided with a wide variety of materials and equipment ?

2. Are the materials and equipment sufficient to meet the needs of instructors and students, and to permit a working knowledge of thereof ?
3. Are materials and equipment up-to-date, properly maintained, and accessible ?
4. Have personnel and facilities been provided for cataloging, storing, repairing, and maintaining materials and equipment, and for transporting them to the point of use as required ?
5. Are capable and experienced personnel in charge of the program, providing it with direction, evaluating results, and planning for growth and improvement ?
6. Is the library of reading materials about audio-visual materials up-to-date and comprehensive ? are current magazines in the field available ?

Knowledge, Understanding, Skills, and Abilities Acquired
by Students :

1. Do students utilize audio-visual materials properly in their practice teaching ?
2. Do students, upon examination, give evidence of possessing adequate understanding, skills, and attitudes in the field of audio-visual education ?
3. Do students satisfactorily demonstrate their skill in handling materials and equipment ?
4. What do students say about their study of audio-visual education ? How do they think it will help

them be better teachers ?²⁶

Similarly Erickson has also given twelve-point evaluative criteria for audio-visual education training programme as under :

1. Is the leadership performance of the director adequate for obtaining competent effort of the staff in achieving the purposes of the service organisation ?
2. Are materials and equipment made available to teachers, in adequate variety and quantity when needed, with a minimum of distraction and inconvenience ?
3. Is the growth and expansion of the service program proceeding in accord with well-thought-out, long-term plans ?
4. Do the in-service education activities reflect the best concepts of teacher growth and an adequate understanding of the learning process ?
5. Is teacher performance with A.V. materials creative and significant or stereotyped and unimaginative as far as pupil activities are concerned ?
6. Are the relationships between curriculum planning and the audio-visual service program fruitful and co-operative and geared to community needs ?

²⁶Elizabeth Goudy Noel and J. Paul Leonard, Foundations for Teacher Education in Audio-Visual Instruction, American Council on Education Studies, Series I, (Washington: American Council on Education Studies, 1946).

7. Are service center physical facilities adequate and if not, have plans and recommendations been made to school authorities ?
8. Are adequate records kept and reports made to appropriate authorities ?
9. Has a strong and effective system wide organization been established to serve the audio-visual instructional needs of teachers ?
10. Are effective efforts being put forth to ascertain strength and weaknesses ?
11. Are effective efforts being made to promote community understanding of the power of A.V. materials in the learning process ?
12. Are effective efforts being made to assess the significant values accruing to learners through the audio-visual service program ?²⁷

The review of literature clearly leads one to understand that the development of audio-visual education in India is very slow as compared to that of some other countries due to lack of research and evaluation. It is quite evident from the literature reviewed in the foregoing pages that the organisation of audio-visual education training programme in the teachers colleges of India is lagging behind. Some observations of the experts on the development of the audio-visual education programme in India are reviewed below :

²⁷Carlton W.H.Erickson, Administering Audio-Visual Services, (New York: The Macmillan Company, 1959), pp. 437-45.

Views on the Development of Audio-Visual Education in India

The ancient architectural monuments, old paintings, dramas and dances and variety of folk dances are the living pages describing the ages of long history of visual communication in India. Audio-visual communication has got its due recognition in the daily life of the people. It was accepted directly as the potential media for the religious, social and formal education. But the modern devices of audio-visual education had not been developed in India due to slow industrial and technological changes.

The significance of the modern audio-visual education in India, has been realized by the State education departments for the last few decades. Well organised efforts in improving audio-visual education were made only by very few teacher training institutions in the beginning and even now there are some teacher training institutions where audio-visual education has not been given due recognition. In the limited literature available in the field of audio-visual education in India, there is paucity of research studies done specifically on the evaluation of organisational aspects of audio-visual education training programmes in the teacher training colleges.

Now-a-days the attempts are made to recognise and establish the importance of audio-visual training in the general system

of education. It is rather difficult to cite a date on which the systematic audio-visual movement had its inception in the education departments of the various States and the Central Government in India but the recent movement for the development of audio-visual education in the country may not be more than half a century old.

Sharma gave a brief account of the audio-visual education movement in the All India Teacher's Conference on Audio-Visual Education in the following words :

As a matter of fact, India possesses a heritage of visual arts rich in colour, variety and types. Her architectural monuments, paintings and calligraphy, her folk arts, dramas and dances have formed the traditional media of mass communication and, in a way, audio-visual education for her people from time immemorial. Yet, in general system of education, the importance of audio-visual education was not recognised till recently and the use of audio-visual aids has come very shortly. It was perhaps in 1920, that the Bombay Government made a beginning by way of acquiring some films and film projectors for the purpose of organising filmshows locally. There was little progress after that till 1942, when the Ministry of Education set up a small film library and acquired some projectors. In 1947, the present Audio-Visual Section was set up as a part of the post-war educational development plan and films worth a lakh of rupees purchased. The section deals with policy matters and other questions concerning audio-visual education in the country.²⁸

This shows the past heritage of India in audio-visual communication process. But the efforts to introduce the

²⁸J.N.Sharma. "Audio-Visual Education in India Today." Proceedings of the All India Teachers' Conference on Audio-Visual Education (Delhi: Ministry of Education, Government of India, 1957), p.20.

communication techniques in the schools and colleges were lacking.

Tracing further the development movement of audio-visual education Chakrabarti writes :

The subject was considered for the first time by the All India Educational Conference held in 1948, and a few months later the Government of India appointed a committee to examine the problems of visual education in different levels of education.²⁹

The movement of audio-visual education was further encouraged by the Government of India by holding the National Conference on the subject :

The All India Teachers' Conference on Audio-Visual Education, was held at the Central Institute of Education, Delhi, in July 1956 by the Ministry of Education, Government of India.

The specific objectives of the Conference were :

- A : To create interest in the potentialities of simple audio-visual aids.
- B : To provide information regarding modern audio-visual aids and equipments and recent developments in the field.
- C : To provide an opportunity for the exchange of teacher's experiences in the use of audio-visual aids.

²⁹Sujit K. Chakrabarti, Audio-Visual Education in India (Calcutta: The Oxford Book and Stationery Co., 1961), p.1.

D : To strengthen the movement for audio-visual education by acquainting the teachers with the facilities, Central and State Governments were offering for this purpose.

Recommendations of the Conference were as follows :

- 1 : For the proper development of audio-visual education in India, it is necessary that every State Government should have; (a) an Audio-Visual Aids Section in its Education Department; and (b) an Audio-Visual Training Centre, for which the State Governments should be eligible for Central help.
- 2 : When teachers are sent for training in an Audio-Visual Training Centre, they should be treated as on duty for the period of such training.
- 3 : In States where no special fee is levied for audio-visual education, the expenditure on audio-visual aids, equipment and that on the preparation of audio-visual aids incurred by a school should be treated as a legitimate charge on non-governmental funds, such as the Boys' Fund, where special audio-visual education fee is levied, it should cover the expenditure on audio-visual aids equipment and preparation of audio-visual aids.
- 4 : State Education Departments are requested to investigate handicaps in the way of greater use of audio-visual aids in secondary schools and ways and means to overcome the handicaps.

- 5 : In the interest of uniform development of audio-visual education in secondary schools in the country, State Governments are requested to organise visits of school teachers to places in the States or in other States where particularly significant audio-visual educational work is being done.
- 6 : The conference requests Teachers' Training Institutions to take up research in the materials, availability and cost of various types of audio-visual aids.
- 7 : The conference advises every school and especially every secondary school to have one of its teachers specialized, if possible, trained in the use of audio-visual aids as well as in film appreciation and to give him sufficient opportunities to utilize his knowledge and skills for the benefit of the whole school.
- 8 : The conference invites the attention of commercial producers of audio-visual aids to the desirability of inviting the collaboration of competent subject teachers in the preparation of these aids for them.³⁰

The recommendations were very ambitious for the promotion of the audio-visual education in the country. It also explored the scope of audio-visual education in the schools and colleges.

³⁰Proceedings of the All India Teachers' Conference on Audio-Visual Education held at Delhi, July 1956. p.9. (Appendix B), Ministry of Education, Government of India, (New Delhi: Ministry of Education and Scientific Research, Government of India, 1957), p.9.

For the implementation of the recommendations of the All India Conference on Audio-Visual Education, organised on the occasion of the visit of the famous audio-visual expert Prof. T.L.Green in 1951 the Government of India set up a National Board for Audio-Visual Education in 1952. The Board has a wide representation on it of educationists, teachers, producers and others interested in the field. The functions of the Board were outlined as under :

- (a) To formulate policy for the development of audio-visual education in India.
- (b) To examine the work done in this field by the Central and State Government.
- (c) To give advice on the promotion of facilities for audio-visual equipments for classroom teaching.
- (d) The production of audio-visual aids and the training of experts in audio-visual teachings.

The first meeting of the Board was held in 1953 and some of its important recommendations were :

- (a) Establishment of the State Visual Boards for the adequate implementation on All India basis the decisions taken by the Board.
- (b) The production of educational films by the Films Division of the Government of India.

- (c) The production of non-projected visual aids and the use of aural aids in schools.³¹

The development movement of audio-visual education was given a concrete shape by the recommendations at the conference.

The National Board for Audio-Visual Education in India in its second meeting held in May 1955 under the chairmanship of Shri K.G.Saiyidain, Additional Secretary to the Government of India, Ministry of Education, examined the following schemes for the development of audio-visual education under the Second Five Year Plan and approved them :

- (i) Establishment of State Audio-Visual Boards.
- (ii) Establishment of film and filmstrip libraries on a State-wise basis.
- (iii) Introduction of Audio-Visual Education in Teacher's Training Institutes.
- (iv) Supply of radio sets to High/Higher Secondary Schools.
- (v) Supply of Audio-Visual Education mobile vans to all districts.
- (vi) Publication of a periodical on Audio-Visual Education.
- (vii) Production of 35 mm filmstrips.

³¹J.N.Sharma. "Audio-Visual Education in India Today", Proceedings of the All India Teachers' Conference on Audio-Visual Education, (New Delhi:Ministry of Education and Scientific Research, Government of India, 1957), pp.20-21.

- (viii) Research in the evaluation of films in education in cooperation with some selected institutions.
- (ix) Encouragement to private producers in the production of Audio-Visual aids and equipment.

The third meeting of the National Board for audio-visual education :

The third session was held in New Delhi in January, 1959 under the Chairmanship of Shri R.P.Naik, I.C.S. Joint Secretary, Ministry of Education, Government of India. The Board examined the reports of the State Governments regarding the implementation of the schemes under the Second Five Year Plan. Those State Governments which had not set up State Audio-Visual Boards were asked to do so without further delay. The Board approved the proposal to establish a National Institute of Audio-Visual Education. This institute is to train teachers in the making and proper use of audio-visual materials and to carry out evaluation and research in the effectiveness of these materials.

The Board decided to set up an advisory standing committee of the National Board for Audio-Visual Education consisting of seven members. This committee is to meet once in three months.³²

This suggests that the audio-visual education in India has taken a big stride forward in a quantitative and qualitative sense due to the elaborate efforts of the Government of India through various conferences, committees, and seminars. The wheels of progress in audio-visual

³²Chakrabarti, Op.cit., pp.5-6.

education at different levels were put into gears by the efforts of the Central and the State Governments in the country.

The adoption and diffusion of this movement at the State level can be viewed from the brief account of audio-visual education in several States given by Chakrabarti.

The account of progress is confined to Five Year Plan Period upto 1960. It appears from the brief description given below that some foundation was laid in each State for the development of audio-visual education programme.

Andhra Pradesh. With a view to encourage the use of radio, the State Government supplied radio sets on fifty per cent grant basis to many High and Higher Secondary Schools. As a result of this many institutions organised the radio-clubs. The State Department of Education organised exhibitions on the educational use of audio-visual aids.

Bihar. In addition to the film library a work-shop has been started for the production of inexpensive audio-visual aids. The product has been supplied to the schools and social education centres. The State film library has 211 films and loaned to 25 authorized exhibitors of educational

films, Government has supplied 156 radio sets, 107 magic lanterns, 11,310 slides, 6 sound projectors and 2 filmstrip projectors to different institutions in the State so far.

Himachal Pradesh. Audio-visual education officer has been appointed to be in charge of the Audio-Visual section of the Department of Education. This section organised seminar-cum-training courses in audio-visual aids. An audio-visual library has been opened with 118 (16 mm.) films, 258 filmstrips, 2 (16 mm.) film projectors, 4 filmstrip projectors, two tape recorders, and one epidiascope. The training institutions in the State have been supplied with these equipments, and 33 high and higher secondary schools have been supplied with radio sets.

Kerala. The State Government has established two audio-visual units, one at Trivandrum and the other at Ernakulam. These units are equipped with all kinds of audio-visual aids and equipments. State organised seminars on audio-visual education. The extension department of the Government Training College organised number of training courses and exhibitions of audio-visual aids.

Madras. The State Government organised training course for teachers in the preparation and proper use of audio-visual aids at Vellore. Short courses on audio-visual

education training were organised by the extension department of Thiagarajan College of Preceptors. Training included the making of an inexpensive apparatus for the projection of slides and filmstrips with the help of sunlight.

Maharashtra. State Government organised several short training courses at Bombay on the preparation and proper use of audio-visual aids. Department of Audio-Visual Education produced several new films and filmstrips and organised seminars and exhibition of audio-visual aids. The State film library has now 2,200 films and about 1,500 filmstrips.

Madhya Pradesh. Audio-visual aids section has been established under the Directorate of Public Instruction. All the 22 Multipurpose Secondary Schools have been equipped with audio-visual aids and equipments. Seminars and workshops were conducted at important centres. A sum of Rs.52,400 has been sanctioned by the State for the opening of a film library during the financial year 1961-62. Fifty films and 160 filmstrips have already been acquired for the purpose.

Orissa. The State Board for audio-visual education has started film library. Posters, filmstrips and gramophone records have been produced in large number. Film shows and dramas are arranged at important centres by a number of mobile vans of the department.

Rajasthan. A full-time officer has been appointed to be in charge of the audio-visual department and the State Film Library. The department has acquired almost all kinds of aids and equipments and also four mobile vans for arranging film shows at different centres of the State.

Uttar Pradesh. Film section of the department of education has produced several new films and filmstrips. A seminar on audio-visual education and an exhibition of inexpensive aids were held. Several mobile vans for arranging film shows are maintained.

West Bengal. A regional audio-visual board and a State Council for School broadcasting have been set-up. Radio sets have been supplied to about 600 High and Higher Secondary Schools. Department of Extension of David Hare Training College organised short course on audio-visual education.³³

The literature reviewed so far, gives the glimpses of the development of audio-visual education at the Government level, and gives a brief picture of the present position of audio-visual education in India. The march of development movement should continue to cater to the changing needs of the society. The programme should be dynamic and progressive. Hence it needs reorientation and reorganisation.

³³Ibid., pp. 9-15. (Summary)

Through the evaluation process of the entire organisation of the audio-visual education training programmes in the teacher training colleges, they can be made effective and purposeful. This study has attempted to probe in that direction and the procedure adopted is discussed in details in the next chapter.
