

**A Hand-Book of
TECHNIQUES OF TEACHING
AND TEACHING AIDS FOR
COOPERATIVE EDUCATIONAL INSTRUCTORS**

DAMAN PRAKASH
PUBLICATIONS ASSISTANT



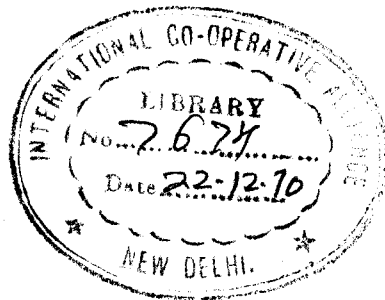
INTERNATIONAL COOPERATIVE ALLIANCE

Regional Office and Education Centre for South-East Asia

Post Box 3021, 43 Friends Colony, New Delhi-14, India

A HAND-BOOK
OF TECHNIQUES OF TEACHING AND
TEACHING AIDS
FOR
COOPERATIVE EDUCATIONAL INSTRUCTORS

Daman Prakash
Publications Assistant



3381137
DAM

INTERNATIONAL COOPERATIVE ALLIANCE

Regional Office and Education Centre for South-East Asia
Post Box 3021, 43 Friends Colony
New Delhi-14. India

INTERNATIONAL COOPERATIVE ALLIANCE
Regional Office & Education Centre
for South-East Asia, Post Box 3021
43 Friends Colony, New Delhi-14.

Dear Instructor-friends,

This Handbook on Techniques of Teaching and Teaching Aids for Cooperative Educational Instructors has been prepared keeping in view the role which an Instructor is expected to play in the development of the Cooperative Movement. The Instructors are to create an awareness among the villagers, farmers and other community groups about the usefulness of a cooperative society. He has to inform the members about the principles and practices of Cooperation, their rights and duties and the place of cooperative organisations in the economic structure of the country. In order to approach the members, an Instructor, besides being careful, has to equip himself with various teaching methods and teaching aids.

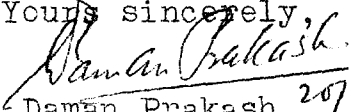
I have tried to compile various methods and aids which could be helpful to an Instructor. Most of them have been tried by me in the field, some time ago, and/or learnt about their success from a number of my friends who are working in the field as Cooperative Educational Instructors. Maybe you find these methods and aids useful in your own programme. Maybe you find these misleading or ineffective. You may have several suggestions to offer which could help me in improving the contents of this Handbook in future.

As you would notice, the Handbook has been mimeographed on one side of the paper. The blank pages are intended for your use. Wherever you find any utility or drawback of any particular method or aid, please record your observations. Please use this Handbook as much as possible. By its continuous use you will be able to judge the usefulness of the contents. Whenever you find time e.g., the period between the termination of one course and the commencement of a new one, you might like to send me a letter containing your observations and comments. I shall naturally be very happy and grateful for your such efforts.

So far as the contents of this Handbook are concerned, please note that the opinions expressed herein are purely mine and not of the International Cooperative Alliance with which I am working.

Wishing you all the best, I remain,

Yours sincerely,


Damān Prakash 20/7/70
Publications Assistant.

A HANDBOOK OF TECHNIQUES OF TEACHING AND TEACHING AIDS
FOR COOPERATIVE EDUCATIONAL INSTRUCTORS.

T a b l e o f C o n t e n t s

- Part I Teaching Methods in Cooperative
Member Education
- Part II Teaching Aids - their Classification
and application in Cooperative Member
Education Programme
- Part III Use of Projectors in Teaching
with special reference to Cooperative
Member Education Programme
- Part IV Reference Material on Teaching Techniques
and Teaching Aids
-

Written by: Daman Prakash, Publications Assistant
International Cooperative Alliance
Regional Office & Education Centre for S-E Asia
Post Box 3021, 43 Friends Colony
New Delhi-14. India

Illustrations by: Daman Prakash.

New Delhi, July 20 1970.

PART : I

TEACHING METHODS IN COOPERATIVE
MEMBER EDUCATION

(A Hand-book on Techniques of Teaching and Teaching Aids
for Cooperative Educational Instructors and Teachers.)

INTERNATIONAL COOPERATIVE ALLIANCE
Regional Office and Education Centre for South-East Asia
43 Friends Colony, New Delhi-14. India

TEACHING METHODS IN COOPERATIVE MEMBER EDUCATION

Daman Prakash, Publications Assistant
ICA New Delhi

Introduction

A child of four years was admitted to a nursery school about a month ago. The parents were happy that their kid was admitted to a very good school of Delhi. The mother took extra care of the child and arranged for a number of colourful frocks and ribbons for the child. The father brought a number of illustrated books in addition to the ones prescribed by the school just to enable the child to learn more and faster. Both had high hopes and the child also appeared to be happy about the whole thing. Somehow after a month, the father wanted to check the progress of the child and therefore took a book out of the satchel and asked the child to read a particular page. The child looked at the page but did not read it. The father asked again, but the silence dominated the anxious moment. The father tried again and failed. He lost his temper and hit the child. The child cried, mother came running and so on... Thus one month's effort put in by the school teacher ran down with the tears of the innocent child. Who was at fault? The father, child or the teacher. The nursery teacher was obviously concerned with the building of an aptitude in the child to get accustomed to the environments of the school. She was perhaps more concerned about the psychological development of the child before she could introduce the child to the world of written letters. In the school the system was different while the father had his own.

So these conditions under which a student learns something are different from man to man, place to place. In Colleges the professors start teaching with the assumption that their students have acquired some basic knowledge and are in a position to understand advanced concepts. There the students are not treated like nursery kids or school boys. The attitude of the students is different and far more mature. They like to learn more and more by themselves and a talk by the professor is considered as an aid.

In villages there are programmes in operation under which various categories are brought to a class-room to learn something or the other. There are adult classes, there are classes for progressive farmers, there are classes organised by Family Planning workers for the women, there are classes for

members of a cooperative society etc. To get closer to these "students" there are different methods. All groups are not handled alike. So the Instructor has to adopt certain "methods of teaching" to get his ideas across and make his audience aware of the ideas which the Instructor has in his mind. So now we come to the point. What are the various methods of teaching with particular reference to the Cooperative member education programme in developing countries?

The importance of cooperative member education in developing countries, like India, cannot be over-emphasised. It is very necessary to make members, managing committee members and office-bearers of cooperative societies aware of their duties and responsibilities. They have to be told about the Cooperative Principles and Practices which guide the Cooperative Movement. They have to be made "Cooperators" so that they become "democrats" and contribute to the development of democracy. Enlightened members are therefore assets to cooperative organisations and ultimately to the democratic way of life.

Several types of members are to be brought under the cooperative member education programme. They can generally be categorised in the following manner:

1. Members who already possess some amount of elementary education,
2. Members who are illiterate, but intelligent,
3. Members who are connected with the Cooperative Movement as well as with political activities,
4. Women members,
5. Young members,
6. Students etc. etc.

Uniform pattern of imparting member education is therefore not possible. Needs of all categories have to be satisfied. Therefore the following important points have to be kept in view:

1. Language problem, in a country like India,
2. Level of receptivity by the audience,
3. Types of audience,
4. Capability of Instructor in handling the assignment,
5. Communications problems in developing countries,
6. Political pressures, administrative difficulties etc.

Keeping all these factors in view, an Instructor has to be equipped with several amunition, so that he could be an effective soldier. These instruments or rather methods are termed as "Teaching Methods" or "Techniques of Teaching".

Objectives of Member Education

Before the teaching methods are discussed, it is relevant to have a glance over the main objectives of member education programme:

1. To impart necessary attitudes, knowledge and understanding in members about their problems and importance of cooperatives in general,
2. To develop leadership qualities and team spirit among members so as to help them in solving their common problems by group action,
3. To develop skills and desirable habits among members so that they can solve their social and economic problems more effectively.

The Educational Instructor should therefore guide himself to help cooperative members achieve the above mentioned objectives. He has to equip himself with those teaching methods and techniques which have direct relationship with the needs and requirements and problems of his students - the members of cooperative societies.

Teaching Methods

Teaching methods alone are not sufficient. They form a part of a well-coordinated Lesson Plan. Preparation of a Lesson Plan is a technique in itself and following a Lesson Plan is yet another exercise. A Lesson Plan is supported by a number of items, principal of these are Teaching Methods and Teaching Aids.

There are a number of methods of teaching which have been worked out by teachers and field workers. The list will get longer after more and more teachers go to the people and try to teach them. They will device newer methods. The present known methods of teaching are the following:

1. Lecture method - An Instructor faces the class.
2. Case Method
3. Syndicate Method
4. Seminars and Conferences participation
5. Book review
6. Role Playing, dramatisation, puppet playing
7. Incident process
8. Programmed learning

9. Project Method
10. Symposium
11. Panel discussion
12. In-basket technique
13. Business games
14. Demonstration Method
15. Observation-cum-study visits
16. Sensitivity training
17. Task force method
18. Tutorial system
19. Brain storming sessions
20. Debates
21. Quiz competition
22. Planned reading programme
23. Coaching method
24. Workshops
25. Executive exercise
26. Counselling and guidance
27. Correspondence courses
28. Audio-visual aids
29. Exhibits, displays, cartoons, comic book
30. Student participative teaching method
31. Guided discussions
32. Study Circles
33. General Body meetings

This list can be re-adjusted to suit the needs of the Instructor with reference to Cooperative Member. Based on the experience of some Cooperative Instructors and others, the following Teaching Methods are most suitable when members of cooperative societies have to be approached.

1. General Body Meetings
2. Study Circles, group discussions, correspondence courses
3. Seminars and Conferences
4. Lecture method
5. Study Tours, Demonstration
6. Exhibitions, Cooperative Day/Week Celebrations
7. Case Studies
8. News Bulletins, Newspapers etc.
9. Mass Media of Communication
10. Information and Member Advisory Services
11. Role Playing, dramatisation
12. Audio-Visual Aids

An Instructor should, as far as possible, try to be sympathetic towards his audience and be generous in extending all possible assistance to those who are being taught. Which method is most suitable, depends upon the fact to what extent the Instructor has proved to be a guide to the members. It may be that General Body Meetings Method is found to be most effective in one particular area. It is not necessary that the same method would be useful and effective in another area. The selection of teaching method therefore rests with the Instructor.

1. General Body Meeting

This is considered to be the best method of member education. In this situation the members are directly connected with their own cooperative. They should learn, of course with the help of the Instructor, the various techniques of holding a general body meeting, understanding annual reports and balance sheets. They should, with the help of the Instructor, be able to ask intelligent questions relating to the activities of the society. Greater involvement of members in the general body will bring in greater efficiency in the working of the society.

By actively participating in the general body meeting, the members are able to learn something about the democratic control of a cooperative society, importance of the general body and "his" own importance in the affairs of the society.

The role of the Instructor in this particular method is not of a dictator. He has to be an advisor to the members. He has to guide the members in handling the affairs of a cooperative society. Members can learn more about the role of the Cooperative Department in the development of Cooperative Movement. Members can be informed by the Instructor on matters like loaning operations, legal implications, usefulness of holding general body meetings etc.

2. Study Circles, group discussions, correspondence courses

This method is useful and effective for those groups of members who are literate. The Instructor could help the members to form one or more study circles or groups. The Instructor could pick up one or two problems which are confronted by the cooperative society and arrange a discussion on them. The Instructor could approach the District Cooperative Union or the State Cooperative Union for relevant material which could be supplied to the study circle for discussion. The Instructor also could study the problem himself and then guide the discussions of the Study Circle. To conduct the meetings of a study circle, a chairman and a secretary could be democratically elected. Based upon the conclusions of the discussions the Instructor could guide the group on how to approach the authorities in the matter.

Thus it is clear that the Instructor has been able to help the members in thrashing out the problem and its possible solutions. The members have therefore been able to learn more about their difficulties and the method in which they can solve their problems.

Correspondence courses are also useful. The Cooperative Unions publish various journals and documents which reflect the trends in cooperative development. The study circle or the group created by the Instructor in a cooperative society can

be enrolled for a correspondence course. The study circle will regularly receive lessons or informative material from the cooperative union which will eventually be discussed by the group and replies sent to the Cooperative Union. The discussions and entry of replies are to be guided by the Instructor. This will have two direct results: the study circle will know more about the current cooperative policy, and the cooperative union will know how the cooperative members react to it. Another side effect will be the enrichment of knowledge of the Instructor himself, who will be able to adjust himself to the present conditions.

Correspondence courses in various cooperative subjects have been in use in a number of countries, more particularly in Scandinavian countries and the case of correspondence courses in Tanzania by the Cooperative Education Centre is in point. Some efforts in this direction have been made in India too.

3. Lecture Method

It is a good and effective method for a limited group which has a higher level of understanding and literacy. It is the most widely used method. It is a one-way traffic unless it is combined with a seminar or some other relevant method where the participants are able to put several questions to the Instructor. Under this method, the Instructor has to be specific about the subject on which he is to speak. He has to prepare himself fully, by reading books. The Instructor has to write down synopsis of his lecture and maintain a sequence of the delivery. He should possess a personality, which is so very important for a teacher to possess. He should prepare himself and be in a good shape to present his views.

After the completion of his lecture, the Instructor may convert the class into a seminar group and thus allow the "students" to ask questions and clarifications.

4. Seminar and Conferences

Under this method, the members are allowed to mix with the members of another society. The members are expected to be educated. They are provided with back-ground papers on the subjects to be discussed at the seminar. They are allowed to speak to the seminar-participants and place their views freely and frankly, however, confining to the subject of the seminar. The Instructor can guide the participants in the preparation of background papers. The Instructor may also help in the conduct of the seminar. He can supplement the statements made by the participants. He can also enable the seminar to summarise the discussions and prepare recommendations etc. made by the seminar. The Instructor can suggest as to how to place these recommendations before the concerned authorities. The members thus learn how to be effective in influencing the cooperative policies and programmes.

5. Study Tours and Demonstrations

This is yet another method of teaching. The Instructor can mention to cooperative members of a village about the success of a cooperative processing plant in another village. Naturally the members of the first village cooperative would be keen on knowing more and more about the successful plant. The Instructor can therefore arrange a study visit to the successful cooperative plant and thereby enable the members to learn about the reasons which made the plant a successful venture. Maybe the members try to have a plant for themselves in their own village. The Instructor could guide the study visit and arrange fruitful discussions between the two groups.

Such an exchange of visits for purposes of studying a venture and seeing its operation, create a lasting effect on the members. The Instructor can thus influence the activities of a cooperative society by making its members aware of the success of cooperatives elsewhere.

Under a learned leadership and guidance of a person like an Instructor, the members take upon themselves the responsibility of arranging such visits. They thus learn the techniques of arranging a study visit and the qualities which a leader must possess.

6. Exhibitions, Cooperative Day/Week Celebrations

1970 has been fortunate in having a precious jewel in its crown i.e., the EXPO '70, the greatest show which the Japanese have presented to the world. A large number of people from developed as well as developing countries are going to Japan to see EXPO '70. This clearly shows how interesting and effective are exhibitions for a man. He finds in them the whole knowledge which help advancement, in a nutshell. An exhibition is an indication of the progress of that sector on which it is arranged. One need not go to various places in the world to find out the development of industry, instead one could go to an exhibition. Similarly, cooperative organisations arrange exhibitions on important occasions e.g. National Cooperative Industrial Exhibition, International Cooperative Day, Cooperative Week, Anniversary Celebrations of important cooperative institutions.

Cooperative members could go to such exhibitions with the Instructor. The Instructor will naturally inform the members about the significance of Cooperative Day celebrations. The structure of the Cooperative Movement in a country, the International Cooperative Alliance etc. The members thus learn more about the cooperative organisation. By going to such functions the members will learn about the Cooperative Principles, the significance of the Cooperative Flag etc. The lectures delivered and the material distributed at such

functions will broaden the horizon of the knowledge of members. The Instructor also gains something which he can use at appropriate places while holding classes for members etc.

7. Case Studies

Village "A" and village "B" are in the same block and are situated close to a river. Both villages have cooperative societies. Village "A" has been able to instal some lift irrigation equipment and the members have been able to irrigate their land. Village "B" enjoying the same conditions somehow could not have such a programme for itself. Production in village "A" is higher than in village "B". What are the reasons for this difference, might be the questions which an Instructor might be asked by someone in village "B". It is an interesting case study. Members of village "A" could then be approached by the Instructor to find out the reasons which resulted in having lift irrigation project for the village. Two or three persons in village "A" could therefore be requested to write down a brief account on these developments. The Instructor also could discuss these matters with the cooperative leaders in village "A". The Instructor then could make these facts available to the members of cooperative society in village "B". Such a study is an important case study which the members of village "B" could undertake with the assistance of the Instructor. The Instructor thus becomes a focal point for the members.

By collecting such case studies in other sectors and making them available to the concerned persons, the Instructor could infuse knowledge and sense of action in the members. The Instructor can therefore transform the fate of those areas in which he operates. Of course, the cooperation of members is really important.

8. News Bulletins, Newspapers

Some societies may not be in a position to put up a notice board or something like that. The Instructor could help the members to work out a news-bulletin board on which news about the society could be displayed. These bulletins could announce things like: meeting of the executive committee, general body, member education class, visit by some important persons, or a Cooperator from abroad etc. It is not necessary that expensive papers and inks are used to make these bulletins. Ordinary ink and old newspapers could be used with advantage.

Also the Instructor could suggest to the members which newspaper carries more of cooperative news. The Instructor can help the members in subscribing to such a newspaper. After all newspapers contain a lot of information on Cooperation and other matters which enrich the members knowledge. Supply of printed material can be arranged with the help of the Instructor.

9. Mass Media of Communication

This means the use of radio, television, cinema etc. in the process of teaching. These methods are very effective for a large audience. Here the process of learning remains one-sided. The Instructor could therefore use these methods in teaching cooperative members. The Instructor could perhaps read through the radio journal and find out the date and time of a cooperative programme broadcast. The Instructor can then request the members to gather at an appointed place and listen to the broadcast. The Instructor could then initiate a discussion on the topic. Similarly, a TV Programme could be used as a method of teaching and so is the case with news-items or supplements appearing in the newspapers.

10. Information and Member Advisory Services

Members of a cooperative society might like to know more about another society in another village. The Instructor could help the members in the collection of information through meetings, documentation, exchange of letters etc. The Instructor thus serves as a guide, teacher, friend to the members.

Members of a cooperative society might be in a difficulty on account of certain wrong entries in account books. The Instructor might be able to help the society in getting out of such difficulties. The Instructor might be able to serve as a link between the Cooperative Inspectors and the society. In this way the Instructor will prove to be a practical fellow who believes in hard work and universal brotherhood.

11. Role Playing, Dramatisation

An Instructor need not lecture an audience for hours. He even need not conduct a study tour along with the members. He can achieve the same result by arranging a sort of drama. The Instructor could work out a theme which is most applicable to the people and conditions of the area. He can appoint a committee to make arrangements for the drama. He can thereby create leadership qualities among the members. Some members will be busy in collecting costumes, ornaments for the actors, while others will be busy in arranging public address system, stage, lighting etc. The action will be a collective action. The Instructor becomes the director. The members learn more about leadership and usefulness of working together, in a cooperative manner. The theme will be talked about several times before the play is actually enacted. They will hear more and more about Cooperation and thus some action will be created which will infuse cooperative thinking among the members.

The Instructor can thus teach better and the results are lasting and both parties are amply rewarded. The actors are appreciated and the Instructor gets satisfaction.

12. Audio-Visual Aids

A teacher, in addition to the usual lecture method, uses several other techniques to supplement his remarks. These techniques are teaching aids or audio-visual aids. These aids are also teaching methods. A cinema projector is a teaching aid, but when a "student" is allowed to operate the projector under the guidance of a teacher, the process becomes a teaching method. The method by which one acquires a sufficient skill is called the teaching method. Various types of audio-visual aids can therefore be used by the Instructor in putting his ideas through. How to use these aids and how best to take out of them, is an idea which an Instructor has to keep in mind always.

To put his ideas before the audience with the help of audio-visual aids is also a method of teaching.

By using any of these methods the Instructor could help the members achieve their objects. The Instructor need not use all these methods, he could use one or two of these or perhaps a combination of some of them.

Evaluation

By perfecting one or more of teaching methods, an Instructor should not regard himself complete and competent. An Instructor has to continue changing with his audience, circumstances etc. His satisfaction is the enlightenment of the members. That is his reward.

It is important that an Instructor continues looking back. He should change himself with the time. He should put his methods to a continuous test. He should have a look at his kit, literature, new policies and programmes of the government etc.

By conducting written or oral examinations he can evaluate his students and his own performance.

PART : II

TEACHING AIDS - Their
Classification and Application
in Cooperative Member
Education Programme

(A Hand-book on Techniques of Teaching and Teaching Aids
for Cooperative Educational Instructors and Teachers.)

INTERNATIONAL COOPERATIVE ALLIANCE
Regional Office and Education Centre
for South-East Asia
43 Friends Colony, New Delhi-14.India

TEACHING AIDS

Their Classification and application in Cooperative
Member Education Programme

Daman Prakash, Publications Assistant
ICA, New Delhi

Introduction

Audio-visual or visual sensory aids help our senses of hearing and seeing to enable us to learn effectively and efficiently. Through these aids the process of learning gains speed. They help in the process of communication. Audio-visual aids are today being employed increasingly in all processes of teaching. The use of these aids is not a new concept. These have been in constant use. The great paintings in caves, temples were created to achieve an effective communication. Ajanta, has its own message, Ellora has its own. Khajoraho might have its own message. But this is certain that these messages were efficiently and effectively transmitted to the millions of eyes which drank the elixir of art and internal expressions from these master-works. The Taj at Agra is one piece of the transformation of a vision of love into the most magnificent buildings in the world. The message it conveys is known to all.

With the progress of time and knowledge, the process of visualisation got precise and meaningful. This sense of visualisation is today employed considerably in the process of teaching and learning.

Another example of the use of teaching aids is the use of slates or sand-boards by the monks and teachers in the educational institutions of the past. Even today one can find the slate being used quite extensively in the schools. Undoubtedly, the slate has survived the pressures of modernisation and continues to be an effective teaching aid in the entire process of learning.

To eliminate ignorance, spreading of education is essential. Knowledge will forever govern ignorance. Learning process gains speed only when the instructional material is simple, effectively and properly illustrated. These illustrations are extremely important for beginners. It is said "One picture is worth a thousand words". Use of symbols is thus as important as the text itself is.

We here discuss the teaching aids in the context of the Cooperative Member Education Programmes. Members of the cooperative societies, on many occasions, misunderstand the significance of cooperative activity. They do not operate the societies themselves. They somehow feel that the Cooperative Inspector will take care of the functioning of the Society, while they are greatly worried about the loan from the society. This notion, instead of the progress of the Cooperative Movement, has helped in putting the cooperative activity entirely out-of-focus, thus bringing it into disrepute. Cooperative organisations, responsible for the development of the Movement, should therefore work out their programme in such a way that they have more educational values for the farmer-members. The members of cooperatives should be able to understand fully their rights and duties, significance of their organisation, contribution of these cooperatives in the process of democracy. Cooperatives are little democracies operating at the village level where each member is a democrat. To sustain that "useful" interest in them, continuous efforts are necessary to keep them informed of the latest changes in the country and the Cooperative Movement. To reach a member, to talk to him, to understand him, it is necessary to get reduced to his level and deal with him with the help of simple language, simple visual aids, and simple "mind".

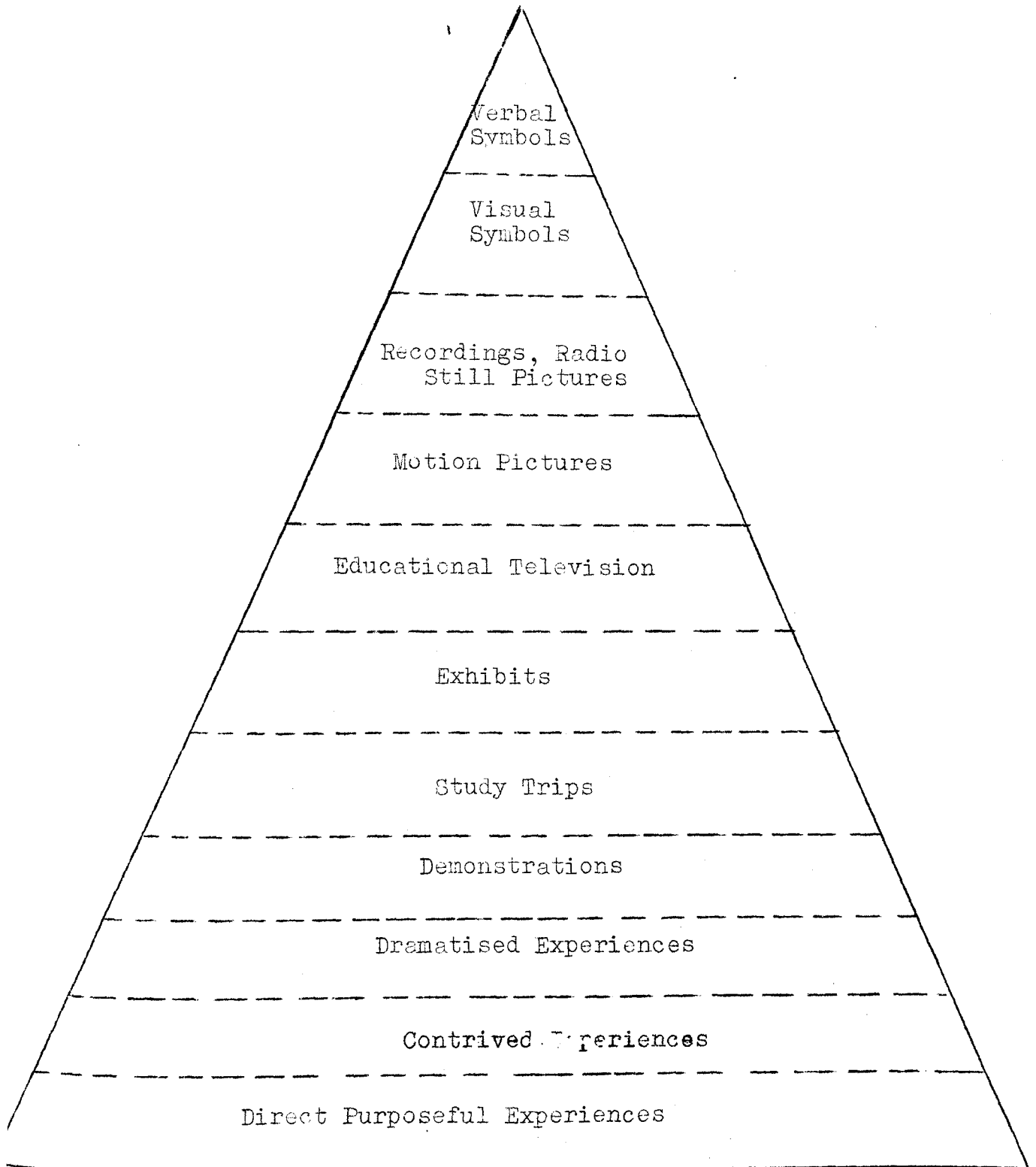
Teaching Aids in Cooperative Education

We categorise the cooperative education process in the following two ways:

- i) Cooperative education imparted at the school level and which continues to be imparted upto university level as a part of the recognised syllabus.
- ii) Cooperative education imparted to the members of cooperative societies i.e., members, managing committee members, office-bearers and potential members, under a well-coordinated and planned cooperative education programme. This is understood better as an adult education process with special emphasis on Cooperation. Illiteracy percentage is to be kept in mind.

The teaching material for category (i) should obviously be quite different from category (ii). The reason: for category (i) the material should be simple and heavily illustrated and the standard of the material changes as the level of the student improves. The material is intended for those who are not actually involved in the practical aspect of the functioning of the Cooperative Movement.

EDGAR DALE'S "CONE OF EXPERIENCE"



The teaching material for category (ii) should be simple, heavily illustrated and easily understood by illiterates and by those who have got some amount of basic school education. Here, feelings, level of understanding, personality and status of the adult-student has to be kept in mind. The material is intended for those who are actually involved in the functioning of the Cooperative Movement.

Teaching Aids

By the term audio-visual aids, visual aids or teaching aids, we generally infer tape-recorder, cinema projector, slides, posters etc. Of course they are the teaching aids, but we should clearly understand that these aids - audio, visual and audio-visual - help in learning and teaching and their achievement is an effective communication.

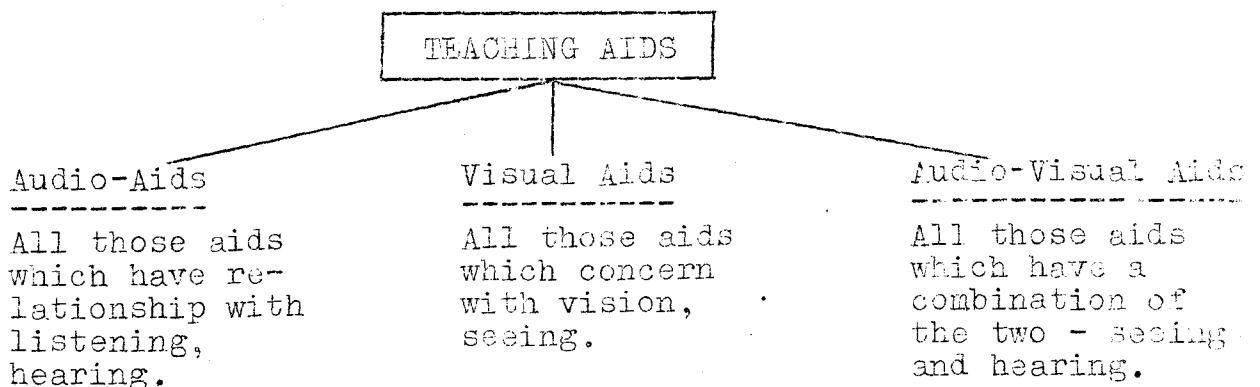
Audio-visual education involves the use of instructional devices such as chalk-boards, flannelgraphs, charts, posters, display boards, models, films, film-strips, demonstration, audio-experiences etc.

The basic element of the visual aids is their pictorial content. They present the subject-matter mainly through the medium of pictures and sketches. Thus they facilitate the formation of mental image so basic to learning.

For better understanding these teaching aids can be classified in the following manner:

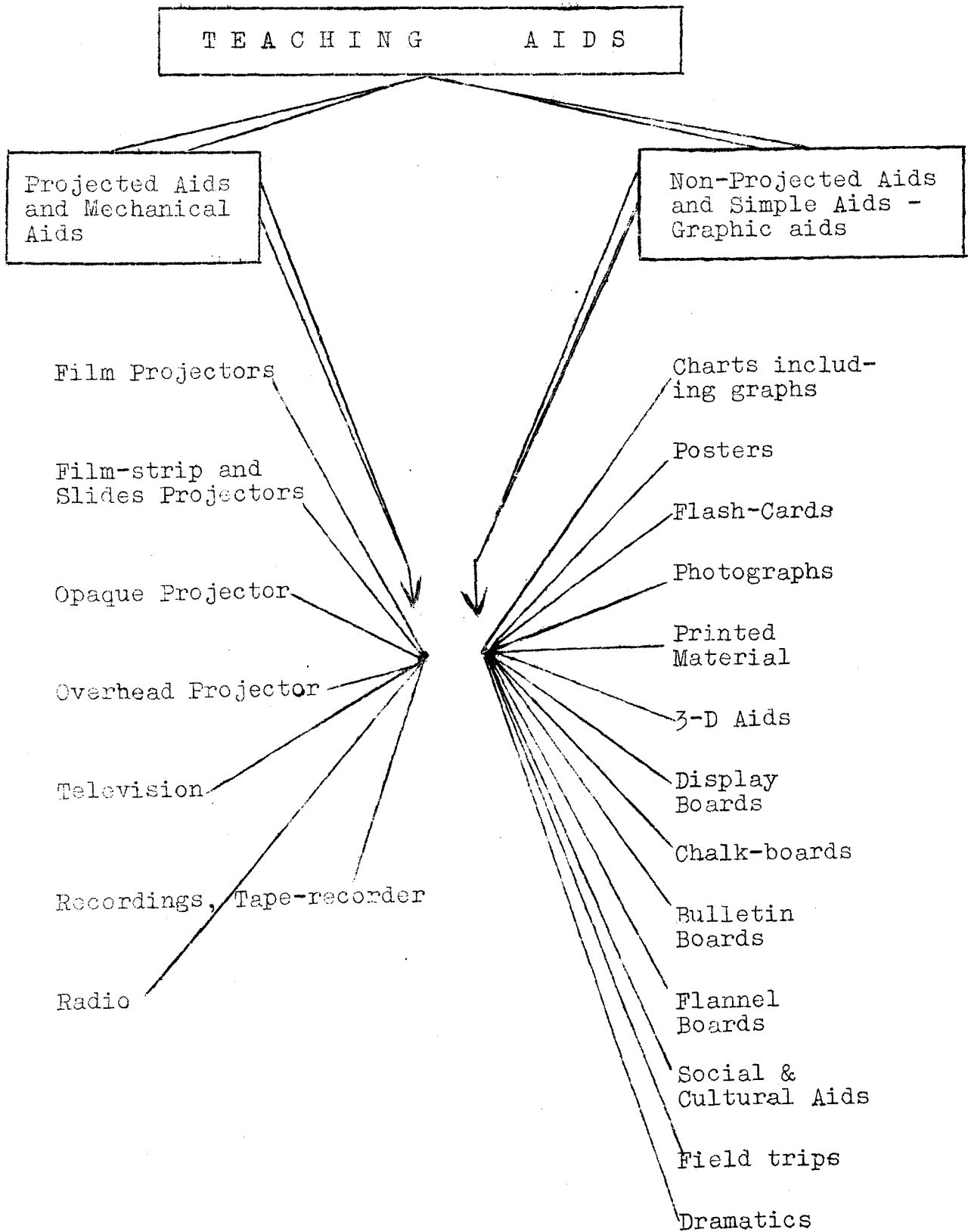
Classification of Teaching Aids

By the term "teaching aids" we mean all those materials which serve as aids in the process of communication. They can be radio, television, posters etc. Audio-aids, visual aids, or audio-visual aids are therefore the teaching aids.



Although these are systematic groupings, yet we re-arrange the classification for our purposes. We do not regard audio, visual and audio-visual aids as separate aids. We try to

classify the TEACHING AIDS. All those aids which help in the process of communication are therefore grouped in the following manner:



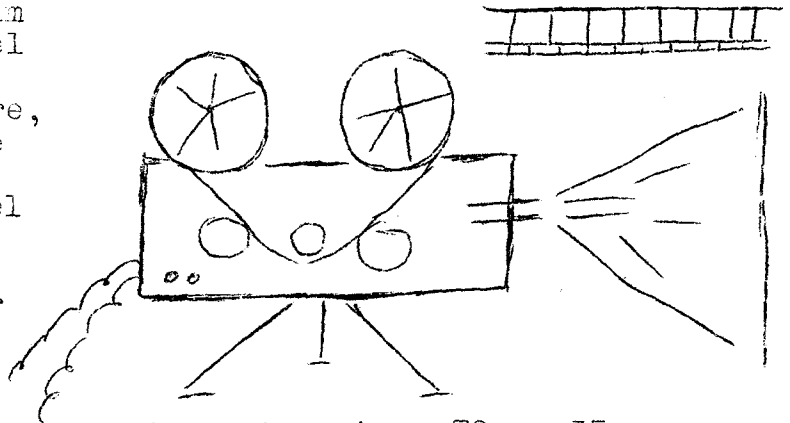
These are not all. There is, in fact, no end to the availability of teaching aids. These are just a broad outline of teaching aids. Depending upon the circumstances and conditions prevailing, new and different types of teaching aids can be created. What is really important is the dynamism of the person using teaching aids.

Projected Aids

Projected aids or mechanical aids are considered to be the most effective teaching aids that can be employed in learning situation. Very encouraging and concrete results are achieved by applying them with care and preparation. A larger audience can be covered and a message can be transmitted to a larger group. Their demand and application is on the increase. A number of developing countries have also started employing these teaching aids. The only limitation with these aids is that they are sophisticated and a bit expensive. But where there is a will there is a way.

1. Film Projectors

This is the most effective media for a large number of people. Receptivity of the message is the highest if the film selected is upto the level of understanding of the audience. It is, therefore, essential that an advance survey should be made to determine the mental level of the audience, the relevance of the film to be screened and proper environment created for its screening.

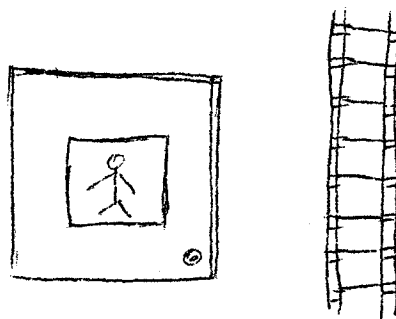


Motion pictures are produced in four sizes i.e. 70mm, 35mm, 16mm and 8mm, both in black and white and colour. Except for 8mm rest of the films are sound films. 70mm and 35mm films are produced mainly for entertainment purposes. Educational and documentary films are produced at present in 16mm and 8mm. 8mm films have a great potential for educational and similar purposes.

While the results of using motion pictures are surprisingly effective, there are certain limitations with them. First is the sophisticated nature of the equipment involved. Second is the lack of electricity in rural areas in many developing countries, Third limitation is the lack of relevant films in regional languages and then the level of understanding of the people is considerably low because of mass illiteracy.

2. Film-strip and Slides Projector

A long story of a film could be summarised into 15 to 20 frames or more, and individual shots taken with captions super-imposed. These frames could be either separated and mounted to be called slides, or maintained in a small spool or a strip of the film, to be called a film-strip. The slides or the film-strips could be projected either with a pre-recorded commentary or with a running commentary in the local language. It is the most effective media for a group of 20 to 30 persons. Slides or the film-strips could be black & white or colour. They are in 35mm standard size, generally.

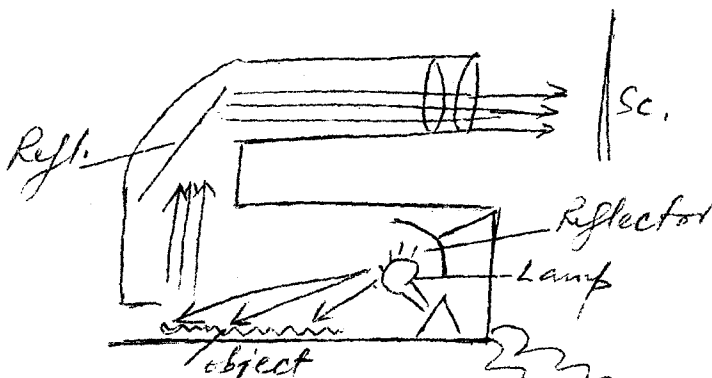


Slides and film-strips can be made either in a vertical or horizontal form.

Special advantages with the slides and film-strips are that they could be interpreted both positively or negatively. There can be pre-recorded commentary or a running commentary in the local language. Any particular frame could be projected for a longer duration, and for a number of times, depending upon the needs. Limitations: as mentioned under No.1, above.

3. Opaque Projector

Also known as Episcopo. This instrument is used for the projection of any non-transparent material such as pictures, photographs, maps, diagrams, stamps, coins etc. It not only projects the objects but also magnifies them. This can be used in all learning situations as it does not require any prepared item e.g. slides, film-strips etc. Although it is used with electricity, yet the running cost is just negligible. This projector is used for tracing maps, drawing pictures, on the chalk-board or on any other surface. Even 3-D samples can be projected with the desired results. It is an excellent teaching aid in class-room situation.



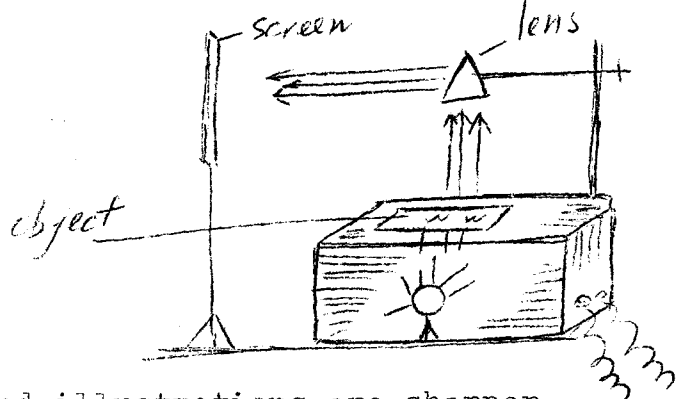
The greatest advantage of this projector is that the process of learning by doing can be easily initiated and the members

of the audience can be encouraged to take up pencils and draw pictures of their interest.

Limitations: Unfortunately the projector is a bulky instrument and cannot be used outside the class-room. It needs electricity which is lacking in the rural areas where many of the cooperative workers operate.

4. Overhead Projector

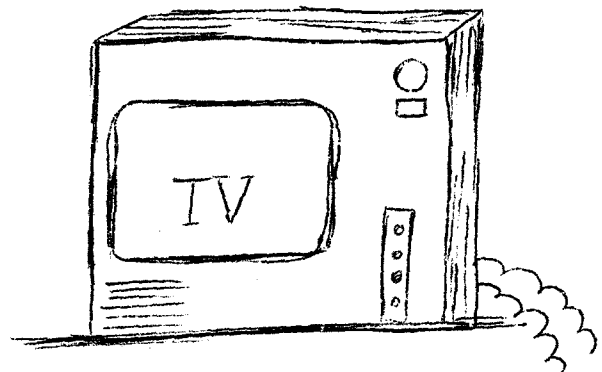
Overhead projectors are very effectively used in class-room teaching. A teacher can continue facing the class even when he is using the projector. There is a glass-top of the base box of the projector under which a powerful electric bulb is lighted. The illustrations made on the transparent slide are projected on to the screen by way of a prism-lens process. The drawings can be made with a wax pencil on the cellophane sheet. The drawings can be easily cleaned and the sheet can be used over and over again. The greatest advantage of this projector is that the projected-illustrations are sharper than what is written on the chalk-board. The teacher maintains a live contact with his audience by continuing to face them.



Limitations: Can be effectively used in class-rooms. Other factors which limit its utility are lack of electricity, lack of cellophane sheets etc.

5. Television

This is regarded as the best and most effective aid for mass communication. It is both audio and visual. Its effect is instant and durable. It has brought a revolution of a new kind in the world. A lesson received through the eye and ear gates has a double chance of retention by the learner. Maybe the TV screen becomes the electronic black-board of the future. It has been accepted as the most effective media of mass communication in the world. There were just ONE CRORE TV sets in the world in 1950, while they numbered approximately 15 crores in the end of 1960s. TV programmes can be effectively used in cooperative member education programmes provided the



Educational Instructor kept a watch on the nature of the programme to be telecast. Selection of a programme is therefore very important. Equally important is the building of interest among the members so that they are able to understand the programme and talk about it keeping in view their own experiences.

Limitations: It is an expensive and sophisticated equipment. Needs a regulated flow of electricity with the help of a transformer. In under-developed countries it has unfortunately not been fully exploited. To set up a television studio is an expensive affair.

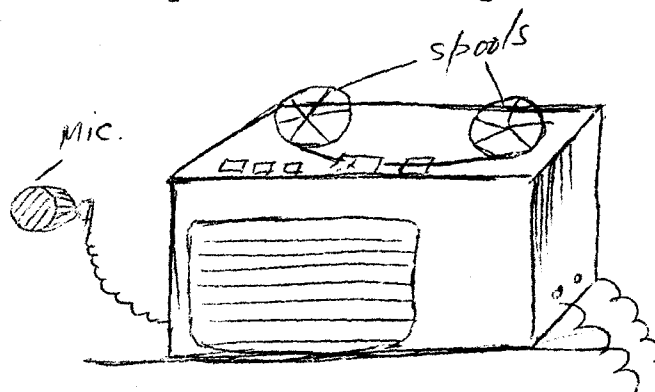
In countries like India, the Government has made available TV sets to a number of educational institutions, village panchayats etc. for whom special programmes are prepared and telecast regularly.

6. Recordings, Tape-recorder

To sustain the interest of the audience it is very important that they hear something which appeals to their sentiments, immotions. Also it is important that a particular message is repeated over and over again until it is accepted.

This repetition of the message can be done with the help of the gramophone or the tape-recorder. Popular film songs could be tape-recorded and played back before the commencement of a cinema show in a village. A lecture on "Cooperative Member Education" could be tape-

recorded and played back at a training class. The tape-recorded message will have a more appealing effect than placing before the audience a written statement. These recordings - discs or tapes - could be used for different age-groups, communities, sections etc. keeping in mind their particular interests. The most important point is the care to be taken in the selection of the tape or the disc.



Limitations: Electrically operated, the tape-recorder is again a sophisticated equipment. The standard tape recorder is quite heavy. Tapes are not available so easily in countries like India. Discs are breakable.

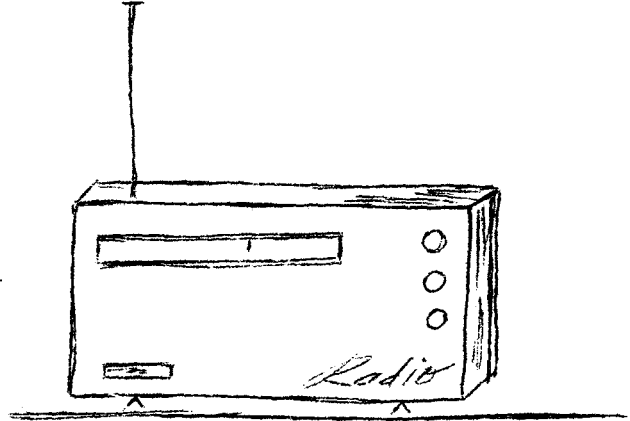
(Transistorised battery-operated tape-recorders are now available. Portable tape-recorders are also available. Unbreakable discs are also available these days. LP - long-playing records are also available. Transistorised battery-operated portable gramophones are also available these days.)

7. Radio

It is difficult to estimate the educational value of the radio in exact terms but it is generally recognised as an educational medium that reaches millions of interested listeners and has far-reaching effects. It is the strongest vehicle for mass-communication. Through the radio, many of the empty corners of our mind are filled with energy love of art, love for knowledge, love for the country, and many other feelings. It helps creating an international outlook.

Many useful programmes are put on air for the farmers, Cooperators, teachers, students, housewives, consumers etc. etc. The important

part is therefore the selection of these programmes and using them according to the prepared programme for a class-room teaching or for a Cooperators' meeting. The Instructor has therefore to keep his mind open and select the most relevant programme.



For example, the Instructor learns through the radio journal that an eminent Cooperator would speak on "The Importance of Rural Cooperatives" on a particular day. The Instructor knows about the timing of the broadcast. He can plan his class in such a way that the cooperative members first listen to the radio-broadcast and then discuss the main points of the broadcast with the help of the Instructor. Radio therefore proves to be an additional Instructor, in other words, a useful teaching aid for the Instructor.

The Instructor can therefore keep such programmes in view so that he can use them at appropriate place and time. At 7.00 a.m. the Delhi Station of the All India Radio puts a programme on the air which is directly addressed to the farmers in the Union Territory of Delhi. Such programmes can be usefully employed by the Instructor while holding classes in the rural areas.

Limitations: With all the advantages, radio is a failure to the extent that it is a One-Way Traffic. Of course with the collaboration of Radio Clubs etc. a sort of chain reaction can be created, but the broadcast is not usually repeated on the same day. Radio is a sophisticated equipment, It is electrically operated. Of course, the present age has become almost an age of Transistors.

Non-Projected Aids

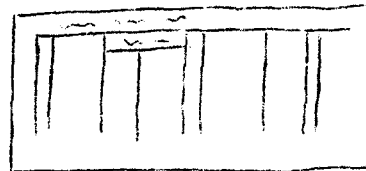
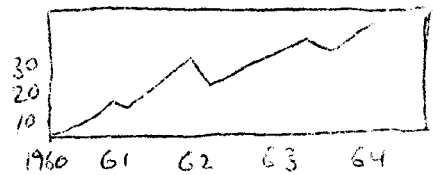
Non-projected, improvised or non-mechanical or graphic aids are those aids which need no sophisticated equipment and which are easily assembled and at almost negligible cost. The preparation of these aids involve greater effort of the "doer". The Instructor or the teacher should be prepared to smear his hands with a bit of colour. He need not work on these simple visual aids all by himself. He can involve his audience effectively.

Everyone is a born artist. Art is inborn, spontaneous and eternal. The only thing is that in some cases the art is evoked and studied to its perfection while in others it sleeps. That is why we on several occasions get thrilled when a piece of art suddenly comes across our eyes. Our sleeping art gets a bit of inspiration and it makes itself felt. Thus everyone is an admirer but there are only a few creators.

By learning simple sketching and drawing, one can, provided one has the interest, create impressive and useful simple visual aids.

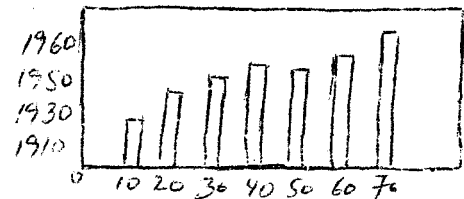
1. Charts and Graphs

They are visual representations of facts, situations or objects for making comparisons, for summarising or for showing developments. It is the most effective media of communication for cooperative member education programme. According to Edgar Dale, a chart is "a visual symbol summarising or comparing or contrasting or performing other helpful services in explaining subject-matter". Charts and graphs are very much used in depicting progress or achievements in certain sectors.



Charts are of the following types

Tree Charts
Stream Charts
Flow Charts
Table Charts
Time Charts
Strip Charts
Flip Charts etc.



posters on some relevant themes e.g. grow more food, importance of consumer stores, use of fertilisers, importance of general body meetings, one member one vote, cooperative is a democratic institution, usefulness of cooperative member education, structure of the cooperative movement, etc. etc. These posters can be used by the Instructor in his classes as and when necessary.

3. Flash Cards

They are good for a group of 20-30 persons of the same level of understanding. These cards are prepared in series around a particular theme. They are produced in such a way that they are handy, simple and effective. Very little of lettering should be done. Clear and bright pictures should be used in printing them. It is necessary to use fast colours for these types of cards. The commentary on the cards is usually printed on the back of the flash-card itself, so that the Instructor could elaborate his point while the front portion - the pictorial part is seen by the audience.

4. Photographs

As mentioned elsewhere, "a picture is worth a thousand words", photographs are extremely important while approaching a cooperative member. A photograph is a permanent record of a particular event. A photograph associates with it a particular incident or a story. A photograph taken of a farmer outside his tube-well house will always be associated with his efforts in installing the tube-well.

Photographs are a universal language. They are interesting, meaningful, attractive and they overcome the language barrier to a great extent.

Several good photographs can be collected by the Instructor. These photographs could show tube-wells, a cooperative store, good quality of bullocks, modern agricultural implements etc. The collection could also include photographs from other countries showing the methods of cultivation, harvesting etc. Maybe one particular photograph influence one particular member.

5. Printed Material

Of course, learning process is incomplete without there being the printed material. To make the cooperative member understand his rights and duties, it is obvious that these rights and duties are written in black and white. Use of colours will be an additional trick to make the message more attractive and impressive.

In some of the advanced countries where literacy is not so appalling a handicap in communication as, for instance, in

India, printed and pictorial literature on various problems connected with extension education, constitutes a major vehicle of information. Literature in the form of leaflets, pamphlets, flipbooks, bulletins, books etc. will always be handy with the village communities.

Printed material is a permanent Instructor with the Cooperative members. If the printed material is well-illustrated, printed in larger letters, written in simple language, and is handy, its value is increased. A beautiful pamphlet is not easily thrown away. One would like to keep it.

The printed material is different for different categories. While school books are printed in bold letters with a number of illustrations supporting the statements, college books are printed in thinner type and with very few illustrations or photographs. It is therefore important that the Instructor could assist the members in selecting reading material for the members.

6. 3-D Aids

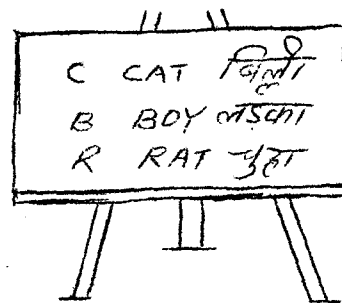
Three-Dimensional aids are also used effectively in teaching process. They include the presentation and preparation of models, mock-ups, objects, specimens, dioramas, globes etc. The Instructor can, in collaboration with his audience, can prepare such 3-D aids to activate the process of learning. Working models, for instance, can be of great interest to adults as well as to youngsters.

7. Display Boards

The category of boards, in fact, includes all types of boards. Chalk-boards, bulletin boards, peg boards, magnetic boards, see-view boards and the flannel boards are the display boards. It is, however, important that the boards are suitable enough for class-room teaching and field education programmes.

8. Chalk-Board

Chalk board is one of the best and oldest friends of a teacher. With the advancement of technology, we may use other teaching aids, but the black board will continue to dominate the class-room. It is an extremely important and effective aid.



It is the most dynamic aid. A teacher can move about while using the black board. It is the cheapest aid since it provides a writing surface that can be easily erased and used over and over again.

While using the chalk-board or the black-board, please remember that you use it properly and carefully. Any writing on the black-board will supplement your verbal statement. The following points, however, should be kept in mind while using the black-board:

- a. Do not overcrowd the board,
- b. Write only brief and short statements,
- c. Ensure that the board is easily seen by the students,
- d. Use colour chalks for emphasis,
- e. Erase all unrelated material,
- f. Do not eclipse the board.

Efforts could be made by the Instructors to change the colour of the chalk-board and that of the chalks.

Black-boards are either portable or on mat, or fixed to the wall.

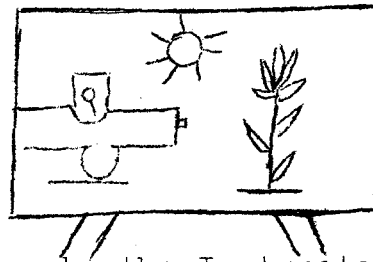
9. Bulletin Boards

These boards are used for displays, visual material, bulletins, important and relevant news-items, announcements which are of interest to the cooperative members. The main objective of bulletin boards is to provide basic means of general communication. They are the best and the cheapest means of communication. They should be sufficiently large in size and prominently displayed. These can be made of jute cloth, khadi, soft wood, plywood, insulation sheets or even of old newspapers. These boards are very simple to make. The Instructor could help the members to make such boards for use at the society or in the cooperative education classes.



10. Flannel Boards

Flannel-board or the flannelgraph helps the teacher to present vivid and meaningful association pictures to the audience. In fact this aid involves the following:
 a board covered with a flannel cloth or khadi, a number of cut-outs with sand-paper backings, and a sequence of appearance of these cut-outs woven around a theme on the board supported by a well-planned commentary by the Instructor. The use of this aid saves time and energy in the process of



teaching. This aid has a number of names e.g., visual board, flick board, slap board, felt board, videograph. Plastigraph is a type of flannelgraph where the surface of the board is covered by a fine sheet of plastic and the cut-outs are also made of plastic.

Flannelgraph has the following advantages:

- a. It is inexpensive,
- b. It is easy to make,
- c. It can be conveniently carried,
- d. It captures and holds the attention of the audience,
- e. It is flexible to meet the speaker's requirements

Instructor should note that before using the flannelgraph, it is a good idea to try it out first on his fellow-workers or family. Several cooperative organisations have produced flannelgraphs on various cooperative themes for use in the field for promotional and extension activities in the Cooperative Movement.

11. Social and Cultural Aids

These are the best aids which could be effectively used an Instructor while in the field. Even the teachers in Cooperative Colleges and training centres can usefully employ these teaching aids. They include the following:

- a. Dramatisation, puppet plays
- b. Field trips and excursions
- c. Exhibitions
- d. Participation in International Coop Day Celebrations
- e. Participation in Cooperative Congresses & Conferences
- f. Demonstrations - farm-demonstrations
- g. Visits to museums
- h. Organising special cooperative rallies, fairs etc.

12. Field Trips

They are useful aids. These trips could be called as "treasure and pleasure trips", as the participants will learn about many new things in addition to their being away from their routines. These trips could be grouped in the following manner:

Community trips e.g., the students or the Instructors can go to the different places with common programmes and objectives.

Tours and Journeys. The participants of different levels could undertake a joint tour and undertake all arrangements of conducting the journey. This will naturally open new horizons of understanding things and doing them by themselves. A direct experience for broader understanding. The participants will have more and new material in front of them.

Imaginary tours. These tours are not actually performed but the participants are shown a series of slides on a particular area, which will naturally give them more idea of that place and environments. This can be done in the class-room with the help of a slides projector. The cooperative members can be shown a series of slides relating to a successful cooperative venture some 100 Kms away from their own society.

Inter-Cooperative Visits. Cooperative members from a small primary cooperative could be taken to a successful cooperative institution in another district or state. The participants will naturally see for themselves where they succeed and where they fail.

Individual visits. A cooperative Instructor from Himachal Pradesh could perhaps be sent to Tamil Nadu. He will naturally find himself in an altogether different atmosphere which will force him to learn more about the new area and inform the local Instructor about his own area in Himachal Pradesh. This will result in exchange of experience and greater understanding.

13. Dramatics and Puppetry

Dramatisation provides enjoyable and meaningful learning experience. They are equally effective from the lowest to the highest level of education. Efforts are made to bring real situations in front of the audience through the medium of a drama. Many well-planned and well-played dramas have influenced the audience so much that the unreal was felt to be real. There is another advantage of this aid that the actors and the organisers and many others work cooperatively for days together to prepare for the final show. The participants have to arrange for the cast, stage, lighting, seating arrangement, in-and-out controls, public address system, costumes, invitations, printing of admission tickets etc. This creates a cooperative venture like affair.

The Instructor could therefore work out a plan of organising a drama based on the local theme, or on the theme which is most popular with the people. The Instructor could then give direction to the drama and encourage all silent members to take part in the affair. A story can be written about the money-lender or the local leader who is also a prominent Cooperator and convert that story into a drama. The effect will be dramatic, encouraging and lasting.

Puppetry is an old and popular art. Puppets had been in use for quite a long time in countries like India, Indonesia, Thailand, China, Japan, Egypt, Greece etc. A drama can be enacted with the help of the puppets. The pulling and releasing of invisible strings make the puppet dance and

fight. The background music and the commentary is, besides being humorous, meaningful and effective. A puppet show in India will attract a sizeable audience.

The Instructor could, if he has the interest, contact some puppet-player and give him a theme around which a play could be erected and presented. The Cooperative members would naturally besides enjoying learn about their society, their rights and duties.

The classification of teaching aids does not end here. There can be many more. The additions to the list are left to the Instructors and their students - the Cooperative Members.

Preparation of Teaching Aids

So far as the projected aids are concerned, they are of standard size and can only be bought from the market. They are sophisticated equipments and they expect that attention.

So far as the non-projected aids, and particularly the Graphic Aids, are concerned, they are available in the market. They do not have any standard specifications. They can be produced by the Instructors and their friends during the period of the training programme or while in spare time.

In most of the graphic aids the following material is needed. The material is available from any stationery shop and is not too expensive.

1. Ordinary white paper - off-set thick
2. Used newspapers
3. Ordinary poster colours
4. Painting brushes - water colour brushes
5. Ordinary pencils, black and other colours
6. Flannel cloth or khadi
7. A pair of scissors
8. Ordinary gum or any other paste
9. Scale or foot-rule
10. Sand paper
11. Ordinary pins, brass-head pins, coloured, if necessary
12. Magic ink tubes - water colours
13. Colour papers for cut-outs (thick enough)
14. Ordinary folding black-board and chalks
15. A few mount boards
16. Pencil erasers and a few used blades
17. Thread and needle
18. Chalks - white and coloured
19. Graph paper
- and 20. YOUR enthusiasm and interest.

Many of the Cooperative Educational Instructors have already produced inexpensive simple visual aids relevant to the areas in which they operate. More Instructors could develop their own kits which could be used in the Cooperative Member Education Programme. Teaching aids produced by the Instructors could be preserved by them for using them again under different situations.

Use of Teaching Aids

Many of the teachers who are keen on using teaching aids often ask as to how many teaching aids should be used in one session. This is a very difficult question to answer. In fact the answer lies in the experience of the teacher himself. He could perhaps evaluate himself. He might then come to a conclusion that too many teaching aids, if used in one session, do not help.

Using all teaching aids at one time will lead to a mess and disappointment. It is therefore important that only one or two teaching aids should be used at one time. It is not necessary that one teaching aid used in Delhi will be equally successful in Gujarat. The selection of the teaching aid in correlation with the subject matter is a difficult task.

It is therefore extremely important that the teaching aids are employed whenever necessary and wherever essential and not too many at any one time.

Instructor as a Teaching Aid

Besides all the above mentioned projected and non-projected aids, the Instructor himself is a teaching aid which is far superior to the other aids. The Instructor should therefore cast a glance on himself keeping in mind:

1. His own personality
2. His preparation
3. His methods of presentation
4. His knowledge is not complete - he is a student himself
5. His conformity with the level of his audience

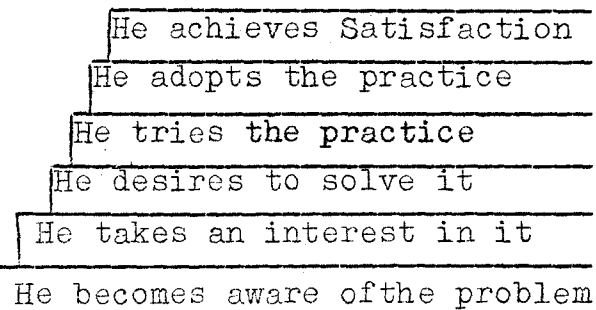
The Instructor thus has to reduce himself to the level of his audience and speak in their language. The Instructor has to adapt himself rather than converting his audience to his own level. It does not mean that the Instructor has to reduce his knowledge. It is a question of establishing an effective communication and thus bringing himself to the level of his audience and then taking off collectively.

In order to be efficient and effective, it is important that the Instructor reads books and journals containing

informatory material on Cooperation.

By working hard and by appreciating the difficulties of his audience - the Cooperative Members - an Instructor can create in himself a power which can solve a number of his own problems and that of the cooperative members. As he progresses, his sense of achievement develops and he feels satisfied with his work.

The first step is that he becomes aware of the problems. He then tries to take interest in them with a view to solve them. His next step is to practice the methods which can help solve the problems. He then adopts those practices and methods and finally he is able to solve several of his own and his audience's problems. He feels satisfied. He gets amply rewarded. After all he has been able to contribute something "constructive".

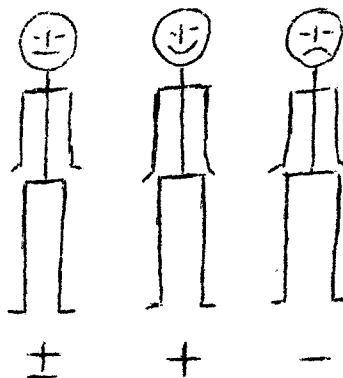


Evaluation

There is no harm in casting a glance over the performance of the Instructor. The Instructor could evaluate himself, his teaching methods, his teaching aids, and the audience. After the evaluation, there will certainly be found a point where some improvement is found necessary. The Instructor should try to improve upon that "lacking" factor.

The following simple evaluation can be employed by an instructor. These figures can be made familiar to the audience and the members could be asked to tick-mark only the codes given under the figures. They need not sign the evaluation sheet.

This is the evaluation which speaks for itself. It tell you where you stand, where you need improvement, what you have been able to do, what your audience has been able to pick and what it has rejected. The results of this evaluation will be directed to you as well as to your audience.



The codes are explained thus: (\pm) means the members have neither gained nor lost anything, (+) means the members have gained something, and (-) means they have not gained anything.

In case the Instructor receives all (+) answers, it means he has been able to do justice to his work and that he was sincere about the job. Where the replies are (-) the Instructor needs an immediate improvement in his preparation, and presentation etc.

Illustrations: by Daman Prakash.

PART : III

USE OF PROJECTORS IN TEACHING

With special reference to
Cooperative Member Education
Programme

(A Hand-book on Techniques of Teaching and Teaching Aids
for Cooperative Educational Instructors and Teachers.)

INTERNATIONAL COOPERATIVE ALLIANCE
Regional Office and Education Centre for South-East Asia
43 Friends Colony, Post Box 3021, New Delhi-14, India

USE OF PROJECTORS IN TEACHING
Daman Prakash, Publications Assistant

Introduction

Films are one of the most powerful tools in audio-visual communication. The advent of the cinema has resulted in bringing forth a very important medium for the dissemination of information, news and thought. Cinema is widening its power and scope every day with scientists adding new elements and gadgets to its technical repertory. The motion picture is the latest machine tool in the service of expression.

We may not be in a position to undertake an actual flight to the moon, but with the help of a film and a cine-projector we can take such a flight while sitting in our class-room. The adventures and experiences of the astronauts can be shared by all those who are sitting in front of the screen.

Motion pictures have been in use in schools for nearly 45 years. A sort of revolution has been created not only in the schools or universities but among the masses where the use of motion pictures has been made. Even slides and film-strips and various other projected aids have contributed to the elimination of ignorance. In Cooperative Education and Training programmes, the use of projectors - motion or still - can bring desired results.

Classification of projectors

Projectors are of several types. The most popular device is the motion projector. They are classified as under:

1. Slides Projectors - 35mm, 70mm. Electrically operated.
2. Film-strip Projectors -- 35mm. Electrically operated.
3. Opaque Projectors
4. Overhead Projectors
5. Motion Projectors - 70mm, 35mm, 16mm, 8mm. Sound and silent electrically operated.

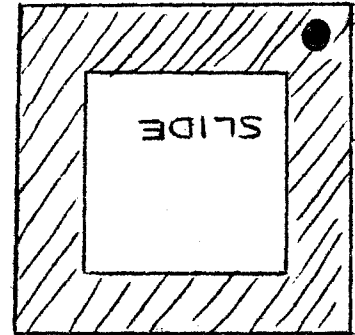
Almost all the projectors are electrically operated and automatically controlled and operated. Sound attachments can be arranged or can be used in combination with the tape-recorder.

Those who will use motion or still pictures as a tool of instruction should learn how to handle and take care of films, slides, and projectors. Because the material involved is sophisticated and expensive, very great attention should be paid to its maintenance and operation.

1. Slides Projectors

A positive transparent photograph in the size of 35mm or 70mm is called a slide. This is available in black and white and colour. A number of individual shots, either woven around a particular theme or an assortment of many ideas, can be projected on a screen for an audience. The process of learning gains momentum and the results are speedily achieved.

For viewing a slides, a special slides projector is needed. The projection is good for a group of 20 to 30 persons. The place where the projection is to take place should be sufficiently darkened for better viewing. The position of the screen should such as all could easily see the projection. The distance between the audience and the screen should be reasonable and which could ensure a sharp projection.



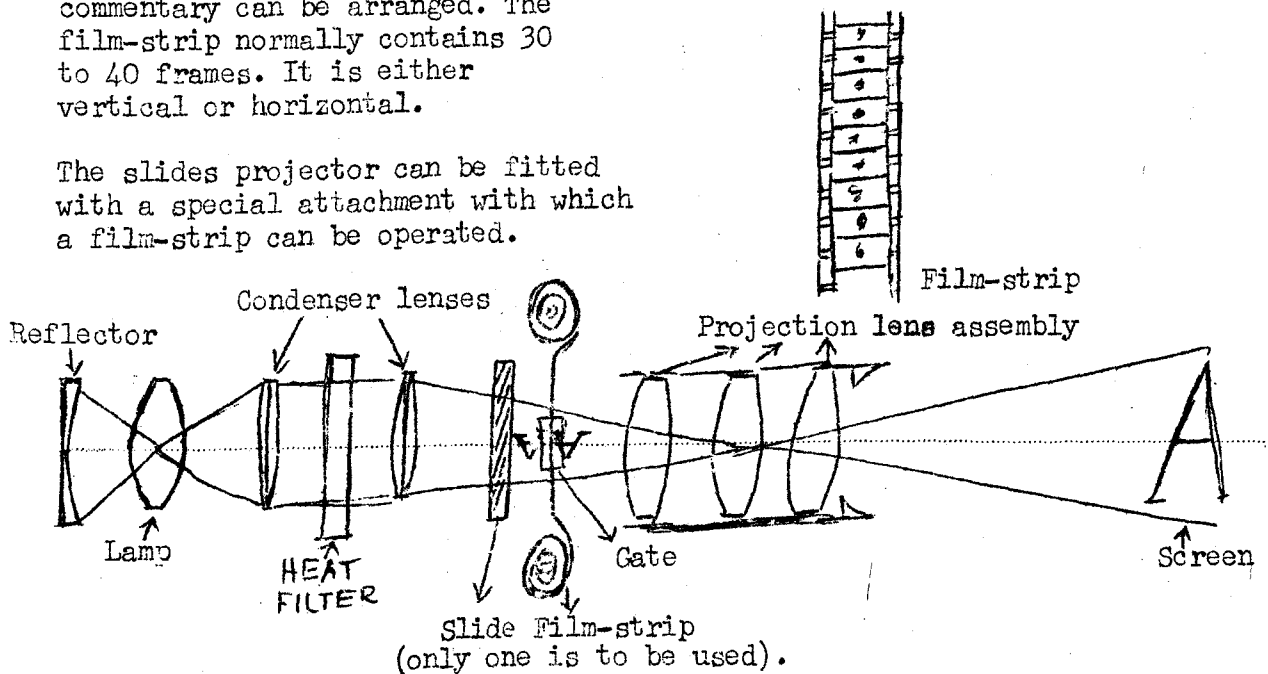
The correct way of putting the slide into the projector is to hold the slide at the dot.

The slides projector is electrically operated. A pre-recorded commentary can be played on the tape-recorder in synchronization with the slides. A running commentary can also be arranged by the person operating the slides projector.

2. Film Strip Projectors

A positive transparent photograph in the size of 35mm is a slide, But when these individual slides are retained on a strip, the sequence is called a film-strip. All frames are inter-connected. This is considered to be an idea tool of teaching. The frames can have captions or a running commentary can be arranged. The film-strip normally contains 30 to 40 frames. It is either vertical or horizontal.

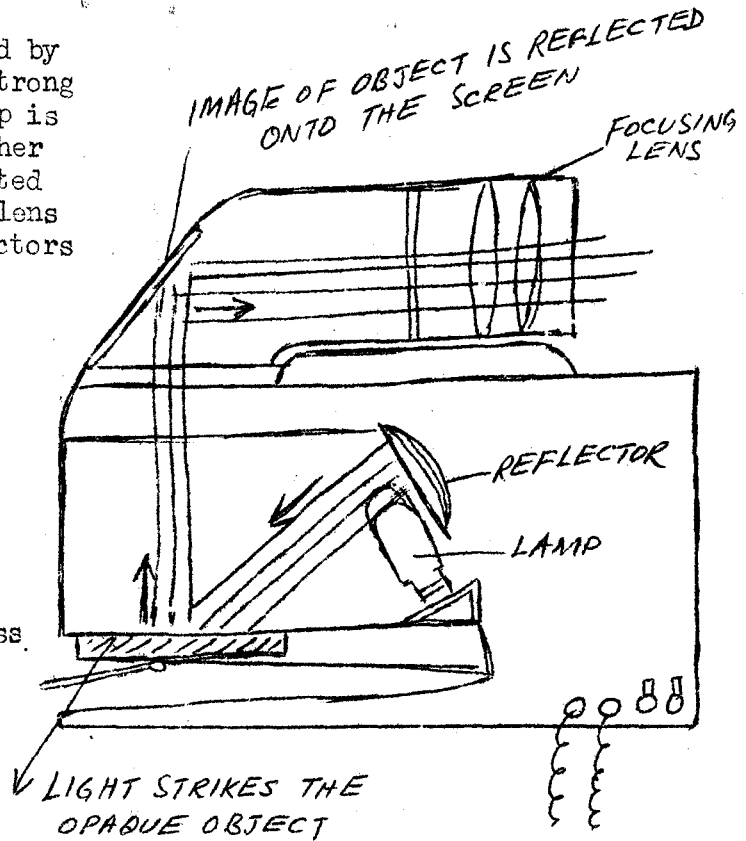
The slides projector can be fitted with a special attachment with which a film-strip can be operated.



3. Opaque projector

It is an ideal device for class-room teaching.

Opaque materials are projected by means of reflected light. A strong light from the projection lamp is thrown onto a book page or other opaque material and is reflected by a tilted mirror through a lens onto a screen. Improved projectors have a 1000 watt lamp, an opening large enough to accommodate 8-1/2"x11" materials, and an efficient motor-driven cooling system. A loose postage stamp, for instance, can be projected without difficulty with this type of projector. When projecting a page in a book, a piece of heat-resistant glass will hold the page flat so that all parts of it can be focussed sharply.

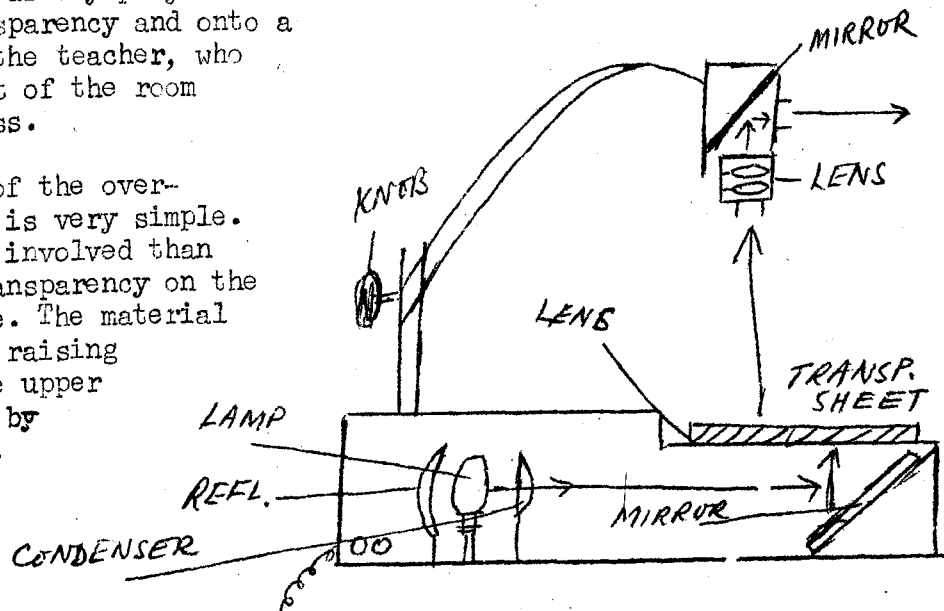


4. Overhead Projector

Overhead projectors are very effectively used in class-room teaching. A teacher can continue facing the class even when he is using the projector.

Overhead transparency projector transmits a strong beam of light through a transparency and onto a screen behind the teacher, who is at the front of the room facing his class.

The operation of the overhead projector is very simple. Little more is involved than placing the transparency on the projector stage. The material is focussed by raising or lowering the upper reflector unit by turning a knob.



5. Motion Projectors

Motion pictures are produced in four sizes i.e., 70mm, 35mm, 16mm and 8mm, both in black and white and colour. Except for 8mm rest of the films are sound films. 70mm and 35mm films are produced mainly for entertainment purposes. Education and documentary films are produced at present in 16mm and 8mm. 8mm film has a great potential for educational and similar purposes.

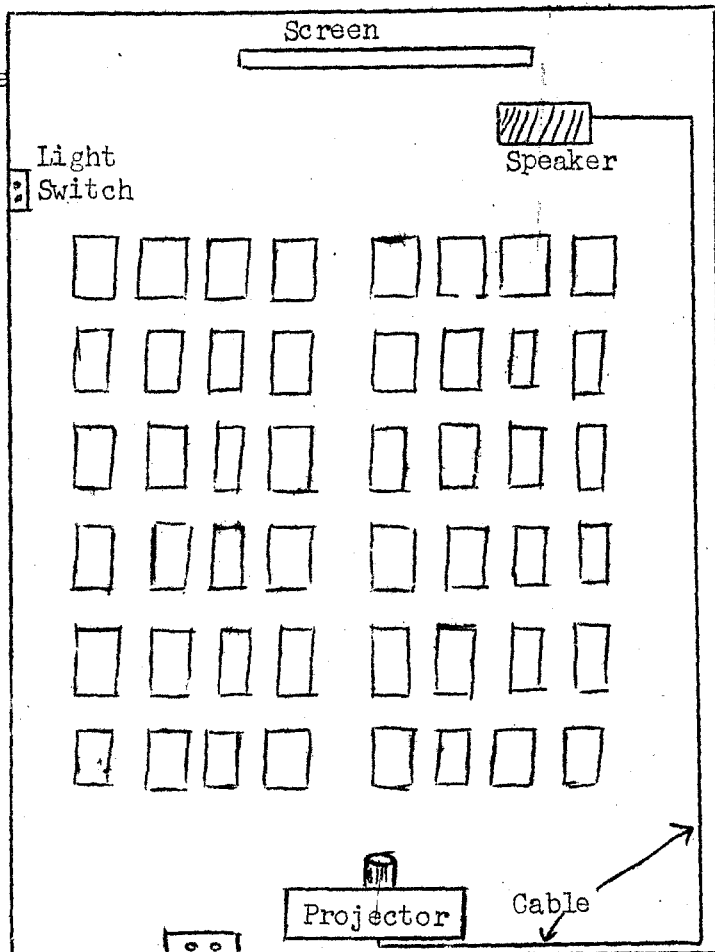
The comparative table given below indicates the relative sizes, weights and like characteristics of 35mm, 16mm and 8mm films.

Characteristic	35mm (1000ft)	16mm (400ft)	8mm 200ft
Linear speed ft/mt.	90	36	18
Running time in minutes	11.1	11.1	11.1
Relative length	2.5	1.0	0.5
Relative weight & volume	5.5	1.00	0.25
Relative area for picture	4.6	1.00	0.25
Relative area for sound	3.15	1.0	x

A speed of 24 frames per second is assumed.

The film is moved with the help of the motor and passes through the light source. There is one sprocket hole or perforation at each frame line in the film. The motor drives the sprocket reel with teeth of the projector. As the sprockets rotate the film is pulled down. Film is held in place for a short while before the aperture opening to create an illusion of movement, thus breaking the continuous movement of the film. This process of stopping and starting the film on the film gate is called intermittent movement and it is controlled by a claw.

On sound film, 24 frames will stop and start in front of the film gate every second and on silent film 16 frames will stop and start again on every second.



Light Switch

PLACEMENT OF PROJECTOR

The film on the supply reel is pulled down through the projector and led into a take-up reel by a continuous movement of the sprockets. Loops are given in the film above and below the film channel so that the film may not break when the film changes from continuous movement of the sprockets. The film actually does not run past the film gate, but each frame stops there for a little while and then pass away letting the other one come and repeat the process. The image on the screen is therefore seen as moving.

A light from the exciter lamp passes through the sound track. The light from the sound track of the film falls on a photo electric cell which converts the light signals into sound waves and which are amplified and put out through the speaker.

The projector motor and amplifier are generally operated on 110 volt AC or 220 volts AC. Excessive voltage or wrong mains damage the projector.

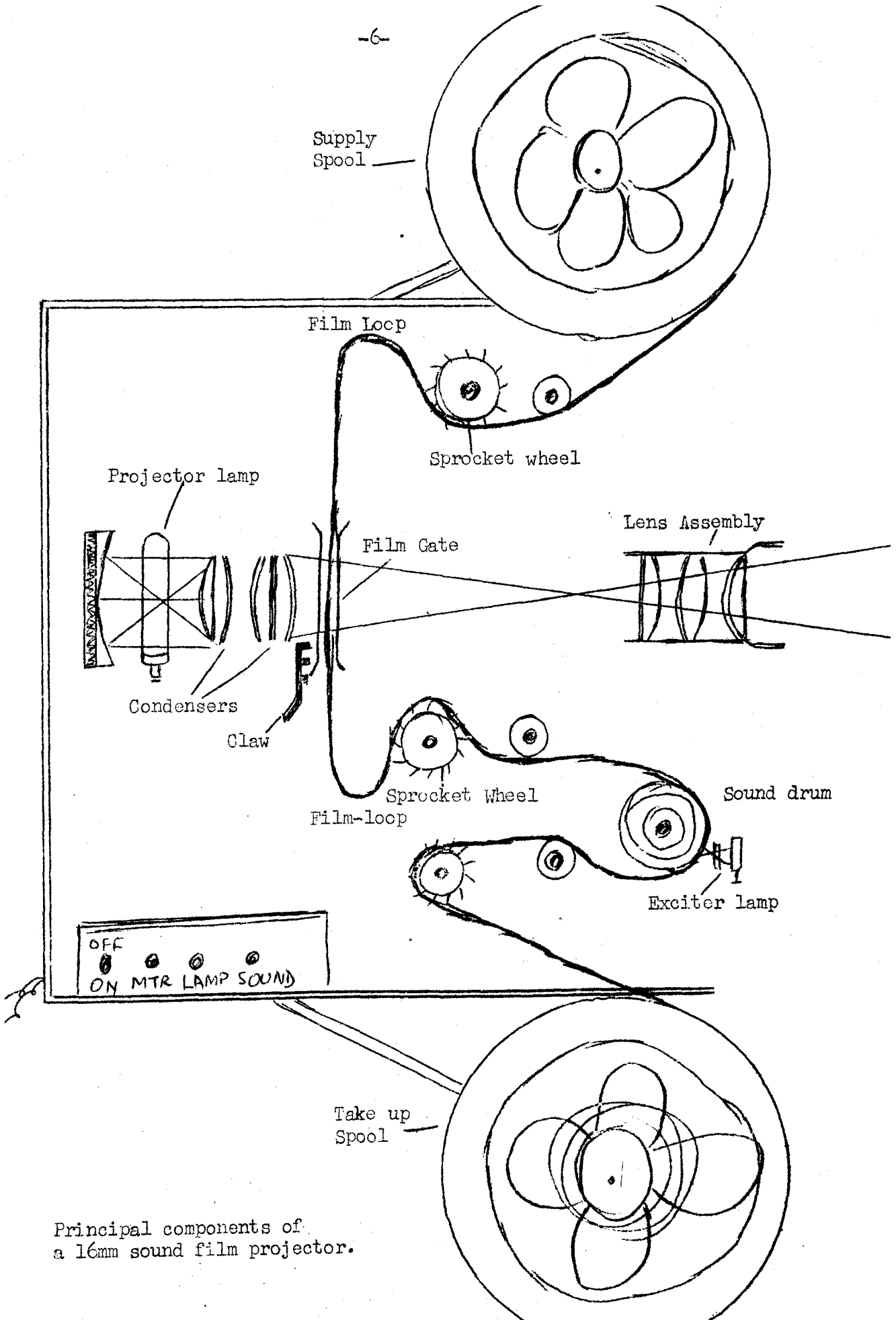
Threading plan should be followed properly if claws and sprockets should engage with the sprocket holes. Sufficient loops of films should be allowed above and below the film gate. Wrong threading spoils the film. (See page 6 for threading).

When the threading is complete and correct, operation may be tested. Then the motor switch (on/off) should be put-on first and the projection lamp should be put to on position. Later the motor switch is put on first because along with motor, the blower for cooling also starts.

The following tips might prove useful to those who are interested in handling the motion picture projectors:

The motor does not operate.	Probably power plug has not been properly inserted.	Check all power plugs before start.
The lamp does not go on.	When the motor operates but the lamp does not get lighted, the lamp is burnt out.	Replace lamp. Keep an extra lamp handy always.
The sound does not go on.	The speaker plug might have been pulled out. Exciter lamp might have been fused.	Check the jack and plug and replace the lamp.
The film breaks in the projector.	A torn sprocket hole, a faulty splice or an improper threading, and insufficient looping.	Stop machine. Re-thread the film after checking the sprocket holes. A correct threading will not damage the film.

Preparation before presentation is a good rule. It is always satisfying if the film can begin when required with a minimum activity. Operators, therefore, should ensure that all arrangements are made before the actual projection could start. The following check system might help.



Principal components of a 16mm sound film projector.

Sound Motion Picture Projectors - CHECK SYSTEM

FIRST CHECK Before delivering equipment, see that it is all present and in good order:

- Projector
- Speakers
- Speaker cables
- Reel arms
- Lenses
- Reels
- Spare lamps - projection, exciter, threading
- Power cord
- Extension cord
- Spare belts
- Films
- Screen
- Stand

Survey What are the best locations and arrangements?

- Outlets and switches
- Seating
- Screen placement
- Projector placement
- Darkening
- Acoustics
- Stands
- Cable locations

Set-up Open case

- Place projector and assemble reel arms, belts etc.
- Place speakers and screen
- Connect speakers
- Connect power.

SECOND CHECK Switches

- Connections.

Test Turn on amplifier and volume until a hiss is heard at the speaker. Turn volume back to low, but leave amplifier on.

- Turn on motor
- Turn on lamp
- Centre image on screen
- Pre-focus
- Turn off lamp and motor

Load Thread film

- Test threading

Operate Turn off room lights

- Turn on motor
- Turn on lamp
- Cover lens with hand if leader numbers flash on screen until they pass by

Adjust Frame
 Volume
 Tone
 Listen to the sound away from the projector and make
 any necessary adjustments.

THIRD CHECK While running, check
 Volume and tone
 Framing
 The film as it runs onto the take-up reel to catch damage
 The loops.

Conclude When "The End" title appears:
 Turn off lamp
 Turn down volume

 When film has all run through:
 Turn off motor
 Turn on room lights

Disassemble Rewind film
 Disassemble and repack equipment

FOURTH CHECK The room for anything left
 The equipment to see that it is all packed.

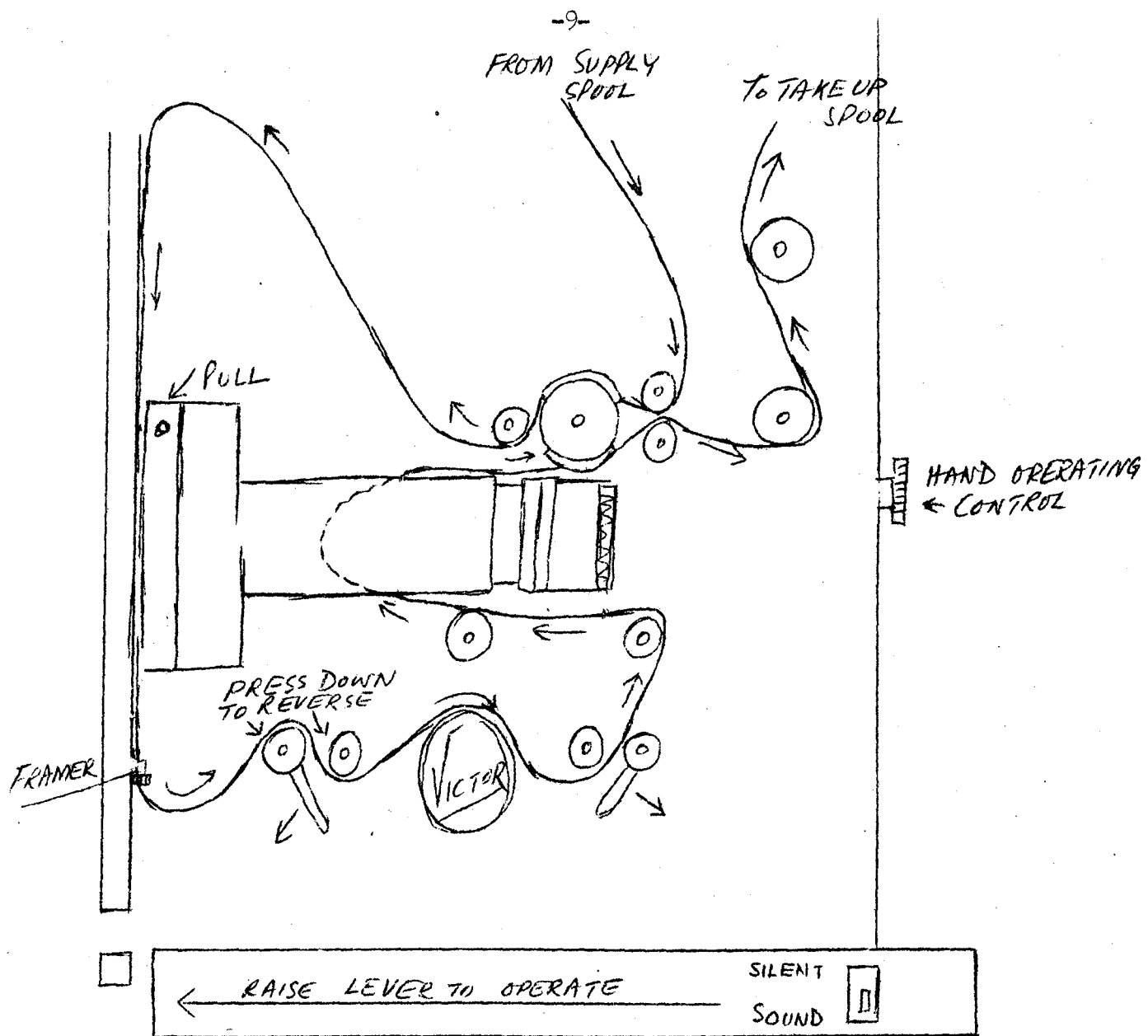
Seating plan and placement of equipment can be better understood
from the illustration on page 4.

Threading of Victor and Bell & Howell 16mm Sound Motion Projectors
is indicated on page 9 and 10. On page 11 is indicated the essentials
of the motion projectors in the process of teaching.

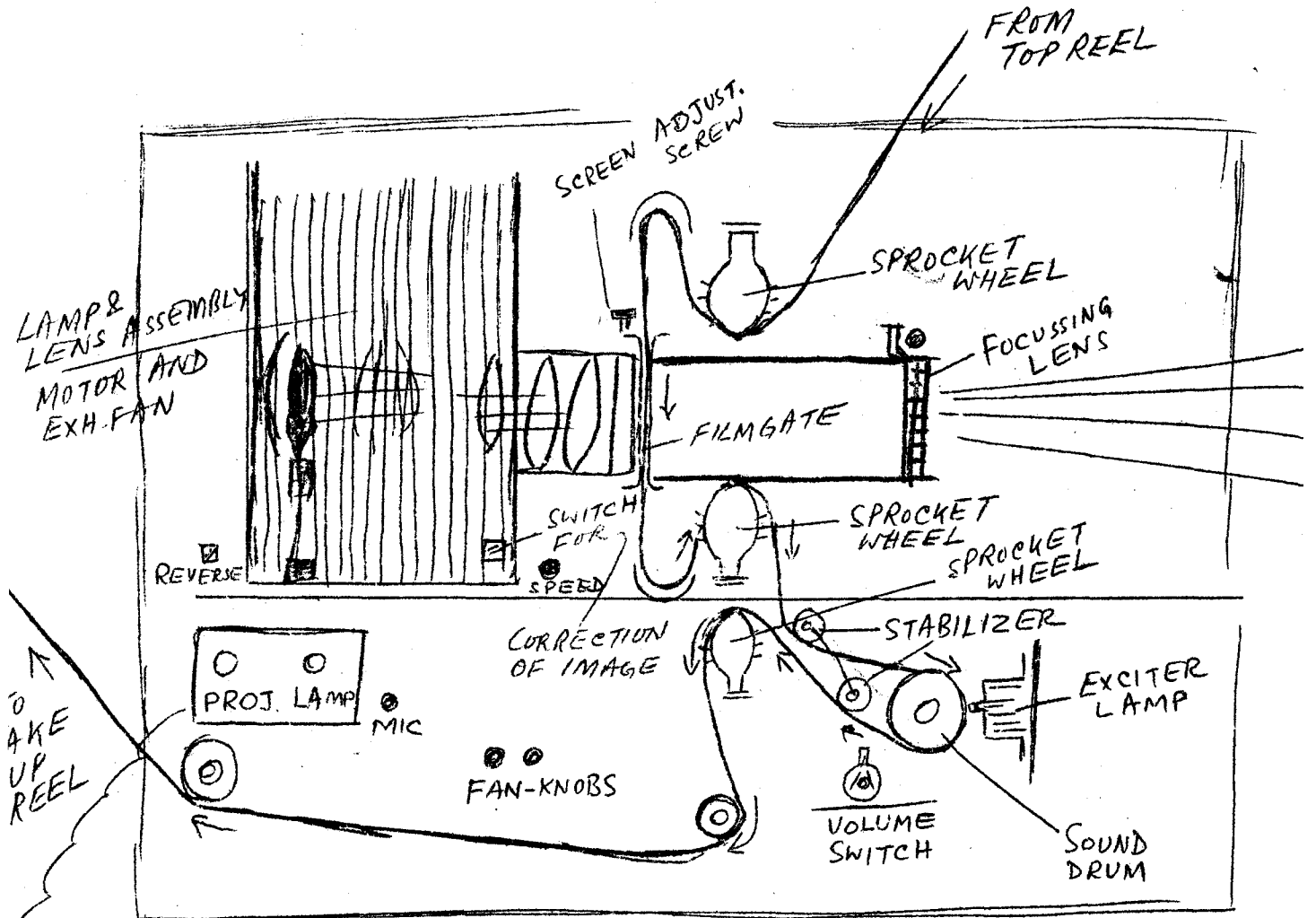
Illustrations by: Daman Prakash. 23.5.1970

Important references:

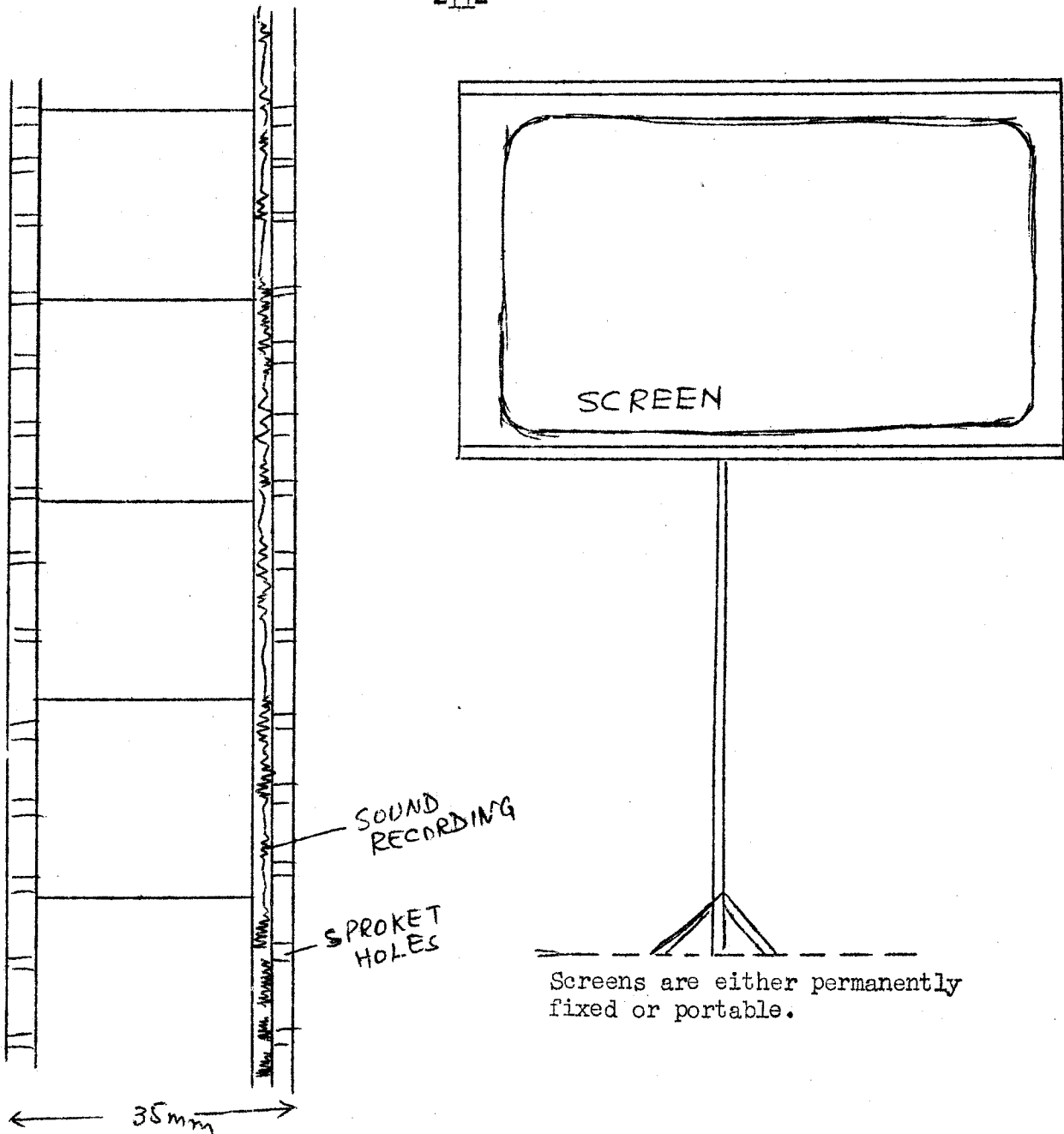
1. THE AUDIO VISUAL EQUIPMENT MANUAL, by James D. Finn, Published by the
Dryden Press, New York.
 2. AUDIO VISUAL AIDS FOR COOPERATIVE EDUCATION & TRAINING, by C.N.Botham,
published by the Food and Agriculture Organisation, Rome.
-



VICTOR 16mm SOUND PROJECTOR.

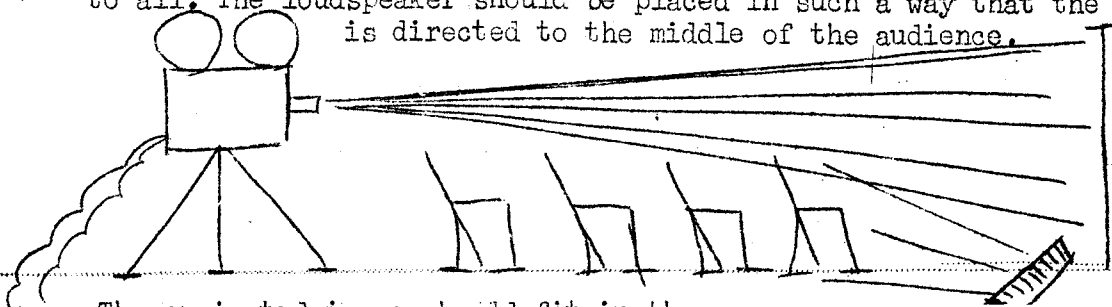


BELL & HOWELL 16mm.
SOUND PROJECTOR.



Motion pictures are available in 35mm, 70mm & 16mm & 8mm.

Projection should be arranged in such a way that the screen is visible to all. The loudspeaker should be placed in such a way that the sound is directed to the middle of the audience.



The projected image should fit in the screen.

PART : IV

REFERENCE MATERIAL ON
TEACHING TECHNIQUES AND
TEACHING AIDS

(A Hand-book on Techniques of Teaching and Teaching Aids
for Cooperative Educational Instructors and Teachers.)

INTERNATIONAL COOPERATIVE ALLIANCE
Regional Office & Education Centre for South-East Asia
43 Friends Colony, New Delhi-14. India

REFERENCE MATERIAL

On Teaching Techniques and Teaching Aids

While there is ample material available for teachers engaged in imparting general education, not much material has been produced which could be used by Cooperative Educational Instructors and teachers working in the Cooperative Training Colleges and centres. Very limited material has been produced for Cooperative Instructors which could bring efficiency to them. Given below is a list of some reference material which an Instructor could use in order to learn about the techniques of teaching and the use of teaching aids in cooperative educational programmes.

AHLUWALIA, S.L., AUDIO-VISUAL HANDBOOK, Department of Field Services, National Council of Educational Research and Training, New Delhi.

AHLUWALIA, S.L., SIMPLE VISUAL AIDS FOR SOCIAL EDUCATION. National Council of Educational Research and Training, New Delhi.

ATKINSON, Norman J., MODERN TEACHING AIDS - A Practical Guide to Audio-Visual Techniques in Education. Maclaren and Sons Limited, London.

BHALLA, C.L., AUDIO-VISUAL AIDS IN EDUCATION. Atma Ram and Sons, Delhi.

BHOLA, H.S., EFFECTIVE USE OF DISPLAY MATERIAL IN SCHOOLS, Central Institute of Education, National Council of Educational Research and Training, New Delhi.

BOTHAM, C.N., AUDIO-VISUAL AIDS FOR COOPERATIVE EDUCATION AND TRAINING. Published by the Food and Agriculture Organisation of the United Nations, Rome.

BROWN, James W., and LEWIS, Richard, and HARCLEROAD, Fred F., A-V INSTRUCTION - MATERIALS AND METHODS. 2nd Edition. McGraw Hill, Inc., New York.

CHAKRABARTI, Sujit K., AUDIO-VISUAL EDUCATION IN INDIA. Oxford Book Company, New Delhi.

DALE, Edgar, AUDIO-VISUAL METHODS IN TEACHING (3rd Edition). The Dryden Press, Holt, Rinehart and Winston Inc., New York.

EAST, Marjorie, Edited by EDGAR DALE, DISPLAY FOR LEARNING. Holt, Rinehart and Winston, New York.

FINN, James D., THE AUDIO-VISUAL EQUIPMENT MANUAL. The Dryden Press, New York.

GOODWIN, Arthur B., HANDBOOK OF AUDIO-VISUAL AIDS AND TECHNIQUES FOR TEACHING ELEMENTARY SCHOOL SUBJECTS. Parker Publishing Company, Inc., West Nyack, New York.

HUTCHINSON, Carl R., TEACHERS MANUAL FOR STUDY CIRCLES. National Cooperative Union of India, New Delhi.

INTERNATIONAL COOPERATIVE ALLIANCE, MANUAL FOR STUDY CIRCLE LEADERS by Dr D. Vir, Joint Director. International Cooperative Alliance, Regional Office and Education Centre for South-East Asia, New Delhi.

MANAKAPURE, A.B., SYMBOLS FOR COMMUNICATION. Department of Audio-Visual Education, National Council of Educational Research and Training, New Delhi.

PRAKASH, Daman, TEACHING METHODS IN COOPERATIVE MEMBER EDUCATION, 1969. Published in Madras Journal of Cooperation, February 1970, and the Cooperator of the National Cooperative Union of India, April 15 1970 issue.

WEAVER, Gilbert G., and BOLLINGER, Elroy W., VISUAL AIDS - Their Construction and Use. D. Van Nostrand Company Inc. Princeton, New Jersey and New York.

WITTICH, Walter Arno, and SCHULLER, Charles Francis, AUDIO-VISUAL MATERIALS - Their Nature and Use. Harper and Row Publisher, New York.

These books are quite expensive and an Instructor may not be able to buy them for his use and reference. Cooperative Unions and other institutions interested in Cooperative Member Education Programme may acquire these publications where the Instructors can be allowed to refer these publications.

The following institutions produce some simple material and visual aids which the Instructors could obtain depending upon their requirements.

1. The Department of Teaching Aids
National Council of Educational Research and Training
Indraprastha Estate, Ring Road, New Delhi-1
2. The Visual Aids Production Unit
National Cooperative Union of India
72 Jorbagh, New Delhi-3.

- | | | |
|----|---|---|
| 3. | The Director
Literacy House
P.O. Sringer Nagar. Lucknow.5 U.P. | Posters and flash-cards for adult education. |
| 4. | The Executive Officer
Gujarat State Cooperative Union Limited
Bank of Baroda Building, 7th floor
Gandhi Road, Ahmadabad. Gujarat | Slides and Cooperative flags and posters. |
| 5. | M/S Shitole Brothers
Jin Prasad, East Mulund
Bombay.81 Maharashtra | Slides and film-strips on Cooperation. |
| 6. | The Chief Executive Officer
Maharashtra State Cooperative Union
11 Bank Street, 1st floor
Bombay-1. Maharashtra | Film-strips and slides on Cooperation and other teaching aids. |
| 7. | The Director (Cooperative Training)
Department of Cooperation
Ministry of Food, Agriculture,
Community Development & Cooperation
Krishi Bhavan, New Delhi | Flash-cards on "Sahakari Samaj" and other teaching material on Cooperation. |

Several other State Cooperative Unions and other institutions like the Reserve Bank and Farm Information Units have also produced some posters and other teaching aids.

The following organisations may also be contacted for obtaining material on techniques of teaching and teaching aids:

1. The Food and Agriculture Organisation of the UN.
2. The Oversea Visual Aid Centre
Tavistock House South
Tavistock Square, London W.C.1. England
3. The International Cooperative Training Centre
University of Wisconsin, Madison. U.S.A.
4. The Cooperative Union Limited
Education Department
Holyoake House, Hanover Street, Manchester 4. England
5. The Cooperative League of the U.S.A.
59 East Buren Street, Chicago Ill. 60605 U.S.A.
6. The Institute for the Development of Agricultural Cooperation in Asia, IDACA, Tokyo. Japan
7. The Communications Media Centre, US/AID, New Delhi.

Government Cooperative Departments and other cooperative organisations in South-East Asian countries have also produced several types of teaching aids including films, which are being used in cooperative education and training programmes.

I C A P U B L I C A T I O N S

COOPERATIVE LEADERSHIP IN SOUTH-EAST ASIA, 1964 (re-printed 1965). pp 134. US\$1.05, Indian Rs.8.00.

THE ROLE OF COOPERATION IN SOCIAL AND ECONOMIC DEVELOPMENT 1966. pp 190. US\$1.35, Indian Rs.10.00.

AGRICULTURAL COOPERATIVE CREDIT IN SOUTH-EAST ASIA 1967. pp 184. US\$3.00, Indian Rs.20.00.

MANUAL FOR STUDY CIRCLE LEADERS 1965 (revised 1969). pp 50. US Cents 75, Indian Rs.5.00.

COOPERATIVE EDUCATION - Report of the International Conference 1969. pp 61. US\$1.00, Indian Rs.7.50.

ECONOMICS OF CONSUMER COOPERATIVE by Marian Radetzki, Cooperative Series No.1. 1966 (reprinted 1968). pp 27. US Cents 40, Indian Rs.3.00.

COOPERATION & SMALL INDUSTRIES IN SOUTH-EAST ASIA by J.M. Rana, Cooperative Series No.2. 1965. pp 38. US Cents 20, Indian Rs.1.50.

FARMING GUIDANCE IN THE COOPERATIVE MOVEMENT IN JAPAN by S. Miyakawa, Cooperative Series No.3. 1967. pp 36. US Cents 35, Indian Rs.2.50.

EDUCATION AND VOLUNTARY MOVEMENTS 1965. pp 112. US Cents 90, Indian Rs.6.50.

COOPERATIVE EDUCATION IN INDIA - AN APPROACH 1962. pp 22. US Cents 5, Indian Rs.00.50.

RESEARCH IN COOPERATION IN INDIA - A REVIEW 1965. pp 116. US Cents 75, Indian Rs.5.00.

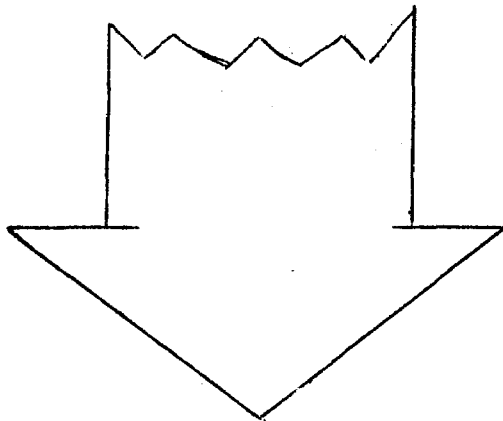
COOPERATIVE TRADE DIRECTORY FOR SOUTH-EAST ASIA with two Supplements. US\$3.00, Indian Rs.20.00.

TRADE UNIONS AND COOPERATIVES 1966. pp 40. US Cents 25, Indian Rs.2.00.

COOPERATIVE HOUSING 1966. pp 36. US Cents 25, Indian Rs.1.90.

DIRECTORY OF COOPERATIVE ORGANISATIONS IN SOUTH-EAST ASIA 1966. pp 135. US Cents 50, Indian Rs.3.50.

The Publications Department
INTERNATIONAL COOPERATIVE ALLIANCE
Regional Office and Education Centre for S-E Asia
Post Box 3021, 43 Friends Colony
NEW DELHI-14.(India)



I C A (L O N D O N) P U B L I C A T I O N S

REPORT OF ICA COMMISSION ON COOPERATIVE PRINCIPLES
US Cents 70, Indian Rs.5.00..

TRADING OF COOPERATIVES IN SOUTH-EAST ASIA - Survey
Report. US\$8.00, Indian Rs.57.00.

MANUAL FOR COOPERATIVE LIBRARIANS AND DOCUMENTATION
SERVICES. US\$1.80, Indian Rs.13.50.

COOPERATION FOR FISHERMEN by Margaret Digby
US Cents 60, Indian Rs.4.50.

COOPERATION IN WORLD ECONOMY
US Cents 80, Indian Rs.5.15.

Please send your orders to any of the following:

The Publications Editor
INTERNATIONAL COOPERATIVE ALLIANCE
11 Upper Grosvenor Street
London W1X 9PA (United Kingdom)

The Publications Department
INTERNATIONAL COOPERATIVE ALLIANCE
Regional Office & Education Centre for South-East Asia
Post Box 3021, 43 Friends Colony
New Delhi-14 (India)