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ABSTRACT

The purpose of this manual is to provide practical help in designing and improving educational components of family planning programs. It discusses methods and techniques which may be used to assist couples in developing positive attitudes and behavior with regard to family planning--activities which influence how they act, how they feel, and what they know about the subject. It is written for the educational specialist or person responsible for the educational services of a family planning program. The manual is intended only as a general framework for planning. It is, however, specific enough to provide direction in charting an educational plan and in taking some beginning steps toward its implementation. Chapters are titled: Educational Relationships and Distinctions, Planning, Selection of Methods and Materials, Utilization of Methods and Materials, and Selected Sources for Family Planning Information. References following each chapter are provided for in-depth pursuit of particular topics. (BL)

westinghouse population center
health systems division

a guidebook for family planning education

A GUIDEBOOK
for
FAMILY PLANNING EDUCATION

CONTRACT #HSM-110-72-205

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INTRODUCTION

The purpose of this manual is to provide practical help in designing and improving educational components of family planning programs. It discusses methods and techniques which may be used to assist couples in developing positive attitudes and behavior with regard to family planning -- activities which influence how they act, how they feel, and what they know about the subject. It is written for the educational specialist or person responsible for the educational services of a family planning program.

The manual is intended only as a general framework for planning. It is, however, specific enough to provide direction in charting an educational plan and in taking some beginning steps toward its implementation. References are provided for in-depth pursuit of particular topics.

Many of you, for whom these notes are written, are already working in established family planning programs. You have probably been trying to get educational activities into operation, seeking available materials, or producing your own, and you probably have not had the time or the inclination for more abstract exercises in planning and evaluation. If this manual helps reduce the time spent on locating suitable materials and helps you get your plan written, it will have accomplished one of its objectives -- an increase in written educational plans for U.S. family planning activities.

It should be noted that this book assumes that anyone presently working in the family planning field knows the health, economic, and social reasons for family planning and; therefore, no case for family planning is made.

I. EDUCATIONAL RELATIONSHIPS AND DISTINCTIONS

The definition of family planning adopted by the National Center for Family Planning Services is: the medical, educational, and social services to enable people freely to choose the number and spacing of their children. Of these three services, education is probably the least understood and least often implemented. Most of us are clear about the standards for medical and social services and know where to find expert guidance in these areas. Such standards and expertise, however, have not been so clearly defined for the educational component, nor have large scale educational programs been designed and demonstrated here as they have been in some foreign countries.

As a beginning, then, let us define educational strategies. They are any combination of methods employed by change agents which are designed to bring about voluntary action.* The voluntary nature of these actions is the essential ingredient. Manipulation or coercion is not very effective in our society, and choices based on personal understanding and acceptance have a far better chance of being carried out consistently over time. Health education strategies aim at effecting voluntary actions in the health field.

What are some other kinds of strategies? There are legal, political, economic, organizational, and authoritarian methods, as well as various combinations of these alternatives. Economic strategies in the form of financial incentives have been tried in the fertility control program in India in connection with vasectomy services. Organizational strategies are used in local programs where family planning services within hospitals or neighborhood centers have been rearranged to make them more available and accessible. Such strategies have had varying degrees of success and can be used in tandem with educational strategies. They are not, however, our main point of discussion here.

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*Additional definitions include: Health education in family planning is concerned with the way people think and live and with the decisions and actions they take voluntarily to achieve the health and well-being of the family group and thus to contribute effectively to the social development of their community, their country, and the wider world community.(1) Health education is a process with intellectual, psychological, and social components designed to promote the health of individuals and groups. This process, based on scientific principles, results in learning and behavioral change in both providers and consumers.(2)

For those of you without an in-depth knowledge of educational planning, the remainder of this chapter is devoted to defining some of the terminology and objectives in the educational sphere and to helping you differentiate between methods and activities which may appear similar but actually have important differences.

EDUCATION VS. INFORMATION

Often our first inclination, when the problem of changing family planning behavior arises, is to show a movie, produce a pamphlet, or schedule a speaker. We assume that providing people with the truth, with the facts, is the only requirement for behavior change. If information alone led to action, we would not have smoking problems, no one would be overweight, and we would all have our seat belts fastened. However, when information conflicts with the receiver's beliefs or values, or if the receiver thinks his family or community does not approve of the information, he will not act on given facts. Just how complicated changing behavior can be is shown by the amount of research in the field. Source references are listed at the end of this section to initiate your exploration of this area.[3,4,5,6,7]

Education's major goal, then, is to go beyond providing facts to developing sound family planning practices. Education involves the recipient's integrating new knowledge with his or her existing knowledge, attitudes, experience, and perceptions and putting it to use. Interacting with the communicator to shape and reshape the information enhances the potential for maximum understanding and acceptance by the recipient. This harks back to the saying that the best setting for an education is a log with the student at one end and the teacher at the other.

Educational efforts are distinguished from information activities by more specific analysis of the intended audience, more precise messages, more labor-intensive methods with maximum opportunity for feedback and interaction. Information giving is sometimes referred to as a shotgun approach and educational efforts likened to bullets.

Many family planning programs make the conscious decision to invest their resources primarily in information-giving activities. This decision is based on the size of the audience, the age of the program, and the available resources. And it can be a good investment. The providing of information is a first and necessary step in any educational program, and in some instances, it may be sufficient to reach a specific audience. For example, if an area has no family planning service, information can trigger acceptance for people who are ready and waiting for new services. An information plan is also essential to effecting any community action.

The point is, though, that information cannot do the whole job. When information efforts reach their limits and fail to influence groups in specific ways, then the failure should not be indiscriminatly laid to health education.

COMMUNICATIONS IN EDUCATIONAL PLANNING

Communication is the basic process for all daily family planning program activities including education. Since our objective is to bring about and maintain certain behavior, our preferred definition of communication goes beyond "source transmitting message to a receiver" to include "with conscious intent to affect the latter's behavior."(8) The latter phrase separates the planned communications in a family planning program from other forms of common communication.

Communication techniques for influencing behavior differ from those designed for transmitting information or for entertaining. They depend on the sum of the cultural, social, and personality factors in an interaction. The producer of the communication must make certain assumptions about the intended audience.(9) The better the available data on the intended audience, the stronger the potential for effective communication and concrete results.

There are many approaches to studying effective communications. To enable you to understand the terminology used in this area, a brief discussion of some communications theories is presented below.

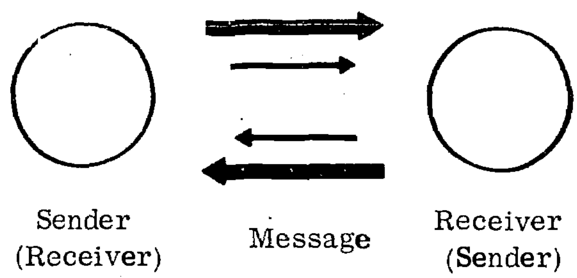
One theory addresses itself to how new ideas or innovative practices spread through a community. It maintains that the personal mental process of making up one's mind -- decision making -- involves five stages: awareness of the idea; interest in it and a desire for more facts; evaluation; trial; and adoption.(10) People are exposed to new ideas through various communication sources such as mass media, agencies, neighbors and friends, brochures, and pamphlets at each stage in their decision-making process. The combination of techniques they will encounter depends on the personal and social traits of the individual. This communication mechanism is referred to as the diffusion process. The developers of this theory classify people according to the rate at which they adopt new ideas: innovators; early adopters; informal leaders; majority; late adopters; and nonadopters.(11)

Another communciations term you may encounter is persuasion tactics.(12) This technique concentrates on: the best way to present your most important material, at the beginning or end of the message; the influence of groups; the persuader's credibility; the persistence of opinion change; and the use of fear.

Communications are distinguished as one-way and two-way. When a source sends a message to a reciever and the potential for feedback or interaction is minimal, the method is called one-way. Examples are radio, television, newspapers, posters, pamphlets, and lectures. Some response to one-way methods is included in talk shows, polls, letters to the editor, or questions and answers at the end of a lecture.

ONE-WAY COMMUNICATION

In two-way communication, the receiver transmits a message in response to the sender's message -- interaction takes place and there is a simultaneous opportunity for interpretation and modification of messages. Examples of two-way methods include small group discussion, community meetings, seminars, consultation, and telephone conversations. Learning has the highest potential for taking place when maximum interaction and communication is possible.



TWO - WAY COMMUNICATION

ATTITUDE AND BEHAVIOR CHANGE

We frequently say that our educational goal is to change attitudes. This is based on the assumption that attitudes are closely related to behavior, that there is a cause-and-effect relationship. Though this is true to a certain extent, the relationship between the two is complex and tenuous. People often act contrary to what they avow, what they insist they believe in. Also, people can acquire a new behavior pattern without having first changed their attitudes. Sometimes attitude changes come later. Creation of positive attitudes toward family planning is certainly one of the goals of the education program, but it is an intermediate goal. We might do better to first try to build social and environmental supports to achieve and maintain behaviors and then attempt psychological and sociological approaches to attitude.

For example, if your objective is to reduce the number of unwanted pregnancies in Hightown High School, you can present discussions in the school aimed at developing positive attitudes toward responsible parenthood including the use of contraceptives. On the other hand, you can spend time making services accessible and developing referral mechanisms with school nurses and counselors. The latter would likely be more successful.

PUBLIC RELATIONS VS. EDUCATION

Public relations is a management function which evaluates public attitudes, identifies the policies and procedures of an individual organization with the public interest, and plans and executes a program of action to gain public understanding and acceptance.(13) A public relations program conveys messages from the organization's perspective and, therefore, its priority is the organization's best interests.

Educational programs, on the other hand, are designed to serve the consumer's best interests. Education starts where the consumers are in relation to their own felt needs; it identifies their existing motives and aspirations and includes them in the planning and conduct of the program as early and as frequently as possible. The key principles of the educational approach, then, are relevance and participation.(14)

In good family planning programs public relations and education would be virtually indistinguishable since the raison d'etre for this effort is the service provided to the consumer.

COUNSELING, INTERVIEWING, AND CONSULTING

Counseling and interviewing are relationships involving close personal interaction in which maximum communication is hopefully taking place. The purpose of establishing the relationship is the same for both activities: to achieve the optimal well-being of the patient. The objectives, however, are different. Counseling is aimed at providing the patient emotional support and helping him adjust to his condition and reach his potential. Interviewing, on the other hand, is designed to "facilitate receiving the most pertinent information needed to make adequate medical and educational diagnoses."(15) In short, the objective of counseling is to help the patient make decisions, whereas interviewing is to help the staff member determine how best to help the patient.

Interviewing and counseling can be used medically for diagnosis, making decisions about actions, and providing support. They can be used in social services for problem definition and solution, and they can be useful processes in diagnosing and prescribing educational activities.

The term "consultation" is often used to describe any informal interaction in which advice is given with a view toward solving a problem. The technical definition is, however, the act of assisting a professional in solving problems which he himself has defined. Its essential element is the freedom to accept or reject the advice. Without such freedom, an encounter should not be defined as a consultation.

TRAINING

Two distinct types of training in the family planning program can be distinguished. Professional and technical skills training, and training in human relationships and the dynamics of communication.

The educator should be familiar with learning theory and the basic approach to designing training programs. Assistance can then be given in development of skills training where needed.

The educator's continuous training focus should be on the development of positive communications and relationships within the staff, between staff and clients, and between the agency and the community.

DEFINITION OF THE EDUCATIONAL COMPONENT IN FAMILY PLANNING PROGRAMS

The family planning educational program is a systematic and organized series of activities whose purpose is to effect learning and voluntary behavior change toward positive family planning practices. Unconnected, sporadic, or casual instruction may be called learning and may result in behavior change, but it lacks the sequential learning and follow-up which a formal systematic approach implies.

This definition of a family planning educational program is supported by the following specification:

> Educational services in family planning are all learning opportunities provided for voluntary choice of behaviors which lead to optimum health for the family including the activities of: patient identification, counseling,

instruction, referral and follow-up services, community information, consumer participation, coordination with and services to community agencies, libraries and schools (including sex education, human sexuality, family life courses), staff training, and continuing education. (16)

This educational perspective can be contrasted to the medical and administrative perspective stated in "A Family Planning Glossary." (17) In the glossary, the definition of social and educational family planning services are those which comprise:

- Outreach and follow-up.
- Facilitation services.
- General community information and education activities through all media to all types of community institutions and individuals. These activities may include family life education, human sexuality and health, social and demographic rationales for family planning, in addition to information concerned with the specifics of contraceptive methods.

The definition also distinguishes between:

- Direct outreach activities: recruitment, referral, and follow up
- Indirect outreach activities: varied informational and educational activities undertaken by the program for the purpose of informing prospective patients about family planning through publicity, radio, TV, and formal methods such as participating in teaching programs in various schools.

The first definition of the family planning educational program is a broad in-depth definition. The second one takes methods and activities which have an implied learning potential labeling them as education. They may or may not be.

The distinction also includes the stated objective. The objective of the outreach program is recruitment. The educational objective might be to ensure that the family received the services that they, the family, defined as helpful. These might, or might not, be within the agency program.

ROLE OF THE EDUCATIONAL STAFF

It is difficult at times to determine where the role of the educational staff begins and ends. The reason is that almost every contact with the client can be viewed as an educational opportunity. In effect, the entire staff -- educational, administrative, and medical -- becomes part of the client's learning experience so that it is virtually impossible to draw clear-cut lines of educational responsibility. The best we can do is to show as in Figure 1 the major family planning components into which the educational services described above fall.

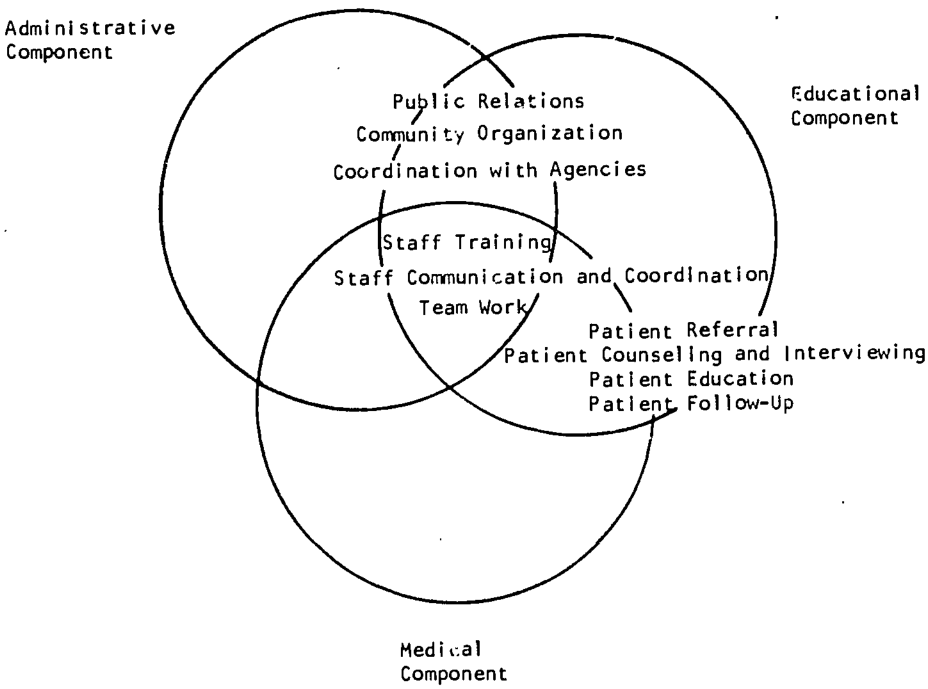


FIGURE 1. MAJOR FAMILY PLANNING SERVICES

As you can see, it is not necessarily important to whom the specific educational responsibilities are assigned. They may be assigned to the nurse, the social worker or outreach worker, the administrative assistant, the educator, or they may be shared among several or all of them. This will vary from program to program depending on the resources available, staff expertise, and program requirements. However, staff educators should be skilled in defining educational methods, planning training, and assessing and evaluating educational needs [18] even though others may be involved in content presentation.

The educators have the responsibility of training the entire staff to respond to the fact that the client's learning is continuous, not just confined to formal education sessions. Learning also takes place on a casual and subconscious level during informal contacts with the staff and can be positive or negative. This informal learning may last longer and influence behavior far more than planned educational efforts. This means that educators must ensure that other staff members exhibit warmth in dealing with the client and maintain the client's sense of dignity at all times. The educators must also sensitize the entire staff to the needs and fears of the people they serve; and they must encourage staff members to consider how each client's own experience will affect his or her decision to adopt or continue family planning practices. How successful the educators are in this respect can be judged, to some extent, by continuation rates as well as by the number of newcomers who are referred by their friends.

The second major area of educator responsibility is ensuring that the entire staff develops a communications philosophy and skills: in short, the ability to communicate clearly with others and to clearly understand what others are trying to say. Consistency in the message communicated throughout the agency is important. Messages which are ambiguous or contradictory can cancel out and negate any positive effects other messages have.

The third major area for which the educator is primarily responsible is planning, coordinating, and continuously monitoring the total program to ensure that the opportunities for positive learning are maximum both for staff and clients.

QUALIFICATIONS FOR A FAMILY PLANNING EDUCATIONAL COORDINATOR

Throughout the preceding portion, we have attempted to show how all health workers have an important educational role to play while carrying out their assigned duties and responsibilities. If health education is to succeed, however, it is important that a competent professional plan and coordinate the educational component, as well as organize community-wide support for it. Such a professional may have majored in health education as an undergraduate, or may hold a degree in a related field. If the degree is in nursing, adult education, or communications, additional educational courses should be considered. In any case, health education is too specialized a skill to entrust to a person who has not had some relevant training.

The following list, adapted from the WHO report on health education in family planning, [19] outlines some of the qualities the educational coordinator should possess as well as some of the areas in which that person should have had formal training. It may provide you with the impetus for continuing your own professional development.

- Knowledge of human behavior. Understanding of the influence of beliefs, interests, motives, values, perceptions, expectations, knowledge, norms, mores, and attitudes of others upon an individual's willingness to change. Acquired through courses in the behavioral sciences: psychology, sociology, and anthropology.

- Understanding of and commitment to educational approaches to change. Ability to identify and seize upon opportunities for education whether they arise in the community, with an individual client, or within the agency with regard to staff training. Formal background for developing this ability: learning theory, methods of adult education, community development, political science, administration, and health planning because they all deal with the study of the process of change.

- A positive and empathetic approach to people. Of paramount importance because it creates an environment in which learning and cooperation flourish. Involves warmth in dealing with others, genuine concern for doing what is best for them, and confidence that people will take constructive action when they fully appreciate the factors involved and the benefits that will result -- assuming, of course, that the particular action required does not conflict with other important goals.

- Skills in planning educational programs, in analyzing program objectives in terms of public participation, and in choosing and using educational methods and communication tools. Skills in community organization, diagnosis of community problems, and data collection; understanding of leadership patterns and the effect of leaders upon behavior; group skills; the ability to encourage teamwork and coordinate the use of the media; and the ability to listen well and verbalize clearly. Developed through some of the courses previously mentioned and through experience.

- Ability to evaluate activities, to modify those found ineffective, and to read and understand relevant research and apply it to educational activities. Results not only from training in evaluation and research methods, but from experience in making such judgments.

Although no one person can be expected to excel in all of these areas, the educational coordinator must have enough knowledge and the judgment to know when to call in an expert. He must also create the type of working atmosphere that will enhance the efforts of the professionals around him. Such experience, judgment, and timing are, of course, the hallmarks of any competent professional. In addition the educational coordinator must possess one more quality: dissatisfaction with the status quo and interest in continuously searching for ways of improving it.

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II. PLANNING

INTRODUCTION

If the family planning staff is busy with many informational and educational activities, the clinic is full, and everyone is relatively satisfied with what is being done, you may ask why take time out to plan?

A traveler who has a general notion of where he is going might ask a similar question -- why use a road map? A map could tell him about alternative routes, how close he is to his destination, where to look for landmarks, and how rough the terrain will be. He will also be able to go farther and faster with the gas he has if he picks the most direct route.

Family planning programs are similar. They have a limited amount of resources -- time, money, materials, and space -- and choices must be made about expending those resources. The clearer you are about your educational objectives, activities, and criteria for measuring success, the more effective and efficient your program will be -- another way of saying farther and faster. Planning can also help you do a better educational job by:

- Identifying your audience more clearly (target group)
- Describing what you want them to do (behavior)
- Selecting ways to achieve the requisite behavior in the group (methods, messages, materials)
- Determining how you can tell when the group members are doing what you want them to do and whether you are successful (evaluation)
- Specifying when you wish to reach whom (timing)
- Listing which steps come first (priorities).

It's true that planning is a difficult, time-consuming job. Time is required for meetings at all levels, for writing, for thinking; but the time spent on gaining agreement on educational objectives and on putting plans in writing can save a lot of administrative time later. Furthermore, gaining staff agreement on what is to be done, and who is to do it, enhances teamwork.

To aid you in understanding of the next section, a glossary of some of the most commonly used terms is presented below.

A PLANNING GLOSSARY

Activity	Work performed by program personnel and equipment in the service of an objective. (2)
Baseline or Benchmark	The recorded status of the situation before action is taken to effect change, the situation to which subsequent action or accomplishment can be compared. (2)
Criteria	Established standard by which measurement is made. (1)
Demographic Characteristics	Distinguishing features of a population such as size, age/sex distribution, fertility, density, mobility, immigration and emigration as well as birth and death rates. (1)
Ecological Characteristics	Circumstances influencing or resulting from the interaction of man with his environment, for example, limited food because of limited water. (1)
Economic Characteristics	Distinguishing qualities of the sources of production, distribution, and consumption of goods, including manpower, wages, agricultural products, and natural resources. (1)
Evaluation	Ascertaining the value or amount of something or comparing accomplishment with some standard. (3)
Function	An area of responsibility whose discharge is required to meet program objectives. (2) Examples of functions are the provision of medical, nursing, social, or educational services. Administrative functions are planning, evaluation, consultation, and coordination.
Implementation	The carrying out of a plan. (1)
Learning Objective	A statement of an intended outcome in behavioral terms that describe what the learner will be doing when he achieves that objective. (4)
Objective	Situation or condition of people or environment (3) which planners desire to attain. May be broad or narrow in scope.
Ultimate Objective	A condition desired in and of itself. (3) Example: provision of family planning services to women in need in order to enhance the health and well-being of the community

Program Objective	A particular condition which is intended to result from the sum of program efforts. (3) Example: enhancement of the health and well-being of the community through the provision of a wide-range of family planning services which enable families to have the number of children they wish.
Subobjective	Objective which must be obtained before the program objective can be attained and which is seldom inherently desirable. (3) Example: 25,000 women ages 15 to 44 will adopt and continue contraceptive practice by 1976. Example: provision of 50 clinic sessions per month during the first year; recruitment of 5,000 women through outreach and community organization.
Plan	An orderly construction of the major objective and the steps needed for their achievement. It includes . . . formulation of objectives, assessment of resources available to realize these objectives, and preparation of a work program to achieve the objectives. (2)
Procedure	The prescribed sequence of defined activities required to meet a program objective within the framework of the organization and in line with definite policies. (2)
Purpose	See ultimate objective.
Systems	Deliberately designed organisms, composed of interrelated and interacting components which are employed to function in an integrated fashion to attain predetermined purposes. The main aspects are purpose, process, and content. (5)
Target group	A group or section of the population selected for special attention on the basis of having special characteristics, e.g., susceptible groups in family planning are fecund sexually-active women and their partners. (1)
Techniques	The specific skills required for the performance of a specific operation or function. (2) Some of the skills required in the above example under procedure would be graphic design, message design, printing, and the ability to deal successfully with business men.

The remainder of this section is divided into: (1) a description of the planning process on the right-hand pages and (2) an example of that process on the left-hand pages in gray. We suggest you read the description first and then refer to the example. The paragraphs immediately below (gray) set the stage for the examples given on subsequent pages.

AN EXAMPLE OF THE PLANNING PROCESS

The Hightown Family Planning Agency serves one million residents; 450,000 reside in Hightown and the remaining 550,000 in the suburban and surrounding rural area. The agency has been in operation for two years and reflects the realistic initial planning of the staff and board. The development of services and the recruitment of family planning patients is proceeding close to schedule.

The agency's strategy was to provide basic contraceptive services to 40 percent of the estimated couples in need during the first 18 months of operation. Services would be provided at two major clinics and, occasionally, at loaned facilities. The development of other services such as sterilization and fertility testing, as well as the addition of new locations as a result of postpartum programs in hospitals, subsidized services in private doctor's offices, and prenatal clinics began in the latter part of the second year. Utilization and coordination of these existing resources are to be given full-scale attention during the third year to determine the extent of additional clinic sessions and locations required in the last two years of the program to reach the estimated number needing services.

In the original planning the defining of educational objectives resulted in identifying staff skills needed in the educational division: administrative, planning, and supervisory; public relations; community organization; training; small-group discussion; audiovisual production.

As you join the staff you find an educational director, a trainer with group discussion skills, a public relations program run by a community organizer and an executive staff, and a budget for purchasing audiovisual materials on contract. Your job is to plan a program for young adults and teenagers. Steps A to D will already have been taken before you arrived. However, your activities must be planned in the context of extablished goals and must be based on the data already collected. Hence you will need to know what action your agency has taken in these areas.

HOW TO PLAN

"Planning is the process through which decisions are transformed into action."[1] The elements of planning, which are the same regardless of the field, are: identifying the problem, setting objectives, assessing resources, considering solutions, planning action, implementing the plan, and evaluating the outcomes. This process may seem more difficult to use in the educational field where the steps and processes are more abstract than they are in direct services.

Figure 2 illustrates the steps in planning the educational component of a family planning program. While identifying the problem (Step A), setting program objectives (Step B), and assessing resources (Step C) are responsibilities that belong primarily to program administrators, they are included in the chart so you may see how the educational component fits into the entire planning process. The educational perspective, moreover, should be included in each of the first three planning steps -- although it may be provided by staff members other than educators.

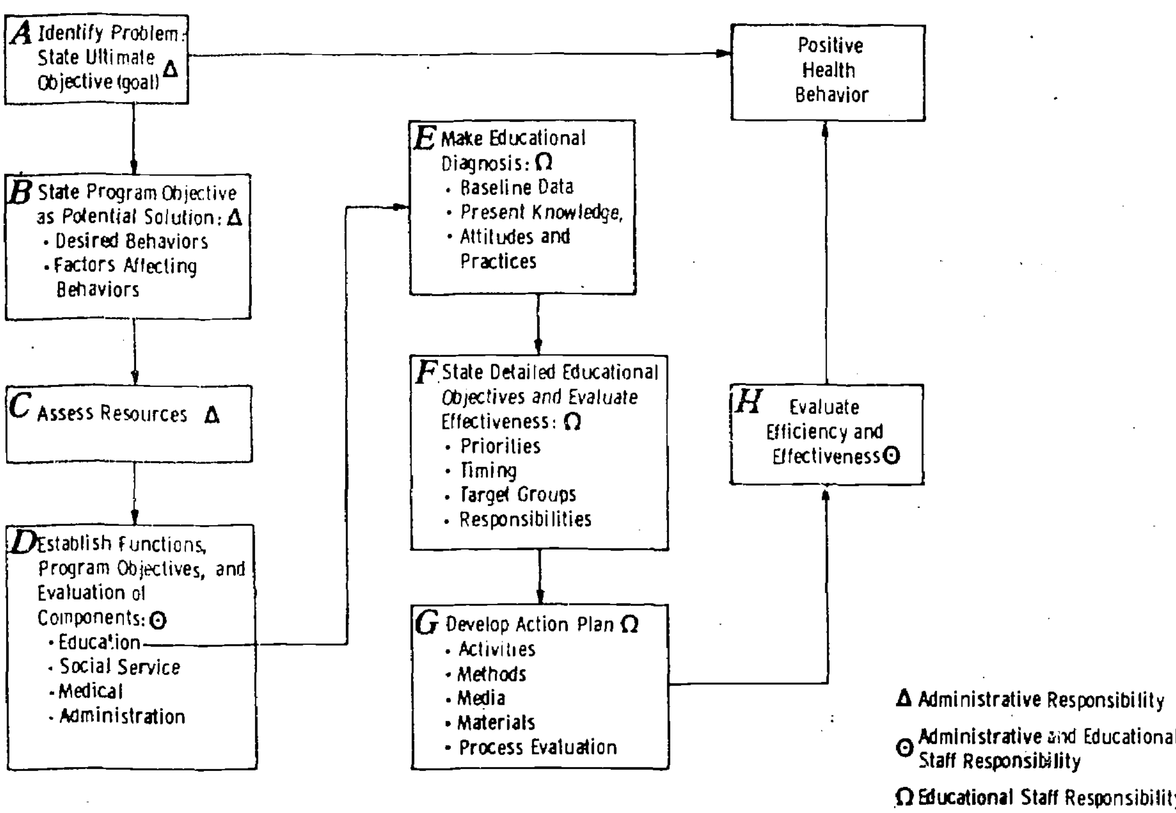

FIGURE 2. PLANNING PROCESS FOR THE EDUCATIONAL COMPONENT

A IDENTIFY THE PROBLEM AND SET ULTIMATE OBJECTIVES (STEP A)

The ultimate objective of the Hightown Family Planning Agency is to improve the health of the residents of the county by providing family planning services and maximizing access to other available health services. This goal was based on an analysis of health problems which included:

- An infant mortality rate higher than the national average
- A high maternal death rate
- Evidence of malnutrition and morbidity among pre-school children
- Drop-outs from high school attributed to unplanned pregnancies.

The long-range objective stated by the planners is to:

- Reduce high infant and maternal death rates and unplanned pregnancies by providing family planning services to 25,000 couples in need in five years
- Coordinate related health services for families of the couples in need to reduce morbidity and malnutrition among children.

B PROPOSE BEHAVIORAL OBJECTIVES AS SOLUTIONS TO THE PROBLEM (STEP B)

Modes of behavior and practices which would help solve the problem noted include:

- Increasing the time span between pregnancies
- Delaying a woman's first pregnancy to age 20

STEPS IN PLANNING

The remainder of this section explains each step in the planning process. Examples illustrating the process are given on the facing pages.

IDENTIFY THE PROBLEM AND SET ULTIMATE OBJECTIVES (STEP A)

A

The definition and analysis of the problem requires information on health indicators in the community, studies of census data, and information on both available and potential services and resources within the community. Considerations in defining the problem would be the priority of family planning programs as compared to other health problems in the community, the nature and scope of the problem, and how the problem is viewed by the decision-makers and experts.

The ultimate objective or goal is usually a broad statement of intention over a long period of time. It is the positive health behavior -- the output measure -- which would result from a successful program. An example is the national family planning goal stated by President Nixon in 1969: "The provision of adequate family planning services within the next five years to all those who want, but cannot afford, them." The data which helped define the national problem included maternal and infant morbidity and mortality rates and the estimated incidence of illegal abortion. Positive health behaviors identified are the promotion of maternal health and individual freedom of choice to determine when and how many children to have.

Educational considerations at the point of goal and objectives formulation include community perception of the problem, recognition of the need for service, determination of whether economic resources exist to support the program, and identification of political factors which might have impact on the program. The feasibility of the program, the determination of who is affected and who must make the decision to practice the required behavior, and how the program will be focused are considered here. Phases and timing needs for goal realization may also be indicated.

PROPOSE BEHAVIORAL OBJECTIVES AS SOLUTIONS TO THE PROBLEM (STEP B)

B

Desired practices and behavior are stated at this point: what people must do to solve the problem. The desired outcome may be stated as a series of program objectives.

Required educational information includes: How many people have already adopted the desired practice or behavior? What barriers keep more people

- Planning pregnancies and therefore reducing the number of women seeking abortions
- Reducing the number of pregnancies for high-risk mothers
- Avoiding pregnancy after a female is 35 years old
- Using pre-natal care in the first trimester of pregnancy
- Raising the dietary level of mothers and children
- Improving the level of personal hygiene of mothers and babies
- Using preventive health services for babies and pre-schoolers.

The reasons these practices are not being adopted to the extent desired include: services are unavailable or inaccessible due to cost, distance, or time; family income is insufficient for proper diet; prospective clients are unaware of available services, reasons for planning families, and methods for planning families; the community does not believe young mothers, over-35 mothers, and their babies are at high risk; the community does not bleieve that large families sometimes lack psychological and emotional as well as physical support; and community customs support early marriage and job-seeking and large families.

The factors favoring the desired changes in behavior include: resources for services are available through federal grants; underutilized health resources in the community are available; a communications network of television, radio, and newspapers reaches 85 percent of the population; churches working with ethnic groups are disposed to family planning; the medical community is concerned about high mortality rates and public health; political officials support family planning and health grants; and some of the school officials view family planning favorably.

C ASSESS RESOURCES (STEP C)

An assessment of resources would involve compiling a list of available sources of funding, space, and equipment. It would also involve tabulating the resources of other related agencies which have personnel training facilities, funds, related programs, etc. Agencies to be considered include: governmental and intergovernmental agencies (community planning, information, education, labor); voluntary agencies such as the Cancer Society, Red Cross, religious groups, unions, and women's or youth groups; medical and allied health training institutions; libraries; and commerical institutions.

from doing so -- lack of service, lack of knowledge, language problems, community custom? What support for the behavior now exists in the community? How acceptable would the behavior be to the community? Does their life style lend itself to behavior such as using clinic services, requesting information, lettting other persons instruct their children, or planning for themselves? Can they afford the service? Who in the community should adopt the practice or behavior? Who is the target of the educational program? The preceding two considerations may involve different groups. If, for example, the women should adopt the practice and the men are the decision-makers, then the educational target would be the latter group.

Statements of what people should be doing in relation to each program objective, an assessement of community attitudes toward health services, and required changes in these services should also be included in this section of the plan.

ASSESS RESOURCES (STEP C)

C

The most important resource to be assessed for education is personnel since the number and kind of available workers and their assignments will help determine the health education activities to be provided (Step D). The personnel assessment should include:

- Number and type of workers available
- Main duties in each category of work

Available manpower was assessed, with the following type of chart.

Agencies which may supply workers	Main duties	Duties in health education	Health education training	Supervisor's responsibility in health education	Difficulty in involving workers in health education program
Family planning agency					
Health agencies					
Social service agencies					
Welfare agencies					
Educational programs					
Community colleges					
Schools					
Other groups					
YWCA					
YMHA					
County extension					
Homemakers					
4-H					

D ESTABLISH FUNCTIONS AND PROGRAM OBJECTIVES (STEP D)

The agency's program objectives are:

- Confine pregnancy to women between 20 to 35 -- the most healthful age for both the mother and the child.
- Avoid procreation when a woman is over 35.
- Postpone pregnancy until a woman is 20 years old.
- Practice child spacing by allowing two years to elapse between pregnancies.
- Limit the number of children according to the physical and emotional needs of the family, as defined by the client.
- Ensure that couples successfully use effective and safe fertility control methods.

The following are examples of objectives defined in terms of the knowledge and attitudes (subobjectives) of the specific target couples, their close contacts, medical and health personnel, other related

- Health education duties specified for each category
- Training in health education received in each category
- Supervision in health education received in each category and from whom
- List of main difficulties to be overcome in involving health and welfare workers in the program such as lack of prior training in health education, a shortage of supervisory staff, budget limitations, shared administrative authority with other jurisdictions.

Other resources available to the health education program -- services, personnel training facilities, funds, etc. -- should be itemized by type and the extent of their potential contribution described. Such resources may be available from government agencies; community health information centers; education, agricultural, and labor groups; local agencies; volunteer and professional organizations; religious groups; women's organizations; youth training institutions; medical and paramedical educational institutions; colleges and universities; official and non-official leaders; commercial concerns; libraries; etc.

ESTABLISH FUNCTIONS AND PROGRAM OBJECTIVES (STEP D)

D

In this step, the information on desired practices and behavior, the factors (pro and con) which influence these achievements, and the available resources will be used to define the level of program effort required and to estimate the budget and personnel needed for the specific components of the program. In family planning, the program components are generally educational services, medical services, social services, and administration. We are concerned here only with the educational component.

Defining the educational component involves stating educational program objectives, assigning responsibility for a detailed educational program, and providing for its evaluation. The objectives should apply both to the persons being provided family planning services and to the staff providing them.

agency personnel, the general community, and the family planning agency staff:

- Both young people and adults know and believe that the preferred age for females to bear children is between 20 and 35.
- Both young people and adults in the fertile age group know about family planning methods and where services can be obtained. They can select and use safe, effective, and suitable methods successfully.
- Youth and adults make decisions to plan pregnancy at the preferred age and use measures to postpone pregnancy.
- Medical and allied health professionals are convinced of the safe age range, use professional influence to foster awareness, and provide family planning services and/or referral to help clients limit childbearing to that age.
- Health workers, educators, group workers, and welfare staff incorporate health aspects of human reproduction in their educational efforts; they encourage their contacts to limit pregnancy to the preferred age range.
- Opinion leaders in the community provide psychological and social support for encouraging childbearing at the optimum age.
- Providers of family planning counseling and service know the biological and emotional factors which make 20 to 35 the optimum age for pregnancy, are aware of all fertility control options, and are able to effectively communicate that information to their patients.

The first year of the educational plan which involved generating large-scale community support for family planning and providing information on the availability of services was judged successful. This judgment was based on the expressions of support from numerous agencies, a favorable press, continuous funding support from the governmental bodies, and comm community surveys showing that 40 percent of the general public could identify sources for provision of family planning information and that 67 percent of the population between 20 and 45 knew of the need for and the availability of services.

Staff training in communication and listening skills is proceeding on schedule. Patient education in the clinics is provided through a

If the program has already established some health education activities, the following questions should be answered at this point:

- What are the health education objectives?
- What activities have been carried out and what were the results?

Educational Objectives

Objectives are clear-cut statements of what the planners intend to accomplish. As one moves from policy and administrative levels down to daily operations, the objectives guiding decision-making and program activities become more and more precise. All statements of objectives should include:

- What -- the nature of the results to be achieved
- Extent -- quantity or scope of the results to be achieved
- Who -- the particular group or groups of people involved in achieving program results
- Where -- the program's geographic area
- When -- the time at or by which the results are intended to be achieved.

The objective states the intended outcome, or result, not the activities which bring it about. (Activities are performed as work by personnel and/or equipment to obtain subobjectives and objectives regarding the conditions of people or environment.) Since education is concerned with influencing peoples' activities, program objectives always relate to doing, to acting, to behaving. Thus, statements of results are the action part of the objective.

It is critically important that objectives be stated in terms of observable practices which can be measured in some manner. Without overt indicators, there can be no criteria for evaluating the success or failure of the program. But it is sometimes difficult to determine whether people have adopted desired practices or behaviors as a result of the program or of some outside force, and so some criteria must be subjective. Careful, reliable observations, however, are more scientific than judgments made solely on the basis of authority or intuition.

combination of methods including individual instruction, group discussion, and presentation of factual information by audiovisuals and pamphlets. Word-of-mouth referrals are on the increase

The general success of the program thus far does not extend to the youth population. The knowledge of contraception and availability of services revealed in the community survey is not reflected in the attendance of that age group in the clinic. In addition, other behavior described below indicates the need for an intensive effort with the group.

After orientation and consultation with the educational staff, your assignment becomes additional community exploration and diagnosis.

In developing objectives, two questions should remain foremost:

- What are people doing or able to do that they did or could not do before?
- Is each objective specific enough for evaluation purposes?

Subobjectives

Before groups reach the action stage, they will take several intermediate steps or undergo several intermediate changes. These changes in groups are called subobjectives (although some planners refer to them as intermediate objectives) which vary in scope and complexity. They may be carried out by different groups in different places before achieving the desired behavior, and all of them may interact with and affect each other. Very rarely does one change effect the desired behavior; a multiple approach is recommended.

Examples of steps which must take place before action is achieved are listed in Action for Family Planning (6) and are classified as changes in:

- Knowledge and information
- Skill and competency
- Values and attitudes
- Group support
- Environment or situation.

If the design of the educational program is not systematic, these subobjectives may become ends in themselves and continue for long periods of time without reexamination or modification. Many family planning programs expend their educational resources here, measuring success in terms of inputs (number of speeches, number of hours) or outputs (information produced, number of sessions and attendees, number of speeches). However, the objective is to produce change, and observed changes should be measured in terms of movement in the desired direction. It is possible, moreover, to reach subobjectives and still not achieve stated results. For example, people may have knowledge of and accept contraceptive methods but not use them at the appropriate time.

E MAKE EDUCATIONAL DIAGNOSIS (STEP E)

Research produced the following information:

- Existing baseline data indicate that 425 babies were born to women under 20 in the county in 1972.
- School personnel are concerned because the drop-out rate is high at three high schools. A study shows that a major reason for drop-outs during the last two years of high school is unplanned pregnancy. The study shows additionally that the high-risk group is characterized by close steady dating, low scholastic and career motivation for females, and diffuse career motivation for males.
- Health personnel identify problems of early pregnancy such as prematurity, poor nutrition, the need for mothering skills, and economic problems affecting both mothers and children.
- Students state that access to family planning clinics depends upon parental consent. Queries on other methods of contraception reveal gaps in knowledge and understanding.
- Parents' attitudes regarding family planning information programs range from premissive to strict. Parents feel a need for such programs for students but are unwilling to take a public stand. Many seem unsure and uncomfortable about their ability to present information to their children.

Throughout the following paragraphs evaluation is interrelated with the definition of objectives. At this point, the responsibility, the resources, the timing, and the relationship of evaluation to other program components should be identified. The evaluation approach will depend upon your resources and available skills. Ideally, the points at which evaluation take place should relate to the completion of specific stages of the plan. In reality, however, external demands such as funding cycles and program applications must also be taken into account.

MAKE EDUCATIONAL DIAGNOSIS (STEP E)

E

Step D stated what people should do to meet program objectives. Step E asks, what are they doing now? What is the present status of the community with regard to family planning? Why aren't some people practicing the behavior, that is, what are the underlying causes for their non-practice? What would convince them to adopt the behavior?

The educational diagnosis, then, involves collecting baseline data on the community, including information on its knowledge, attitudes, and practices regarding family planning. Baseline data consist of reports, records, surveys, census data, and other information that has been collected on the community. Material may be available from agencies such as health and welfare associations, from community studies conducted by colleges, and from urban and physical planning groups.

Descriptive information on community characteristics which could be used in developing your plan includes: demographic and socioeconomic characteristics; social and cultural characteristics such as beliefs, customs, events; patterns of community participation and social organization; and leadership patterns. It could also include the levels of cooperation evidenced in previous health-directed efforts, topographical and environmental characteristics, mobility of population, public transportation, and information media.

Other data suggested by the World Health Organization [7] may require special studies or surveys. These suggestions include: people's own goals, values, beliefs and their aspirations; people's knowledge of the health implications of family planning; their knowledge of health services and resources; principal barriers or difficulties which deter the adoption and practice of family planning; and people's traditional reaction to other kinds of innovative ideas, particularly to the use of preventive health services.

The types of data suggested here are given only to stir your thinking. You will have to select the data that are most appropriate to your own family planning program.

Information to assist you in planning activities can be gathered through informal interviews, discussions with groups, and direct observation as well as through a review of published documents. To accumulate sufficient and comparable data for reporting requirements and evaluation, you should standardize your method of observation as much as possible. Interviews should be conducted with the type of people representative of the population -- men and women, old and young, poor and rich, black and white -- rather than with a single group or with your office colleagues or friends. You can find out how to make your interviews, observations, and questionnaires more scientific by reading some elementary books on research.[8,9,10] Seek out the teachers of social research at nearby colleges and universities. They will often help you design and improve your efforts. In some cases, their classes may be looking for survey and research projects and will undertake a study for you. In addition, the Family Planning Regional Offices may have access to consultants who can help you plan special data collection activities.

Not all data must be collected before beginning. A small amount of pertinent information may be enough to get you started. The planning and evaluating process is continuous so you can continuously add and refine data and modify your program accordingly.

F STATE DETAILED OBJECTIVES AND EVALUATE EFFECTIVENESS (STEP F)

Your long-range objective, it is agreed, is to reduce the number of babies born to women under age 20 by 20 percent in the next two years. Your educational strategy might shape up the following way:

- Make fertility control services accessible to young people who are ready and willing to accept and use them.
- Encourage the teenagers who are sexually active but unwilling to use fertility control services to consider such services to be to their advantage.
- In the process of generating the community and social acceptance necessary for young people to gain accessibility to services and information, begin to effect changes in attitude which will bring about longer-range community change. This would be support for later marriage, alternatives to marriage for females such as careers and advanced education, smaller families, realistic vocational counseling and careers for young men, increased youth employment opportunities, and greater promotion of hobbies and recreation which may discourage early pairing and steady dating.

The educational strategy was based on the following planning assumptions:

- Direct access to fertility control services by young adults and teen-agers would reduce the rate of pregnancy in that group.
- Direct access to medical methods of fertility control would require that young persons perceive their ability to gain parental permission.
- Direct access to medical methods of fertility control would also increase if the law requiring parental consent were modified.
- Access to non-medical fertility control services would increase if youth and vendors knew about and approved their use.
- Knowledge of fertility control methods would increase if educational programs were provided in schools.
- Sexually active teenagers, uncommited to pregnancy avoidance, will not use available methods, unless a change in knowledge and attitude occurred.
- Some commitment and attitude change in the above group would result from the first five changes listed above.

STATE DETAILED OBJECTIVES AND EVALUATE EFFECTIVENESS (STEP F)

F

Detailed educational subobjectives (sometimes called activity goals or short-range objectives) differ from those stated in Step D because they take into account the information gathered in the diagnostic stage and are more specific. This step involves setting priorities, establishing timings, identifying target groups, and assigning responsibilities for particular efforts; it leads directly into planning the action phase.

When programs are being established, the educational priority will be on staff training and community-wide education. Understanding, consumer support, and community information must be generated simultaneously with the opening of the service. Depending upon the resources, the age of the program, and the needs of the community, some combination of the activities listed below is the usual format for the next step.

Educational Activity	Groups to be Reached
Staff training	Within family planning agency
Technical training	Related community agencies Health personnel (nursing classes, social service workers, medical schools, etc.)
Community education -- information on availability of services, rationale for family planning	Community leaders Formal and informal health-oriented groups Health and welfare agencies Information givers Ready acceptors of services
Outreach -- finding prospective users of family planning and other health services; providing referral and follow-up as well as outreach	Individuals and couples who are unconcerned or uninformed

- Identification of the hazards and risks of early and multiple pregnancies must be presented to uncommitted groups by using group-specific methods.
- The present community climate must change to support the desired attitudes and practices.

To carry out the educational strategy, the following short-term objectives and evaluation mechanisms were established:

- Make a factual presentation of the local family planning problem and its health aspects via mass media using a new format each week for 26 weeks. This objective may be evaluated by documenting public opinion as it is expressed in editorials, letters to the editor, newspaper features, and local talk show.
- Gain support for community leaders, service clubs, religious groups, neighborhood associations, and youth groups. Criteria for evaluation include written statements, letters of support, speeches, letters to lawmakers, discussions, and reviews in local television and radio programs.
- Encourage health and welfare agencies to change any policy, service, or procedure which does not support the family planning program. How well this objective is achieved may be measured by comparing agency records, policy statements, referral patterns, and counseling and education contacts both before the educational program and after its implementation.
- Get 50 percent of the parents of teenagers who believe young people should have access to birth control services to support their viewpoint publicly and to support adult education classes for parents to assist them in communicating with and educating their children. The criteria for evaluation include signed petitions for such classes initiated by PTA efforts and the establishment of classes based on requests and enrollment.

Educational Activity	Groups to be Reached
Patient education -- providing family planning and health learning opportunities for persons already using the health delivery system at some point	Family planning clients Post-partum patients Pregnant women Surgical and medical patients Institutional populations
Population education and sex education in schools	Young people and children Teachers School administrators and health personnel

G DEVELOP ACTION PLAN (STEP G)

An action plan detailing activities, responsibilities, and methods might be set up in the following fashion.

Short-term objective	Activity	Responsibility	Purpose	Methods & Media
Gain support of community leaders	Interviews, conferences, written documents and articles	Health leaders, social scientists	Bring facts to attention; enlist support in solving problems	Kit of materials with statistical evidence, case histories, examples
Gain support of service groups	Talks, discussions, programs	Educators, health professionals, youth leaders, agency-based members	Bring facts to attention, involve service groups in the study and solution of problems, enlist support	Talks reinforced with written materials, audio-visuals, newsletters
Help health and welfare agencies to anticipate change & begin planning change	Seminars, workshops study groups, conferences	Administrators, experts, policy-level board and staff	Discuss data, study present practices and needed change, enlist community for change	Wide variety of media: face-to-face and small group discussions, audiovisuals, printed materials.

G

DEVELOP ACTION PLAN (STEP G)

After the previous steps and some educational diagnosis, you will begin to form hypotheses, that if something (a) is provided, then some effect (b) will result. The activities or methods (a) performed lead to achieving certain conditions or subobjectives (b). Your planning can be thought of as a series of hypotheses. Achieving subobjectives at this level sets up the conditions necessary to reach the next level of subobjectives. The process is then repeated.

Which of these subplans should first be put into motion? Your priorities will result from your assumptions about cause and effect. An estimate of priorities may be made after you assess each subobjective in terms of resources needed, timing, and effect. This assessment will involve a determination of:

- Why -- effect of subobjective to be attained
- What -- the performances (activities) which will cause attainment
- Who -- persons responsible for activity
- When -- chronological sequence of activities; time in relation to the calendar and agency and community events
- How -- methods/media/materials to be used in the activity
- Cost -- an estimate of time and materials
- Feedback -- when and how to tell that the activities are working?

Of course, your priorities will have to be continuously reassessed, based on how well an activity goes once it gets underway.

Continuous feedback on the effectiveness of activities will provide the opportunity to modify and adapt your program for optimum expenditure of resources.

H EVALUATE EFFICIENCY AND EFFECTIVENESS (STEP H)

Three types of program assessment will be made: process, effectiveness, and efficiency evaluations.

- Process Evaluation. A process evaluation will involve answering the following types of questions: Are conditions conducive to reaching the subobjective of support from community leaders and groups? Have the health leaders who will make contacts been recruited and trained? Are they contacting and interviewing the community leaders? What is the response to the materials which have been developed? Are they effective? This kind of analysis makes it possible to revamp activities and assumptions in order to most effectively use available resources.
- Effectiveness Evaluation. Did the contacts, talks, and background materials accomplish the subobjective of developing support? Did the subobjectives collectively accomplish the educational objective -- to change legislation, to gain certain actions from youth, from parents, from school, etc.? What evidence has been collected, positive and negative, showing change? Has the birth rate shifted?
- Efficiency Evaluation. Was the accomplishment (output and benefit) worth the expenditure of resources? An example of outputs and benefits may be taken from the analysis presented by Dr. Green. The outcome (accomplishments) of an information communication effort (Item B on Figure 3) would be patient knowledge and the benefit resulting would be the desired practices (compliance). In the case of communication with relatives (Item D), the educational output would be social support for the patient and the benefit resulting would be compliance and public support.

Some costs which might be used to quantitatively analyze benefits include an estimate of the social and dependency costs of young parents, the costs of school drop-outs and low career achievement, and the costs related to maternal and infant mortality and morbidity. This estimate would provide baseline data. At the end of two years, or

EVALUATE EFFICIENCY AND EFFECTIVENESS (STEP H)

H

Evaluation of your program will indicate which efforts are the most successful and will thereby allow you to allocate your resources to areas that will maximize the benefits to the consumer.

Evaluation involves the comparison of an accomplishment against some standard: historical, normative, arbitrary, theoretical, or negotiated.

In family planning, the most applicable standards are historical. This involves establishing the community's status before the program began (baseline data) and comparing it to the community's situation after the program has been in operation for some time. The standard of acceptability becomes doing better than in the past. Routine data collection allows for monitoring increases and decreases in the program's vital measures.

Normative standards are used to compare two or more places rather than two or more times at a single location. These standards are difficult to use in family planning because the programs are usually sufficiently different in character, setting, and target populations to make comparisons difficult. Additionally, a large number of programs are needed for such an analysis.

Arbitrary standards are standards that are set before planners actually know what to expect of a new program. They are established merely to give the staff a general idea of what they should be working toward. As knowledge and experience are gained, these standards should move closer to theoretical standards.

Theoretical standards are based on theory, experience, and research and reflect what planners realistically think the program will accomplish if all goes well. This is less than an absolute standard but less arbitrary than the one described above. To the extent that things do not go well in a program, it falls below the theoretical standard.

A compromise or negotiated standard is the product of decision making involving both consumers and providers. The consumers may set an absolute standard, the providers a theoretical standard, and a compromise is struck between the two.

As literature begins to accumulate in the family planning field and judgments can be formed about what has and has not worked and in what forms, we can begin to evolve some theoretical standards which could be applied consistently to educational programs in family planning. (11)

whatever period you have projected, the number of events avoided, in this case pregnancies of mothers under age 20, could be calculated. The existing rate could then be compared to the rate projected to have occurred without the program. Assuming that your objective has been successfully reached, the amount saved could then be compared to the resources expended in your particular educational program. Such efforts can sometimes be useful in generating support for educational efforts with administrators and consumer boards. This is just one example of an efficiency evaluation. Similar approaches may be used to evaluate portions of the program at shorter time intervals.

Five questions suggested by the APHA Committee on Evaluation[4] for assessing any health program are:

- How important was the problem toward which the program was directed?
- How much of the problem was solved?
- How effectively did the activities attain their objectives?
- What was the cost in resources of attaining objectives? Was the attainment to cost ratio satisfactory?
- What desirable and undesirable side effects occurred?

When you made your plans (written or not), you made the following assumptions: (1) resources expended as planned would lead to (2) the performance of activities which would lead to (3) the attainment of subobjectives whose attainment would lead to (4) the next level of objectives. When you evaluate your program, you test these assumptions. By defining educational programming as "the planned structuring and sequencing of learning experiences in such a way as to increase the probability of behavioral change in consumers and providers," we can subsume all the educational events, the educational activities, communications, and pieces of the program under this definition.

Then if the total educational program is preplanned, the evaluation can be focused on the programming attempt -- the structuring and sequencing -- rather than on the pieces of education. Criticism and analysis can be focused on where, how much, how often, in what form, to whom, and by whom.[11]

Three types of assessment may be made -- evaluation of process, effectiveness, and efficiency. Process evaluation at the subobjective level indicates whether the conditions necessary to reach the next level are present. Are the contacts being made? Were the materials designed and produced? Is the community informed? Do the patients know the facts, understand the procedures? This type of evaluation is continuous and should identify activities which are not achieving their defined objective. Efforts can then be refocused and new activities planned.

The program's effectiveness can be evaluated by comparing the status of the community before and after the program's implementation. To establish the before picture, a control group can be used or baseline data collected for comparison.

An evaluation of efficiency involves a trade off between resources expended and results achieved. Are the results of the program worth its cost? The outputs of educational activities are difficult to measure quantitatively in terms of dollar value, and so more subjective measures may have to be used. However, to gain some type of definite measurement, the medical and administrative benefits that indirectly result from educational activities might be analyzed since they are more easily quantifiable in terms of cost. Dr. Lawrence Green suggests this approach and has designed a chart to illustrate what medical and administrative benefits (to which a dollar value can be more readily attached) can result from specific educational activities.(11)

FIGURE 3. BENEFITS OF EDUCATIONAL EFFORTS

EDUCATIONAL INPUT (Cost)	OUTCOME	MEDICAL OR ADMINISTRATIVE BENEFIT
A. Showing concern and interest	Patient satisfaction	Public support -- monetary, legislative, or moral (during community conflict) Payment of bills Reduction of malpractice suits Kept appointments (which help keep costs down) Competition for quacks
B. Communication of information	Patient knowledge	Compliance with suggested medical regimen Better following of prescription
C. Entertainment	Patient interest Reduced boredom	Reduced delay Kept appointments
D. Communication with relatives	Social support for patient	Compliance with medical regimens Public support
E. Outreach	Public awareness, interest, attitude changes, preventive health behavior	Patient recruitment Appropriate utilization
F. In-service training	Staff awareness, interest, attitudes, concern	Patient satisfaction Patient knowledge (see A & B above)
G. Community organization	Coordination of resources, referrals, social support for patients	Appropriate utilization Patient recruitment Reduced duplication of services Public support
H. Mass communication	Public awareness, interest, some social support	Public support Patient recruitment Reduced delay
I. Follow-up	Patient reinforcement, sustained interest and commitment	Return appointments Continued adoption

CONSUMER PARTICIPATION

Throughout the preceding steps, information about the community is required to make the planning real. Gross information about an area can be gathered by reading local communications, attending meetings, and talking to church and school personnel and informal leaders. Skilled staff can also receive more specific input by maintaining informal continuous contact with community members. If a staff member comes from the particular community and has contacts which enable better communication, the information gained will be less distorted and may be more clearly interpreted; there is also greater potential for two-way interaction. The need for such a staff person is one of the bases for neighborhood health aides in family planning programs.

In addition to supplying information on the community, consumers participate formally in the planning process. Such participation is especially important and necessary in the areas requiring value judgments and decisions on priorities. These areas include: analysis of needs (Step A in the planning process shown in Figure 1), setting of objectives (Step B), approval of specific proposals (Step E), and evaluation and continuing support of programs. Considerations in choosing consumer participants and defining their role in the planning process are well set out in "Community Participation in the Planning Process" by Palmer, et al.[12]

TRAINING

Throughout this manual, training has been deemed a critical element in educational programming. However, to deal with it in detail here would require doubling the size of this manual. The reason is that the development of every training program involves the follow process: job and task analysis, planning, resource development, curriculum design, instruction, testing, and evaluation. All of these topics would have to be covered in detail in order to be helpful. Thus, a few references on training are included instead in the hope that they may help you improve your skills and understanding.[13,14,15]

In addition to reading, you can further develop your training skills by communicating with others in the area of training, sharing information on new developments, and generally keeping up to date with new techniques. One way is to join a professional training society. A major organization is the American Society of Training and Development, which concentrates on business and industrial training. A new training organization which is more specific to the health field is the American Society for Hospital Education and Training. Additional training sources are listed in Section V.

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III. SELECTION OF METHODS AND MATERIALS

If the last section helped you state your objectives in terms of your audience and the desired behavior, then specifying activities and functions follows naturally.

There are so few reliable studies or guidelines on how to achieve your aims, and there are too many variables in each situation to be able to come forth with precise program recipes. Thus, this section can help you create the conditions for the highest probability of success and suggest alternatives in case your first selection does not prove out.

Table 1 contains a rating of the various types of methods and materials available in terms of efficiency, effectiveness, and convenience. The rankings run from a high of 3 to a low of 1 and assume the optimal application of the method or media. If, for example, a staff person has not developed the art of listening and interacting, face-to-face contact can fail to fulfill its potential and become one-way communication.

As you review the table, it may be useful to picture a specific method or material in terms of the location in which it is to be used. For example, the clinic which is big, busy, and crowded or the church where you bring in your own equipment are both quite different from the hospital sun porch where there is no wiring or from the storefront clinic where trucks rumble by. Each of these locations has its own physical characteristics which will affect your choice of communication method.

Next it might be useful to consider the individual staff members in that particular location. Are they comfortable in an informal discussion in which people can feel free to sit on the floor? Can they manage a projector smoothly or does their uneasiness in such a situation distract the audience? Or, conversely, do they need something to occupy their hands to feel at ease? Are they good speakers? Are they able to detect that unexpected "teachable" moment and use the opportunity to the fullest?

These are some of the realities which should be considered before assessing a method's intrinsic effectiveness and efficiency. The reason is that no method is worth expending resources on if it is not workable in the situation at hand.

TABLE 1

RATINGS OF THE VARIOUS METHODS AND MEDIA[a,b]

Method, Media/ Materials	1 Situational/Convenience Factors			2 Efficiency					3 Effectiveness										
									Characteristics							Teaching Objectives			
	Time Required of Audience	Staff Involvement	Special Space (Sound/ Light) Required	Initial Costs	Labor Costs Initial	Labor Costs Ongoing	Amount of Space	Equipment Repair/ Replacement	Interaction	Attention/Interest Light	Attention/Interest Color	Attention/Interest Motion	Attention/Interest Identify	Pacing Retention	Pacing Repetition	Facts	Procedures	Principles/ Concepts	Attitudes/ Opinions
Visual																			
Still pictures, posters, transparencies, photos	1	1	1	1	2	1	1	1	1		3		1	2	1	2	2	2	1
Stills in sequence: bulletin boards, flip charts, exhibits	1	1	1	1	2	1	1	1	1	1	3		1	2	2	2	2		1
Mobiles	1		1	1	3	1	1	1	1		3	2		2		2			
Print: pamphlets, handbills, newspapers	1		1	1	3	1	1	1	1		2		1	2	2	2	2	[illegible]	2
Programmed learning	3	1		3	3	1			2		1		1	3	3	2	3	2	2
Audio																			
Tapes and records	2	1		2	3	1	1	2	1				1	1	1	2	2	1	2
Radio	1	2	3	2	1	1			1				2	1	1	2	2	1	2
Telephone	3	3	1	1		3			3				1	2	1	2	2	1	2
Audiovisual																			
Filmstrips and slides	2	2-1	3	2	3	1	2	3		3	3	2	1	2	3	2	2	2	2
Movies	3	2-1	3	3	1	2	3	3	2	3	3	3	3	2	1	2	3	3	2
TV	1	1	2	3	2	1	2-1	1	2	3	3	3	3	2	1	2	3	3	2
Videotape	1	1	2	3	3	1	2-1	3	1	3	2	3	2	2	2	2	3	3	2
Multimedia[c]	3	1	3	3	3	1	3	3											
Interpersonal																			
Speech	3	3	3	1	3	3			1	1	1	1	1	1	1	2	2	2	2
Demonstration	3	3	3	1	3	3			1	1	1	1	1	1	1	1	3	2	2
Play/skit	3	3	3	1	3	3			2	2	2	3	2	2	1	2	1	2	2
Role playing	3	3	3	1	3	3			2			1	3	3	1	1	2	3	3
Simulation/games	3	3	3	1	3	3			3			1	3	3	2	2	2	3	3
Small group discussion	3	3	3	1	2	3			3			1	3	3	2	2	2	3	3
One-to-one counseling, interviewing, consulting	3	3	3	1	2	3			3			1	3	3	3	2	2	3	3
Community organization	3	3		1	3	3			3			2	2	2	1	2	1	3	2
Meetings, workshops, conferences[c]	3	3		1	3	3													

[a]Ratings: 1 = low; 2 = medium; 3 = high.

[b]Ratings assume optimal use of method or medium.

[c]*Comments on effectiveness can be found in Section IV.*

1 SITUATIONAL AND CONVENIENCE FACTORS

Situational and convenience factors include the considerations just cited above. Some of the points under the various categories in this list may appear to overlap. This is to encourage you to consider each factor from various points of view.

- Time. How often will the presentation take place: once, once a week, twice a day, continually, or whenever a staff person has a few minutes?

- Audience Size. Will you have a large audience? Can you break it down into smaller groups? Can you give the presentation to the entire audience? Conversely, must you present your material on a one-to-one basis?

- Audience Flow. Does the audience have time to attend an entire educational session or must teaching be done intermittently between the clients' other appointments during that visit. Do clients remain in the same building the entire time? Do they return to the facility periodically? Will you be in contact with them at another location so you can reinforce your teaching?

- Facility. Does the facility lend itself to the method you have chosen? Are there sound and light problems, distractions, young children, staff members using telephones? Is the facility crowded or is it too warm or too drafty for long sittings? Will the method interfere with other activities thus reducing staff productivity? Is there enough room to permit dividing the audience into smaller teaching groups? Is it easy to segregate new patients from old ones? Are there rooms for holding private discussions? Is the building's decor compatible with the visuals you intend using?

- Equipment. Must the equipment be moved or reinstalled, or can it be stationary? Is it portable? Can equipment be secured so that it is safe from theft? Is equipment sturdy enough to withstand continuous handling?

- Communicator. Does a staff member or volunteer have the particular skills to apply the method chosen? With what methods or modes is the staff comfortable? Will their use of teaching aids enhance or detract from the presentation? Is the staff able and willing to care for and perform light maintenance on equipment?

- Client. Do the clients show a wide difference in literacy levels, in levels of awareness, and in stages of family planning acceptance or of treatment in the clinic? Can clients be combined as one audience despite differences in learning levels? Do they find mechanical devices or sophisticated visuals distracting and unintelligible or familiar and acceptable? Are the clients primarily couples or very young women? Age, economic, and sex differences will affect selection of materials. Are women clients frequently accompanied by children who need their constant attention?

2 EFFICIENCY

Efficiency considerations involve the amount of time, staff, and money required to apply a method as well as the number of people who can be reached by the method, and the amount of time it takes to reach them.

- Cost. The costs presented in the methods and materials table are estimates for purposes of quick comparison, rather than actual dollar costs. When figuring costs, several factors should be considered: initial cost; whether it is a one-time cost (in the case of a projector) or a continuous cost (printing pamphlets); whether the materials required are already available or whether material design and production costs must be included; maintenance and repair costs; the number of people the method can reach at any one time.

- Staff Time. Will the method require much staff time? This is often the paramount consideration among administrators. And since group and individual counseling consumes considerable staff time, it may be wise to consider using audiovisual methods or mass media where they are effective. However, time alone is not the only consideration. There are others including: whether the material to be imparted can be as effectively presented in a group as on an individual basis; whether a portion of the instruction can be provided by a mechanical device; and whether a non-professional, if given sufficient training, can apply the method as effectively as the educational specialist.

- Volunteer Time. Do not be misled by believing a volunteer is "free." Volunteers require training and continuous supervision to be effective. Thus, volunteer time should be considered as a resource in your costing. You should also refrain from automatically concluding that a volunteer should be used in place of a staff member if possible. The volunteer might contribute much more by performing another function in your program.

- Training Time. Although the staff may be willing to adopt a particular method, they may require additional training to be able to employ it. Such training time should be included in your analysis of efficiency.

- Development Time. A cost that is often overlooked is the time spent by you, the educational specialist, in developing materials, making contacts for free television time, or enlisting the aid of volunteers. Some of you are media oriented, others write well, and others are more talented in planning. Although your particular talents or preferences will influence your choice of method to some extent, hopefully they will not distract from considering how much of your time the method will take and how much it costs. In effect, if you become objective about all costs involved, you may find that you are spending more time and money than you would if you had hired a specialist or bought materials, and that you would have thereby obtained more professional work.

- Space. Additional space may be needed to accommodate a particular method. If so, this would be an additional cost. Any donated space should be considered in the same light as volunteer time -- that is, in terms of its most effective use at that point in time in your program.

- Durability. Durability concerns replacement and maintenance costs of equipment -- how well the equipment will survive continuous use by many or being moved from place to place.

3 EFFECTIVENESS

In classes on contraception, we often urge our audience to double up on methods in order to enhance the probability of success. The same holds true for communications techniques: two are frequently better than one. For example, distributing a pamphlet which relates to a discussion that is taking place; showing a portion of a movie, then stopping the projector to discuss it; and enhancing verbal presentations with slides and flip charts all reinforce learning. The following discussion outlines some of the considerations involved in judging a method's effectiveness. It is divided into two categories: characteristics of effectiveness, and effectiveness in terms of learning objectives.

CHARACTERISTICS OF EFFECTIVENESS

The effectiveness of a method can be judged according to the following characteristics.

- Interaction. As was stated, the more interaction a method permits with a person, the higher the chance that person can incorporate what he is learning into his own experience so that it will become an integral part of his thinking and behaving. Obviously, then, the more interaction a method permits the more effective it will be.

- Attention. Before any communication can take place, the speaker must have the attention of his audience. And although two methods may be equally effective in terms of communication, one may be better than the other in obtaining and holding attention by employing such things as light, color, or motion in an interesting fashion. Another attention-holding consideration is the content of the material itself. If the audience is to sustain its interest, it must identify with the material being presented.

- Pacing (retention and repetition). A method which permits returning to an item, looking again, rereading, moving at one's own pace in terms of understanding and comprehension is considered effective because such repetition aids retention -- so important when dealing with complex or critical matters. Take as examples instructions on taking pills, when to report side effects, when to resume pills after menstruation, what to do if mid-cycle bleeding takes place. Since these matters can be critical to the patient's health, the instructions should be repeated until the patient has memorized them.

LEARNING OBJECTIVES

The ratings on specific learning objectives, defined below, were adapted from an article directed toward art education.(1) The best information on the relationship between the media used and success in meeting learning objectives comes from research in the fields of formal education and industrial training. However, great caution should be exercised in applying the conclusions drawn from studies in those fields to the general field of adult education or health education. The reason is that there are different motivational and societal pressures at work in each of these settings. The student in school and the employee whose living might be at stake are generally more highly motivated to change than the adult trying to acquire better health habits because the consequences and rewards of changing are much clearer and more immediate. Even so, it is still worthwhile to consider the findings which are shown as ratings on our table. In cases where there was little experimental evidence on a particular medium, ratings were derived on the basis of the author's observation and experience.

- Teaching Facts. As a learning objective, the imparting of facts refers to the learner's remembering definitions, events, terms, names. Although audiovisual devices -- movies, slide presentations, programmed instruction, or television -- are effective for this purpose, the evidence indicates they are no more effective in conveying information than standard presentations such as talks and printed handouts. However, films and projections do increase the audience's interest and provide variety and so are useful in sustaining attention. And as mentioned, you must have the attention of your audience before you can communicate effectively. Although there is a paucity of reliable information concerning which audiovisual device is generally best, we can say that television has no particular advantages over movies for instruction: the picture quality is poorer and the instructor cannot control the image display as directly.

- Teaching Procedures. This objective refers to teaching a person how to perform a series of acts or operations in the proper order. Such an objective might be involved in training staff members to use a projector or a patient to insert a diaphragm correctly. Although there is a lack of formal research on the subject with regard to family planning, such media as television, movies, programmed learning, and demonstrations seem the most effective when it comes to teaching procedures. The effectiveness of films has been demonstrated, for example, in teaching motor skills, particularly when learners have the opportunity to actively participate during the presentation. An excellent piece of equipment for this is the repetitive, 8 mm., single-concept, loop cassette which can be stopped or rerun at will. Some materials relating to nursing procedures are already available in cassette form but, unfortunately, little is available that is specific to family planning.

- Teaching Principles and Concepts. Our recommendation for the best media for teaching relationships among things and events as well as the principles behind various actions or activities is adapted from studies on the use of programmed instruction to teach science concepts and principles. One study compared the effectiveness of visual and verbal presentations. It found that a combination of the two was best and that learning was greater when the visual presentation preceded the verbal one.

- Developing Desirable Attitudes and Opinions. This objective concerns persuading the learner to form a preference for a particular point of view, idea, practice, or course of action. It involves influencing feelings, desires, or needs. According to the article from which we derived our learning objective ratings, there is very little evidence for favoring one medium over another in this respect. A combination of media to present all the dimensions of the particular question at hand would probably be the best solution.

Now that we have surveyed some of the considerations that are part of method selection, it might be wise for you to think over your own list of situational factors and objectives, and talk over budget considerations. The rankings may have helped you by introducing you to new ideas or reinforcing your present inclinations. In any case, by adding up the scores you should now be able to tentatively select your method or materials. The next section presents more detailed comments and considerations concerning methods, media, and materials; Section V gives the sources for obtaining them.

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IV. UTILIZATION OF METHODS AND MATERIALS

The use of educational methods and materials to effect change is a vast dynamic field. Not only does the field have great potential for development,[1] but it is exciting, full of promises and gadgetry. It also has such a wealth of specialties that it is easy to get lost in some corner, develop a narrow viewpoint, and become fixed on a particular method. How does the generalist stay afloat in this sea of educational technologies, theories, and methods? What are some of the dimensions of the field and some decision points, and what data are relevant for evaluating the various methods and materials available?

An overview of the field which is given in this section may help in this respect.

EDUCATIONAL TECHNOLOGY

Technological innovations hold the promise of reaching more learners at less cost per individual than traditional instruction methods. Moreover, they can offer more flexibility and a richer variety of content. Wisely used, technology can be beneficial to health education.

The traditional concept of educational technology was confined to the use of such media as radio, television, films, overhead projectors, programmed instruction, and computers as an adjunct to the standard educational methods -- teacher, blackboard, and textbook.

A more recent definition of educational technology reflects a systems approach and is defined as: a systematic way of designing, carrying out, and evaluating the total process of learning and teaching in terms of specific objectives, based on research in human learning and communication, and employing a combination of human and nonhuman media to bring about more effective instruction. To date, there have been only limited attempts to design instructional systems based upon this perspective and to implement a systems approach to instruction in teaching hospitals and universities.

EDUCATIONAL TECHNOLOGY IN FAMILY PLANNING

The two most sophisticated uses of educational technology in family planning thus far can be found at New York City's Harlem Hospital and Kapiolani Hospital in Hawaii. Harlem uses programmed instruction to teach contraception via film. When the patient pushes an electronic response key, the screen responds to correct and incorrect answers. According to the staff, this system is quite effective in instructing patients. Kapiolani presents eight hours of TV programming a day for three days on a variety of family planning subjects. Patients watch these closed circuit TV programs on standard monitors in their rooms. Individual instruction and follow-up are also provided. The program is in the process of being evaluated.

EDUCATIONAL TECHNOLOGY IN RELATED FIELDS

The largest use of educational technology is in the school. Although it was predicted that such technology would revolutionize teaching, this has yet to occur.[1] The second largest use is in the area of business and industrial training. Since the benefits in terms of increased productivity and skill are fairly direct and immediate, the investment in such training is sizeable. Both of these fields are well organized in the sense that they have associations, magazines, directories, trade shows, information on new developments, and professional training programs.

Institutions which are just beginning to utilize educational technology heavily are the professional health and medical training schools and hospitals. In fact, the government has invested a considerable amount in encouraging the use of technology in medical education. Unlike the fields of public and industrial education, medical education lacks centralized coordination.

No comparable investment in educational technology has been made in the community health field even though there is evidence to show that considerable money could be saved as a result of effective preventive health education and patient education programs. Those savings, however, would frequently accrue to the "unorganized" consumer. Thus, there is lack of incentive for the "investor." Unfortunately, the state of the art in community education is such that it is necessary to pick and borrow technologies from related fields and to depend upon the few professionally developed materials and research studies available.

MASS COMMUNICATION

Mass communication and advertising is another related field from which family planning has borrowed methodology. However, the advertiser aims toward evoking one clear-cut, single action from his audience, a goal which in most cases is not present in family planning. Motivation to adopt family planning is more diffuse, and, thus, the objectives and action desired are more complex.

A recent experiment dealing with family planning recruitment techniques concluded that, of the three methods tested, mass media was the most expensive. Word-of-mouth outreach recruitment by satisfied patients was the best and least expensive method, and outreach programs fell somewhere in between.[2]

Green, et al.[3] found that in Pakistan patients recruited via mass media advertising attended family planning sessions over a longer span of time. They concluded, however, that the advertising attracted couples who were already willing to accept family planning. Since family planning programs in the U.S. seldom have had budgets to buy media time, they must confine their use of the media primarily to public service programs and other free programming time.

FREE PROMOTIONAL SPACE AND MEDIA TIME

The amount and kind of free promotional space and media time you acquire will depend upon the skill with which you can tailor your spots, feature stories, and comments to the station's or publication's format. Sources for such free promotion include news programs, public service spots on TV and radio, talk shows, and feature columns. Suburban and weekly newspapers often provide more space for features than metropolitan dailies. Other sources of free promotion include organization and agency newsletters, house organs, union papers, ethnic papers, advertising sheets, and throw-aways.[4,5,6]

DO-IT-YOURSELF PRODUCTION VS. PROFESSIONAL PRODUCTION

Judging from the state of the art, production of family planning materials in this country is a farily large cottage industry, comprised of uncöordinated agencies. A number have embarked on producing their own material for the media, including expensive movies, without the requisite experience or without having thoroughly surveyed the field. Others, the purists, refuse to employ any teaching aid that is not professionally produced even though it might be helpful to use simple, unpretentious materials. It is true that some specialized areas including family planning do not generate a large enough market to interest professionals in the field of materials development so that the agency may be forced to develop some of its own materials. Clearly, if the budget is severly limited, there is little choice but to engage in do-it-yourself production; and if it is not, the agency can and will hire professionals to design teaching aids. It's when the budget constraints are mid range that the decision becomes difficult.

There are two other instances in which an agency must produce its own materials: when the information to be imparted is so specific to a given community or group that a generally produced piece would not be appropriate; and when an amateurish quality is more effective, as it is in some instances. For example, the amateur's touch can convey sincerity, honest concern, and trustworthiness. This is why neighborhood groups sometimes instinctively turn to mimeographing, passing up glossy four-color handouts as establishment products. As another example, certain less sophisticated groups (children, rural residents, people who are non-verbal in their orientation) respond more readily to simple, home spun teaching aids. These aids might include puppets, flannel boards, sketches, and chalktalks.

On the other hand, there are instances where it may not be essential, but preferable to produce your own aids such as when the process of developing them is itself a part of the educational plan. In fact, Kodak[7] has excellent materials on movie making as an educational tool in which the process of planning a film becomes the mechanism by which those producing it define and deal with their own attitudes, their problems, and the solutions. One of the best examples of such learning involved a group of inner-city teenagers and Dr. Betty Coggswell who produced an "Adolescent Photographic Essay." A fairly inexpensive technique, the presentation consisted of photos with large black script on white cardboard bound in flip-chart form. The photos have a poignant, sensitive quality, and the narrative reveals these teenagers' feelings concerning their relationships with the opposite sex. It resulted in a learning experience for them and for their mentor, and in something that could be shared with others as a genuine statement.

A middle road between non-professional and professional materials production is to have the materials produced semi-professionally. Students in the field of art or communications or non-professionals who have experience in the field may be available and willing to help.

If you have eliminated the option of having your materials professionally produced, then there are several things to keep in mind:

- Collect materials produced by others before deciding to begin production. Ideas are seldom new, and you can generally learn faster and save time by simply adapting and improving upon the work of others.

- Be sure you cost out the entire project before you make the final decision to go ahead.

- Obtain all the expertise you can beg, borrow, or hire.

- If you must be the expert, then read about the particular process you want to use to make the material as professional as possible.

- Pretest, modify, and then retest the materials.

PRETESTING

Pretesting is a method of applying objective measures during the development of a program or materials to identify any problems as early as possible. Obviously improvements can be made more quickly and will be less costly if implemented during the early stages of development. When pretesting materials for family planning education programs, these are the questions you will probably want answered:

- How many persons will be reached?

- Of the persons reached, how many will be influenced psychologically?

- How many will find that the program offers a means of satisfying a desire or achieving a goal?

- How many will find that the behavior asked of them is in accord with the way they think people usually behave?

- How many will understand the words, concepts, and illustrations used?

- How many will really comprehend the point of the message?

- How many will acquire and retain the information and attitudes essential to adopt the behavior required?

There are pretesting techniques, of course, and methods of creating a pretest situation which is fairly close to the real one. Many of these techniques are discussed in the "Application of Pretesting in Health Education."(8)

KEEPING ABREAST OF NEW DEVELOPMENTS IN EDUCATIONAL MATERIALS

As mentioned, health education as a field lacks coordination, standardization, and cooperation. Resources are fragmented, time and money is spent on reinventing or rediscovering and on searching for, evaluating, and producing materials. The field of family planning education is no exception. It, too, has no centralized source of information on materials. Thus, you must either spend an inordinate amount of time collecting, sorting, retrieving, and evaluating, or depend upon agencies such as areawide family planning coordinating councils, Planned Parenthood, regional training centers, and large family planning agencies. However, new sources keep appearing all the time. Ways of keeping up include reading periodicals such as Family Planning Perspectives, Family Planning Digest, and professional journals; being placed on materials and catalog mailing lists; attending conventions and workshops; and taking classes.

In terms of developments in educational hardware, the best methods of keeping up to date are to attend trade shows and conventions; join AECT or ASTD; read available journals; and peruse the annual AV Directory. The Directory is indispensable for pricing and for selecting hardware because it provides comparative information, pictures of every piece of equipment, and the manufacturer's single unit list price. Each listing includes the company, model, price, and such specifications as views, lamp magnification, viewing screen size, overall dimensions and weight, current required, accessories available, and amplification.

The remainder of this chapter is devoted to a discussion of how to use methods, materials, and media in family planning. Included are visuals, audio methods, audiovisuals, multimedia packages, and interpersonal approaches.

A VISUALS

Visuals are images of people, places, events, and things. They may be:

- Expository -- a general description
- Interpretive -- emphasis on conveying feelings, emotions, symbolism
- Technical -- emphasis on specialized, detailed information.

Materials in the visual field -- sometimes called software -- contain the messages or learning symbols that support instruction. Non-projected visuals include charts, posters, and flip charts. Projected visuals, sometimes called media, include films, slides, and videotapes. The projected visuals require the use of hardware or mechanical devices.

The design characteristics of a good visual are legibility, simplicity, accuracy, realism, colorfulness, durability, and manageability.

If you are using a visual as part of a presentation (for example, flip charts, slides), you should begin by considering a suitable environment (for example, a room of sufficient size with window shades) and assembling the necessary equipment (slide projector, chart board). During your presentation, you should display each visual at the appropriate time, explain the message, use a pointer if necessary, and use assistants if available and if required. Since you will be able to give verbal explanations, your visuals can be fairly simple and should not contain detailed information. (9)

Visuals which stand alone such as billboards, posters, and pictures are not supplemented by verbal explanations and so may require captions or written comments. The essence of such visuals is: brevity, simplicity, idea, color, and layout.

Visuals used in a sequence, for example, a slide presentation, a flip chart presentation, or even a series of posters, should be conceived as a total presentation, not as a series of isolated visuals. You may provide unity though the use of color -- the same color or a group of colors used on each visual; design -- the same style of drawing or lettering, the same degree of complexity; or language -- approximately the same amount of text and the same literary style. Color may be used to emphasize one picture; it may also be used to identify similar aspects of many visuals (color coding).

In planning a 35 mm. slide series or an extensive chart presentation, the following steps should be taken: (10)

- Planning. Establish the objective of the communication, identify the audience behavior that should result, and ensure that all verbal and visual content supports the objective.

- Analyzing the audience. Learn who they are, what they believe, and how much they know about family planning and can understand at one time.

- Collecting and organizing. Present each idea or concept and a corresponding visual, if possible, on storyboards -- cards of a size that are easy to handle.

- Grouping and editing. Rearrange the storyboards to change relationships between ideas or to alter the chronology of their presentation until you are satisfied that your thoughts are expressed in the best way possible.

Throughout your preparation of a visual presentation, you should ask yourself the following questions: (11)

- Are the visuals effective in helping me reach my objectives with this audience?

- Should any part of the script be rewritten to increase its effectiveness?

- Is the information in each visual clear and accurate? Suitable for the occasion? Visible at a distance?

- Do the visuals relate to each other in a consistent way -- systematic development, terminology, color coding, lettering?

- Do I have time to make any necessary changes in the visuals?

Extensive information on designing effective technical slides for instructional purposes and on using charts and graphs is contained in several excellent Kodak pamphlets. (12)

Using visuals to intentionally communicate messages or interpreting intentional visual communications has given rise to a whole new educational area labeled visual literacy. It involves a wide range of academic disciplines and sciences and involves concepts such as cognition, art, semantics, the meaning of meaning, and visual-verbal thinking. Conferences have been held on visual literacy and appropriate materials assembled. You may find some of these materials helpful. (13,14)

WRITING

Skill in writing comes from practice, not from read'ng about writing. Consequently, the most helpful aid is someone who will pay close attention to your writing and help you improve it. If this is not possible, you might refer to a work by Flesch, "How to Write, Speak, and Think More Effectively."(15)

Flesch indicates that readability depends on: your reader's attention span, his familiarity with the words you use, references to concrete things, his language habits and patterns, and the overall structure of what you say. Flesch also includes two interesting measuring steps for assessing your writing: a reading ease score and a human interest score.

Writing, in the context of family planning education, often involves the writing of pamphlets. In designing a pamphlet, you should consider the following:

- Audience. Consider age, sex, race, education, cultural background, occupations, knowledge of subject, attitudes, interests, and particular needs.
- Objective. If your objective is to arouse interest or develop attitudes, make the pamphlet attractive and emotionally appealing. If you want to change behaviors, present specific steps to action, what to do, why, and how.
- Use. If the reader is expected to read the pamphlet and then throw it away, use a flyer or simple folder. If he is to keep it for reference, it may be longer, more durable, and more expensive.
- Design. Is the pamphlet attractive and designed for easy reading? Does the cover stimulate and attract? Are the pages well designed? Is the type size familiar and easy to read? Are devices for emphasis used sparingly? Are the illustrations appealing?
- Text. Is the material well written? Do titles capture attention and stimulate interest? Is the subject matter well organized? Is all essential information included? Is there too much information? Is the language easy to understand? Is the approach positive? Will the reader remember essential points?

PROGRAMMED INSTRUCTION

With programmed instruction, the educational subject matter is divided into small steps and arranged in a careful sequence. The student reads or views one information segment at a time, digests the information, and then proceeds to the next segment -- at his own pace, not the group's. Opportunities are regularly provided for the student to test himself on his comprehension of the material.

Some programmed materials permit the student to branch off to different tracks. For example, if a student has difficulty understanding certain information, he may branch off to supplementary material in that area. Students with no difficulties would progress to new material. Computer assisted instruction, in which responses are recorded by a computer, can offer many branching possibilities. Computers can also measure and score the pupils' progress.

Programmed instruction is listed in Table 1 under printed materials because most of such instruction is presented in manuals. However, it is possible to program instruction for television or any other medium. Two types of individualized instruction which have been tried in family planning are: a programmed manual on contraception for second-year medical students and the responsive programmed film on contraception used in the postpartum ward of Harlem Hospital.

The usefulness of programmed instruction to you lies in its method of specifying learning objectives and in breaking instruction into small basic steps. This approach can help you plan sequential presentations in training or in designing a slide series.

B AUDIO METHODS

According to one survey, the time spent in personal communications is distributed as follows: reading, 4 percent; writing, 11 percent; speaking, 22 percent; and listening, 63 percent. Since the transmission of information is so dependent on listening, some attention should be given to improving listening skills, especially those of the staff. (16)

Some of the elements of effective listening are: withholding evaluation until the speaker finishes a thought; not attributing thoughts to the speaker which are not his; paying attention, maintaining open-minded attitudes; allowing the semantic interpretation to be the speaker's, not the listener's; and doing less talking and more listening.(17)

In attempting to reach prospective clients, a variety of audio techniques may be used:

- An audio message to complement a visual such as a motion picture. In using this technique, you should remember that the narrative should not describe the action. Words should supplement, not repeat. They should point out significant details and tell what to look for next rather than describe what people can easily see for themselves. Pictures do not have to have sound every second. Too much sound can even interfere with comprehension.

- Radio messages for recruitment and information purposes. Radio spots on shows of popular disc jockeys can be particularly effective in reaching young adults.

- Audio cassettes. Audio cassettes, for example, are available for post-partum instruction and have been used in hospitals with success.

- Telephone calls for follow-up of patients, reminders for clinic appointments, and patients' discussion of symptoms or problems. The telephone can also be used for opinion surveying. It is less expensive than house-to-house surveying. The people telephoned can be judged on their representativeness by asking questions on education, income, location, etc. Having a telephone, however, is a selective factor and eliminates the poor, those in group living quarters, and the mobile.

C AUDIOVISUALS

Audiovisual aids can be used effectively for the following purposes:

- Repetition of a message on a regular basis

- Introduction of ideas

- Reinforcement of points already made
- Reinforcement of ideas at another time or another location
- Reduction of staff time
- Entertainment or diversion in a waiting period.

Most available commercial material in family planning is on 16 mm. film or film strips with sound. The best films are those that use film for what it does best -- create dramatic impact, compress time or speed up or slow down, compress distance, capture events or sequences of events, use motion to show the relationships of one idea to another, magnify detail, build continuity of thought. The worst films are those that only show people talking. (It's better to have real people talk than to show it on film.) Most good films, moreover, cover a single concept rather than a variety of information.

The content of most of the films in the field is well known to you -- why you should plan a family or how you go about it. There are also professional and technical films, training films on human relationships, and health related films such as those on baby care, nutrition, venereal disease, and cancer detection. Films on ecology and its relationship to population growth were popular a year or so ago; current productions seem to emphasize sexuality and sex education for teenagers.

Unless you have a trustworthy source who can recommend a film to meet your specific objectives, you will have to spend a great deal of time in prescreening and selecting films. A list of available films can be compiled by contacting the suppliers listed in Section V.

In obtaining the films you select, carefully weigh buying against renting. Buying implies problems of film repair which takes time and expertise, as well as obsolescence and replacement costs. Renting, on the other hand, implies delays, advance scheduling, packaging, mailing, and insurance.

To get the most from a film presentation:

- Preview the film in its entirety
- Introduce the film by alerting the audience to its key points
- Learn how to handle films or have an experienced operator set the projector up in advance so it works when the lights go down. Film can be destroyed through poor handling.
- Discuss the film. Allow time for the audience to react to key points mentioned.
- Consider using only portions of the film as a means of stimulating discussion. Select isolated key ideas. Set the film to that section in advance. Show, discuss, reverse, show again.

A film evaluation file can be a useful reference and time saver. You should keep information on the films you rejected as well as on the films you used. Otherwise, you may find yourself viewing a recommended item, only to find that you had already rejected it. Figure 4 is a sample film evaluation sheet which you might want to use or adapt to your particular program.

Additional information on projected visuals is presented in Table 2.

VIDEOTAPES

Totally professional educational and training films can be made with video equipment if extremely expensive studio-type hardware and specially trained personnel are used. But before you get too enthusiastic, consider the following factors. The actual cost of producing a videotape is usually higher than initially anticipated by the program planner. Video production also requires space, people, equipment, and time. Usage tends to be low, purchased equipment is soon outdated, and maintenance costs may be considerable. (Low cost systems produce a low quality film, and thus their use is limited to internal training purposes.) Moreover, not all videotapes can be played on all videotape machines, and this technical incompatibility may result in the wasting of valuable resources.

FIGURE 4
A SAMPLE FILM EVALUATION SHEET

FILM EVALUATION

NAME OF FILM ____________________ Overall Rating 3 2 1 -1 -2 -3

Producer ____________________ Format Film 16 mm. ___ 8 mm. ___

Source ____________________ Filmstrip _____ Video Tape ______

Cost $____ Rental ____ Free _____ Slides _____ Other ____________

Production Date _______ Preview Date _______ Sound yes ____ no ____

Brief Description B&W _____ Color _____ Length _____

AUDIENCE

Preteen ____Teen ____ Y.Adult ____ 25/45_____ 45 _____ Ethnic ______________

Patients ___ Couples ___ Parents ___ Men___ Educators ____ Health Professionals _____

Socioeconomic and Educational Level ______________________________

Inner City _____ Suburban ______ Rural ______ Other ______________________

FILM USE Training ____ (Profess ____ Parapro ____) Patient Ed ____ Gen Community ____

Community Support ____ Teen (Class ___ Informal Discussion ____________)

CONTENT

Circle the number which corresponds with your opinion on the work in question.

Scientific accuracy (if relevant)	3	2	1	-1	-2	-3
Effectiveness as a teaching aid	3	2	1	-1	-2	-3
Clarity of message	3	2	1	-1	-2	-3
Creativity of presentation	3	2	1	-1	-2	-3
Technical quality of production	3	2	1	-1	-2	-3
Audience appeal and attention .	3	2	1	-1	-2	-3
Degree to which this work could produce more realistic attitudes	3	2	1	-1	-2	-3

Use this space or the reverse side for any additional remarks.

TABLE 2

MATERIALS RELATED TO FAMILY PLANNING

Projector	Commercial Availability	Local Production	Cost: Software	Cost: Equipment	Hardware	Use	Individual	Small Group (2-15)	Large Group (50+)	Class-room (5-20)
Slide	Limited	Requires 35 mm. camera. Color or b&w. Inexpensive, duplicates inexpensive. Flexible for edit and change. Quickly made, local developing. Effective. Captions, silent or automatic sync with tape. Holds image on screen.	$5 for 30 slides	$50 to $1000	Manual, remote control, automatic & continuous. Silent, tape or sync. Store in trays, cubes or carousels. Hand-portable.	Self training, small group, classroom, large group. Can run automatically in clinic, ward, hall, exhibit. Operator requires instruction.	Fair	Good	Excellent	Excellent
Filmstrip	Yes Buy	See above. Not as flexible as slides for editing. Compact & convenient to carry. Uses photos, art frames. Requires 1/2 frames when using slides. Local developing. Mass duplication cheaper than slides.	$2 per frame	$30 to $400	Manual, automatic. Cassettes. Continuous, no rewind. Cassettes with magnetic tape sound; others silent, sync with tape or disc. Stored in small cylinders, hand-portable. Some projectors adapt to slides.	See above, plus individual use. Cassettes do not require operator.	Good	Good	Excellent	Excellent
Movie 16 mm.	Yes Buy or rent.	Expensive to produce. Requires expertise. Usually color. Usually sound. Dependable, effective. Not flexible.	$1000+ per minute	$600 - $2000	Standard with sound. Hand carry with difficulty. Operator required.	Training, small group, large group, classroom. Rearview can be set automatically for exhibit.	Poor	Good	Excellent	Excellent
Movie Super 8 mm.	Limited to professional health training in 4-min. single concept loops.	Requires editing and splicing equipment. Color. Silent -- can be used with tape recorder. Not flexible.	$5 - $10/ 3 minutes	$100 - $600	Commercial continuous loops easy to handle, have magnetic tape sound. Very portable, storage simple. Have not been utilized much.	Local settings & situations, training, small group, classroom.	Good	Excellent	Fair	Poor
Overhead	Some school materials on sex education, K-12.	Transparencies. Cheap, speedy. Used for charts & graphs, sketches, overlays, sequentials. Presenter can write and draw during talks. Control-- speaker faces group, has eye contact. Flexible.	Under $2/copy	$150 - $500	Effective in lighted room. Easy to handle. Materials store flat in file. Small model carries like a typewriter. Large model can be moved on cart.	Training, classroom, technical, talk.	Poor	Good	Excellent	Excellent
Opaque		Reflects what is inserted. Materials already available. Can use books, pictures, models. Accurate, speedy, no processing required.	Use existing material	$300 - $700	Heavy, move on cart.	Suitable for training or classroom. Not suitable for most agencies.	Poor	Good	Excellent	Excellent

Because of the costs involved in videotaping, family planners in programs connected with hospitals and large teaching facilities will be the ones most likely to need information in this area. The following brief discussion is provided simply to give enough information to enable you to ask the right questions or just to understand what the experts are talking about.

The variety and complexity of the video equipment available makes it difficult to select a specific type of equipment. Moreover, the possibility of technical incompatibility must be thoroughly checked.

You may be interested in video cassettes and cartridges. They are easy to operate, travel well, handle well, and are reusable. They do not, however, offer any special advantages in production or in duplication over open reel. With regard to "canned" television, magnetic tapes are the only methods currently on the market.

The size of magnetic tape used ranges from quarter-inch (low image quality, used in homes and schools) to two-inch (used in commercial television). Three-quarter inch tape is considered adequate for most use, although the one-inch tape produces a semi-professional quality. Magnetic tape for CCTV systems has not been compatible in the past. In order to use tapes from one system in another system, you may have to have the tapes duplicated.

It is possible to make your own copies of existing movies on magnetic tape, although the quality of the resulting film is often questionable. For a relatively low cost ($25 to $50) you can retape existing movies if you have permission. Some agencies will supply their films for this purpose. The only cost to you is the expense of converting the films to videotapes. Cincinnati General Hospital, for example, borrowed films and prepared five 90-minute cassettes, each containing about eight health films. They are played sequentially through the day and include an additional three-minute film explaining why patients must occasionally wait for their appointments.

The chart shown in Figure 5 may be helpful to you in selecting video equipment.

FIGURE 5 VIDEO EQUIPMENT DATA

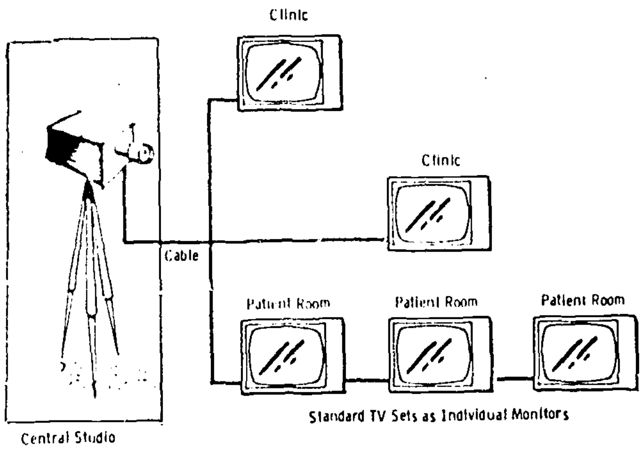
Tape Size	Type	Brands	Compatible	Features
1/2 inch	Open reel	All brands	No	Early machines are non standard
	Cassette & cartridge	Panasonic Shibaden Concord	Yes	Standard last 3 yrs.
		Sears		For home entertainment
3/4	U-matic cassette	Sony Panasonic Wollensak Concord JVC	Yes	Check features & additions of new equipment; Color; Many purchased for hospital and training use
	Selectavision MagTape cartridge	RCA Bell & Howell	Yes	For home entertainment

CLOSED CIRCUIT TELEVISION

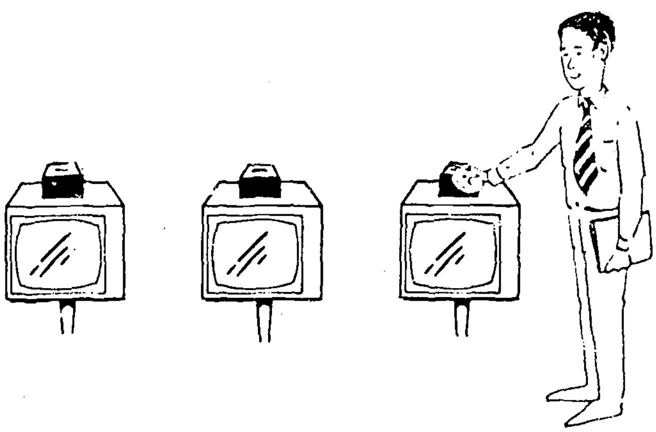
Closed circuit television is a centralized system which broadcasts simultaneously to several remote locations. In the case of family planning education programs, the locations would be clinics, patient rooms, or waiting rooms. The advantages of such a system are:

- One trained individual can handle all hardware and software.
- The transmission of programs is not dependent on the whim of the receptionist.
- Films can be used directly without being transferred to videotapes.
- The same material can be broadcast simultaneously to numerous locations.
- CCTV is relatively flexible. A simple system could be installed initially and later upgraded to include monitors in additional patient rooms, random access to a computer via touchtone phones, monitors in other agencies, monitors in other clinics to be used for consultation and lectures, etc.

The disadvantage is that a large initial investment for cabling, a studio, and technical expertise is required.



An alternative to the centralized system is individual monitors or standard television sets which use videocassette cartridges. The cartridges, which are inserted into the unit by hand, can be tailored to the needs of the individual. This system can be tested using only a few units, and so the initial investment is less than with centralized CCTV. Each unit of hardware costs the same amount, and so there are no economies of scale.



The ideal television system would be one that would combine the benefits of both systems described above by offering general information at many locations as well as specialized instructions to individual patients.

D MULTIMEDIA PACKAGES

A multimedia approach involves combining various types of instructional materials for maximum learning input. Combinations are limited only by the availability of resources, facilities, and services. Examples would be using a manual or pictures along with an audio cassette; or an audiotape along with a film strip, a written quiz, and a take-home pamphlet. There is equipment on the market which combines automated and manually controlled operations in presenting sound or silent filmstrips, motion pictures, slides with taped narrations, and quizzes. The machine can be stopped and the film replayed at the desire of the individual.

Some programs may already be using this approach, although they probably have not packaged and advertised the combination as multimedia!

E INTERPERSONAL METHODS

Interpersonal methods, which necessitate the intensive involvement of persons, can be used with or without combinations of methods discussed previously. These methods introduce a different dimension into communication involving humans because of the simultaneous multiple messages sent on several emotional and physical levels.

Skill in using yourself as a communicator can be gained through a number of class and workshop methods. This learning must be on the applied, practical level; it cannot be developed through the straight academic approach. Some of the possible ways of developing skills are mentioned in the following pages. Since opportunities for speech, discussion, and drama abound, these topics are not dealt with here.

The interpersonal methods discussed below lend themselves particularly to training and to consumer involvement. Group discussion and role playing, moreover, are the most useful methods for helping persons integrate new information and change attitudes. Therefore, they lend themselves well to patient education and to working with young people and parents.

DISCUSSION AND SMALL GROUP MEETINGS

One method of carrying on purposeful talks with co-workers or clients is group discussion, which may be defined as an exchange of ideas between two or more people -- the raising of questions and the posing of answers. It may be described as group thinking.

Good group discussions will:

- Develop a clear understanding of ideas and stimulate the search for information
- Allow an individual to benefit from opinions expressed by all group members
- Develop a questioning, searching attitude of not accepting ideas without thoroughly understanding them
- Result in the realization that there are many sides to any given question
- Develop a sense of tolerance in the individuals, thus paving the way for translating group thinking into intelligent group action
- Develop self-respect and a sense of equality among participants.

The ideal size for a small group is from four to seven people. Smaller groups will be ineffectual if power problems develop among the members.

In a discussion group, the leader's role is to act as an enabler or facilitator -- to open the discussion, establish a friendly climate, stimulate interest in the topic, and start the conversation by asking questions that cannot be answered by "yes" or "no." The leader should not act as an authority or dominate the discussion, but be a good listener and try to draw out the members of the group. The leader, however, should be able to sense when the group is ready to move to a new topic and be able to provide summary and transitions. It should be noted that the same person does not have to be the leader for every discussion. Indeed, the more diffuse the leadership, the stronger and healthier the group. The role of the resource person in the group is to supply technical information and to provide answers to questions that have been raised previously.

A conference, or small group meeting, is an in-house meeting used for administrative or medical reasons. Its function is to allow the group to analyze a specific problem, recommend solutions, and establish follow-up plans. Conferences make it possible to use staff time efficiently since information can be communicated to more than one person at a time. More importantly, research has shown that decisions made during small group discussions are more lasting because peer group support is generated. This is an important consideration in family planning education.

In attempting to develop skills in interacting and communicating with people, one basic problem is that study about does not necessarily confer skill in these areas.[18,19,20] The best way to gain discussion skills is through relevant workshops and classes available through colleges and training institutions. The National Training Laboratories was one of the pioneers in this field and holds workshops in several locations. In addition, having a skilled person supervise your progress is helpful. Skill improvement is one of the best uses for videotape -- to film, play back, analyze, and replay interactions.

GAMES AND SIMULATIONS

Games used as learning and training tools include simulations, board games, role playing, computerized responses, or various combinations of these. And they have two components: a rational, analytic one and one which is emotional, creative, and dramatic. Games provide training in complex processes such as intuition-building, problem solving, social behavior, allocation of resources to maximize objectives, and in dealing with parallel processes, the dynamics of interaction, and uncertainty. They are highly motivating and communicate concepts and facts on many subjects efficiently because they can be fun as well as engrossing.[21]

Role playing can be utilized as a learning method alone or as an element of a game. Since it requires interpersonal skills and training, it is included for further comment.

ROLE PLAYING

Role playing is a way of presenting problems in human relations in the context of a training group or social laboratory. As such, it is an opportunity for the group members to experiment with their own behavior, to make mistakes, and to try new approaches without having to bear the consequences or recriminations that could result in a real life situation. Because the environment is artificial and the others present are co-learners and not judges, the learner is freer to try new modes of behavior.

As a training technique, role playing has proven extremely effective in developing attitude changes. The reason is that through improvisation the participants begin to see themselves as others see them and to appreciate other points of view.

Improvisation is a technique whereby the members of the group are given the general outline of a situation and then assigned roles to act out in it as they would in real life. There are no lines to memorize and no specified plot. Rather, the situation is permitted to unfold as the players react spontaneously to one another, unaware in the beginning of the other players' roles. The cast is confined to three or four players; the rest of the group observe. Both profit: the players by experiencing the situation, the observers by noting the players' behavioral mistakes. During the post-mortem the instructor may bring up certain important points regarding what occurred during the improvisation or may suggest replaying the scene after the discussion to demonstrate the effects of a different behavioral approach to the problem. In any case, the instructor must know how to guide the discussion wisely, when to halt an improvisation, and when to take a dominant or passive role in the group.

LARGE GROUPS, CONFERENCES, WORKSHOPS, CONVENTIONS

There are several educational methods geared to large groups of over 50 people. They range from lectures to audience participation techniques.

The various types of group meetings are discussed below according to their educational aims. (22)

- Clinic. The clinic is held to study specific content or phenomena. And since the participants in a clinic are considered learners with little experience, sessions are strictly instructional and highly diagnostic in terms of identifying and remedying gaps in the participants' knowledge or skills.

- Conference. The primary objective of a conference is to permit participants to share information concerning various problems or procedures. Thus, although lectures or speeches are represented by specialists, participants are also expected to contribute ideas and information.

- Convention. A formal annual meeting, a convention is run by protocol and specific rules of order. Although educational activities may take place, the major purpose is to conduct organizational affairs.

- Institute. As in the case of a clinic, the institute's primary aim is to educate the participants. Thus, sessions are also highly instructional and conducted by outside experts.

- Laboratory. In a laboratory, participants are expected to learn from one another under the guidance of an instructor. The instructor's role then is to create the environment which is conducive to learning.

- Seminar. The seminar gives people who are fairly experienced in their field the opportunity to discuss certain topics with one or more people. There is considerable exchange of information and experiences, but rarely any problem solving or planning.

- Symposium. The symposium provides the platform for presenting several points of view. It permits the in-depth exploration of a limited number of subjects, and it is relatively structured in format.

- Work Conference. Generally an organizational function, the work conference aims to examine and solve various organizational problems. It involves a detailed study of the organization's processes and systems under the guidance of supervisors of functional or staff areas.

- Workshop. The workshop is conducted to help participants master a certain skill or technique. Participants learn from resource people who assume the role of instructor.

If you consider the large meeting as the background for instruction, you must also calculate the costs. This is done in the following manner. Consider first the cost of the time the presenter will devote: his hourly salary multiplied by the number of hours for production, the number of hours for planning, and the number of hours away from home. Then add travel costs and per diem, plus the sponsor's costs for facilities, equipment, program staff, and publicity. Next, multiply the expected number of people in the audience by the hourly dollar value of their productivity and the number of hours they will be attending the presentation; add their travel costs to the meeting. The sum of these figures is your total dollar investment. That figure will probably be high, which is the reason such a project should be planned carefully and methods and materials selected wisely.

COMMUNITY ORGANIZATION FOR ACTION

There are very definite steps in creating an effective social action program for educating the community in family planning. The first, and most obvious, is to gather information on the community to determine the type of people you will be dealing with, the problems the community faces, and what must be done to achieve acceptance of family planning on a community-wide basis.

The next step is to contact community leaders and organizations to learn whether some aspect of family planning is critical to their community. Their agreement and support is vital to the eventual widespread adoption and acceptance of your program. If the community leadership agrees that the action is essential, then the next step is to ascertain whether the public also agrees. It is at this stage that information efforts take precedence to make as many people as possible aware of the problems and accept the solutions. These efforts may involve basic educational programs, utilizing community crises to drive home a point, or forming program development committees comprised of community residents. The last points up that active participation in the program by the ordinary citizens is crucial to its ultimate acceptance. In fact, you must seek citizen commitment to action at every stage: commitment to attend meetings, to act at the proper time, to pledge support, and to take part.

In addition, if the committees are to function as successful action groups, they must be aware of and effectively utilize the interactions among committee members and between the committees and the community. Figure 6 illustrates these interactions and how they should mesh in the early stages of forming and meeting program objectives.

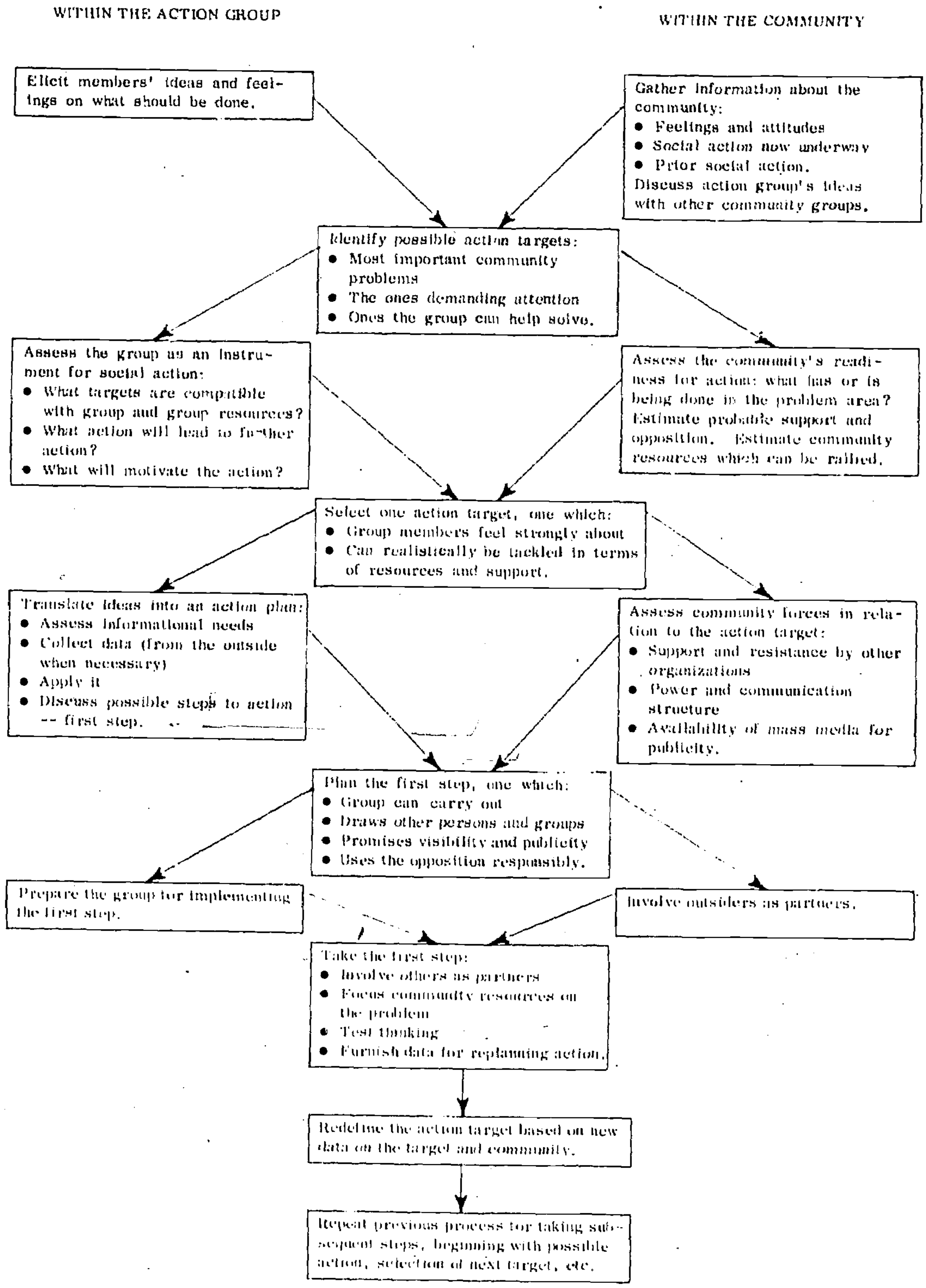


FIGURE 6. GROUP AND COMMUNITY INTERACTION IN THE PLANNING AND IMPLEMENTATION PROCESSES

There are several approaches to community organization: (23,24,25)

- The community development model in which consensus is the vehicle for helping the community determine and solve its own problems
- Social action in which confrontation and negotiation are used to organize and mobilize people against the establishment
- Social planning in which problems are approached as the organization of technical resources to solve a specific problem
- The educational approach which combines all of these methods both for specific problem solving and developing the capacity of the community to change.

Family planning programs which take the educational approach must develop a consensus as well as organize and coordinate technical resources to provide services and to identify and solve problems. It is hoped that in the process of achieving family planning goals, community members will acquire problem-solving skills which they will carry over into other health areas.

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V. SELECTED SOURCES FOR FAMILY PLANNING INFORMATION

FAMILY PLANNING AND GENERAL HEALTH INFORMATION

KEY:

F -- Producers of at least one film about some aspect of family planning and health in any forma, - cassettes, slides, tapes
C -- Suppliers of catalogues or materials lists
M -- Suppliers of general materials not included in the above categories
P -- Periodical

Allend'Or Productions, 4321 Woodman Avenue, Sherman Oaks, California 91403 (F)

American College of Obstetricians and Gynecologists, 79 West Monroe Street, Chicago, Illinois 60603 (C)

American Educational Films, 132 Lasky Drive, Beverly Hills, California 90212 (F)

American Medical Association, Motion Picture Library, 535 North Dearborn Street, Chicago, Illinois 60610 (C)

American Public Health Association, 1015 18th Street, N.W., Washington, D.C. 20036 (M)

American Social Health Association, 1740 Broadway, New York 10019 (M)

Ann Arbor Newsreel, Box 321, Ann Arbor, Michigan 48107 (C)

Association Films, 600 Grand Avenue, Ridgefield, New Jersey (F)

Association for Voluntary Sterilization, Inc., 14 West 40th Street, New York, New York 10018 (M)

Association-Sterling Films, 866 Third Avenue, New York, New York 10022 (F)

Audiovisual Center, Indiana University, Bloomington, Indiana 47401 (C)

Audiovisual Center, Wayne State University, Detroit, Michigan 48200 (C)

Berkeley Bio-Engineering, 1215 4th Street, Berkeley, California 94710 (F)

Buena Vista Productions, 800 Senora Avenue, Glendale, California 91201 (F)

Carolina Population Center, Educational Materials Unit, 214 West Cameron Avenue, Chapel Hill, North Carolina 27514 (M)

Carousel Films, 1501 Broadway, New York, New York 10036 (F)

Center for Population Planning, 1225 South University Avenue, Ann Arbor, Michigan 48104 (M)

Children's Home of California Society, 3100 West Adams Boulevard, Los Angeles, California 90018 (F)

Churchill Films, 662 N. Robertson Boulevard, Los Angeles, California 90069 (F)

Cine-Image Production, Ltd., 592 Maquoketa Drive, Des Moines, Iowa 50311 (F)

Color Film Corporation, 500 Halstead Avenue, Mamaroneck, New York 10543 (F)

Columbia University, Center for Mass Communication, 1125 Amsterdam Avenue, New York, New York 10025 (F); Columbia University, Teachers College Press, New York, New York, 10027 (C)

Community and Family Study Center, University of Chicago, 1126 E. 59th Street, Chicago, Illinois 60600 (M)

Consumer Products Information, Pueblo, Colorado 81009 (M)

Coronet Films, 65 East South Water Street, Chicago, Illinois 60601 (F)

Datafilms, 2625 Temple Street, Los Angeles, California 90026 (F)

ED-U Press, 760 Ostrom Avenue, Syracuse, New York 13210 (M)

Emko Newsletter, 7912 Manchester Avenue, St. Louis, Missouri 63143 (P)

Enclyclopaedia Brittannica Films, 1150 Wilmetter Avenue, Wilmette, Illinois 60091 (C)

* No attempt was made to list all educational film producers, publishing companies, or other school health resources.

Family Health Foundation, 136 Roman Street, New Orleans, Louisianna 70112 (M)

Family Planning Perspectives, 515 Madison Avenue, New York, New York 10222 (P)

Film Images, 17 West 60th Street, New York, New York 10023 (F)

Focus on the Family, E.C. Brown Center for Family Studies, 1802 Moss Street, Eugene, Oregon 97403 (P)

Glenn Education Films, Inc., P.O. Box 371, Monsey, New York 10952 (F)

Goldsmith, Gary, 733 North LaBrea Avenue, Los Angeles, California 90000 (F)

Greene, David, 905 Church, Ann Arbor, Michigan 48107 (F)

Guidance Associates, Harcourt, Brace & World, Pleasantville, New York 10570 (C)

Hawaii Production Center, P.O. Box 581, Honolulu, Hawaii 96809 (F)

Health Departments -- State, County, City. Call for information and resources (M)

Henk-Newhousen, Inc., 1825 Willow Road, Northfield, Illinois 60093 (F)

Index to Ecology, National Information Center for Educational Media (NICEM), University of Southern California, University Park, Los Angeles, California 90007 (M)

Information Center on Population Problems, 3 West 57th Street, New York, New York 10019 (M)

Institute for Sex Education, 18 South Michigan Avenue, Chicago, Illinois 60603 (M)

International Film Bureau, Inc., 332 South Michigan Avenue, Chicago, Illinois 60604 (C)

International Planned Parenthood Federation, 18-20 Lower Regent Street, London, S.W.1, England (C)

Jarvis Couillard Associates, 142 Paseo De Gracia, Redondo Beach, California 90277 (F)

Joseph P. Kennedy, Jr. Foundation, 1701 K Street, N.W., Washington, D.C. 20005 (F)

Kimberly-Clark Corporation, Neenah, Wisconsin 54956 (M)

Lalor Foundation, 4400 Lancaster Pike, Wilmington, Delaware 19805 (F)

Martha Stuart Communications, 66 Bank Street, New York, New York 10014 (F)

McGraw-Hill Films, 330 West 42nd Street, New York, New York 10036 (C)

Medfact Films, Inc., P.O. Box 458, Massillon, Ohio 44646 (M)

Metropolitan Life Insurance Company, Health and Welfare Division, One Madison Avenue, New York New York 10010 (M)

Michigan State University Instructional Media Center, East Lansing, Michigan 48823 (C)

Modern Talking Picture Service, 160 East Grand, Chicago, Illinois 60611 (C)

Multi-Media Resource Center, 340 Jones Street, Box 439E, San Francisco, California 94102 (C)

National Audio-Visual Center (GSA), Washington, D.C. Films for professionals and non-professionals. (C)

National Center for Family Planning Services, DHEW, 5600 Fishers Lane, Rockville, Maryland 20852 ; Family Planning Digest. (P) Each DHEW Region has a Family Planning Program office which provides coordination and consultation to programs within the region.

- Region I: John F. Kennedy Federal Building, Boston, Massachusetts 02203
- Region II: 26 Federal Plaza, Room 1005, New York, New York 10007
- Region III: 401 North Broad Street, Philadelphia, Pennsylvania 19108
- Region IV: 50 Seventh Street, N.E., Room 404, Atlanta, Georgia 30319
- Region V: 300 Wacker Drive, 34th Floor, Chicago, Illinois 60603
- Region VI: 1114 Commerce Street, Dallas, Texas 75202
- Region VII: Federal Office Building, 601 East 12th Street, Kansas City, Missouri 64106
- Region VIII: 9017 Federal Office Building, 19th & Stout Streets, Denver, Colorado 80202
- Region IX: 50 Fulton Street, San Francisco, California 94102
- Region X: Arcade Plaza Building, 1321 Second Avenue, Seattle, Washington 98101

National Foundation, 1275 Mamaroneck Avenue, White Plains, New York 10605 (F)

National Medical Audiovisual Center, Station K, Atlanta, Georgia 30324. Selected Films: Heart Disease, Cancer, Stroke (films for professionals and paraprofessionals). Film Reference Guide for Medicine and Allied Sciences, PHS Pub. No. 487, available from the U.S. Government Printing Office, Washington, D.C. 20402 (C)

NBC Educational Enterprises, 30 Rockefeller Plaza, New York, New York 10020 (C)

Newday Films, 267 West 25th Street, New York, New York 10001 (C)

Ortho Pharmaceutical Corporation, Raritan, New Jersey 08869 (M)

Perennial Education, Inc., 1825 Willow Road, Northfield, Illinois 60093 (F)

Pfarrago Information Systems, 4760 22nd Avenue, N.E., Seattle, Washington 98104 (F)

Planned Parenthood of Seattle, 202 16th Avenue, South, Seattle, Washington 98144 (C)

Planned Parenthood of Syracuse, 1120 East Genessee Street, Syracuse, New York (C)

Planned Parenthood/World Population, U.S.A., Film Library, 267 West 25th Street, New York, New York 10001 (C)

Planned Parenthood/World Population, U.S.A., Information & Education, 810 Seventh Avenue, New York, New York 10019 (list of Planned Parenthood affiliates) (C)

The Population Council, 254 Park Avenue, New York, New York 10017 (M, P)

Professional Research, Inc., 461 North LaBrea Avenue, Los Angeles, California 90036 (F)

Public Affairs Committee, 381 Park Avenue, South, New York, New York 10016 (M)

Searle and Company, P.O. Box 5110, Chicago, Illinois 60680 (M)

SIECUS, Sex Information & Education Council of U.S., 1855 Broadway, New York, New York 10023 (C, M)

Society of Public Health Education, 655 Sutter Street, San Francisco, California 94102 (M)

3M Company, Education Services, Box 3100, St. Paul, Minnesota 55101 (M)

Texture Films, 1600 Broadway, New York, New York 10019 (F)

University of Michigan Audiovisual Education Center, 416 Fourth Street, Ann Arbor, Michigan 48104 (F)

United Methodist Church, Methodist Building, 100 Maryland Avenue, N.E., Washington, D.C. 20002 (M)

U.S. Government Printing Office, Washington, D.C. 20402. Price Lists describing available books or pamphlets: PL 11 Home Economics, Food, and Cooking; PL 31 Education; PL 36 Government Periodicals and Subscription Services; PL 51 Health and Medical Services; PL 51A Diseases and Physical Conditions; PL 78 Social Services; PL 86 Consumer Information (M)

For free biweekly list of new Government publications, write to: Selected List, Box 1821, Washington, D.C. 20013

Bookstores at following locations:

- Atlanta (404) 526-6947
- Canton (216) 455-8971
- Denver (303) 837-3965
- Los Angeles (213) 688-5841
- San Francisco (415) 556-6657
- Birmingham (205) 325-6056
- Chicago (312) 353-5133
- Detroit (313) 226-7816
- New York (212) 264-3826
- Boston (617) 223-6071
- Dallas (214) 749-1541
- Kansas City (816) 374-2160
- Philadelphia (215) 597-0677

University Media Services Center, 410 Zimmer Hall, University of Cincinnati, Cincinnati, Ohio 45221 (F)

Upjohn Company, Kalamazoo, Michigan 49001 (M)

Videorecord Corporation of America, Westport, Connecticut 06880 (C)

Westinghouse Population Center, Box 866, Columbia, Maryland 21044, "What's the Real Thing?" Evaluation of Educational Materials (M)

Winek, Charles L. Drug Abuse Reference. Bek Technical Productions, Inc., Bridgeville, Pennsylvania 15017, 1971 (M)

World Education, 1414 6th Avenue, New York, New York 10019 (M)

World Neighbors, 5116 N. Portland, Oklahoma City, Oklahoma 73112 (M)

TECHNOLOGY AND TRAINING

American Hospital Association, 840 North Lake Shore Drive, Chicago, Illinois 60611. Provides services to health personnel related to health care institutions. Publications, journals, regional and annual meetings. Also, American Society of Health Education Training, associated with AHA.

American Society for Training and Development (ASTD), P.O. Box 5307, Madison, Wisconsin 53705. Professional organization for trainers; emphasis on business and industrial training; regional and national meetings; annual convention and tradeshow; monthly Training & Development Journal.

Association for Educational Communications & Technology (AECT), 1201 16th Street, N.W., Washington, D.C. 20036. Formerly division of Audiovisual Instruction, NEA. A professional association of educators and others interested in improving instruction through technology. Annual convention and trade show, journals, Audiovisual Instruction, AV Communication Review. List of materials available, including directories, standards, guidelines, information on instructional technology and visual literacy.

Audiovisual Market Place. R.R. Bowker Company, 1180 Avenue of the Americas, New York, New York 10036. 1971, 234 pp, $15. A directory of producers and distributors, equipment, services, organizations, conventions, and other areas of interest.

Audiovisual Source Directory. Motion Picture Enterprises Publications, Inc., Tarrytown, New York 10591. 1971, $2.50. A directory of audiovisual services and products, dealers, producers, and associations.

Brown, Lewis, and Harcleroad. AV Instruction: Materials and Methods. McGraw-Hill Book Company, New York, New York. 1969. Up-to-date general textbook on the characteristics and utilization of all types of audiovisual instructional materials and equipment.

Consolidated Film Industries, 959 North Seward Street, Hollywood, California 90038. Offices in New York and Chicago. Example of commercial organization which offers highly technical service for film, TV commercial, and videotape development and production. Issues price list for transferring videotape to film.

Eastman Kodak Company, Audiovisual Distribution, Rochester, New York 14650. Free-loan films and booklets. Audiovisual Literature Packet, Code U-915, $2.50, on materials, equipment, techniques. Kodak Publications List on Audiovisuals and Motion Pictures, MPe-1; Index to Kodak Technical Information, L-5; single free copies of pamphlets on making movies, visual literacy, and classroom movie making.

Educators Guide to Free Films. Educators Progress Service, Box 497, Randolph, Wisconsin. $10.75, July 1971, 31st edition. Annoted list of sponsored materials for classroom use. Other titles in the series (all revised annually) include:

- Educators Guide to Social Studies Materials, $9.50
- Educators Guide to Free Science Materials, $9.25
- Educators Guide to Guidance Materials, $8.75
- Educators Guide to Free Tapes, Scripts, and Transcriptions, $7.75
- Educators Guide to Free Filmstrips, $8.50
- Elementary Teachers Guide to Free Curriculum Materials, $9.75
- Educators Guide to Free Health, Physical Ed, and Recreation, $8.00.

Educational Screen and Audiovisual Guide (monthly), Educational Screen, Inc., 434 South Wabash Avenue, Chicago, Illinois 60605. $5. Presents systematic evaluations of new films, filmstrips, and recordings, as well as descriptions of new equipment, materials, publications, and methods.

Film Evaluation Guide, Educational Film Library Association, Comprehensive Service Corporation, Inc., 250 West 64th Street, New York, New York 10023. $30; supplement $12. The Educational Film Library Association has established volunteer preview committees in many parts of the country to evaluate films. This is a compilation of those evaluation forms. It provides basic information about a film-subject area, running time, price, distributor, age level, and possible audience. This list includes approximately 5,000, 16 mm. films.

A Filmography of Films about Movies and Movie-Making, Robert W. Wagner and David T. Parker, Eastman Kodak Company, Department 412L, Rochester, New York 14650. Single copy free, Kodak Pamphlet No. T-26, 1971. Contains descriptions of 233 films about the subject of movie-making. These films illustrate composition, panning, lighting, editing, basic set construction, and directing.

Fuller & D'Albert Inc., 3170 Cambell Drive, Fairfax, Virginia 22030. Professional photographic catalog includes graphic arts equipment.

Guides to Newer Educational Media: Films, Filmstrips, Kinescopes, Phonodiscs, Phonotapes, Programmed Instruction Materials, Slides, Transparencies, Videotapes. Margaret Rufsvold and Carolyn Guss, American Library Association, Chicago, Illinois. Second edition, paperback, $1.50. Handbook describing available catalogs, lists, services, professional organizations, journals, and periodicals which regularly provide information on newer educational media.

Highsmith Company, Inc., P.O. Box 25, Fort Atkinson, Wisconsin 53538. 1972-73 Library AV Supplies and Books, Cat. # 15, pamphlet and book racks, audiovisual materials.

In-Service News: Training and Education, Market Publications, Inc., P. O. Box 696, New Canaan, Connecticut. Monthly health journal subscriptions available without charge to staff members of hospitals, nursing homes, extended care facilities involved in continuing education and training of employees of health care institutions. Section on audiovisuals.

National Audio Tape Catalogue. National Center for Audio Tapes, Room 320, Stadium Building, University of Colorado, Boulder, Colorado 80302. 1969-71, $4.50. A list of audio tapes available at a small charge; covers a wide range of subjects for every age level.

National Audiovisual Center Catalog. National Audiovisual Center, Washington, D.C. 20409. A catalog of U.S. government films, motion pictures, and filmstrips for sale by the National Audiovisual Center. Free.

National Audio-Visual Association, Inc., 3150 Spring Street, Fairfax, Virginia 22030. The national trade association of the commerical audiovisual industry, rental libraries, manufacturers, publishers. Annual membership directory lists audio visual dealers, film libraries, and consulting companies, manufacturers, representatives, producers and trade publications. A combined convention and trade show is held annually. Also, Health Education Media Association, health care users of audiovisuals, associated with NAVA.

National Audiovisual Equipment Directory, B.P. Williams, editor. National Audiovisual Association, Fairfax, Virginia. 1971, 383 pp, 16th edition, $8.50. For members or those in government or education. This compilation contains basic facts about many of the current models of audiovisual equipment on the market. It is an indispensable guide in budget planning.

National Information Center for Educational Media (NICEM), University of Southern California, University Park, Los Angeles, California 90007. Comprehensive annotated reference source for audiovisual materials.

- Index to 16 mm. Educational Films, 3rd edition, $18.50
- Index to 35 mm. Filmstrips, 3rd edition, $12.00
- Index to Educational Audio Tapes, 1st edition, $12.50
- Index to Educational Video Tapes, 1st edition, $8.25
- Index to Educational Records, 1st edition, $9.50
- Index to 8 mm. Cartridges, 2nd edition, $8.50
- Index to Producers and Distributors, 1st edition, $12.50
- Index to Ecology -- Multimedia, 1st edition, $9.50
- Index to Educational Overhead Transparencies, 2nd edition, $8.50
- Index to Black History & Studies -- Multimedia, 1st edition, $9.50

National Institute of Applied Behavioral Science, 1201 16th Street, N.W., Washington, D.C. 20000

Oates, S. Audio-Visual Equipment Self-Instruction Manual. Wm. C. Brown Book Co., Dubuque, Iowa. 1971, 226 pp, $3.95. A self-instruction manual on how to operate various types of AV equipment. Representative models of various manufacturers are diagrammed to illustrate methods of operation.

Rothschild, A. Making Slide Duplicates, Titles, and Filmstrips. Chilton Press, New York, New York. 1965. Explicit directions with charts and photographs to show various cameras as well as procedures for making duplicates.

3M Company, Magnetic Products Division, St. Paul, Minnesota 55101. Better Communications Through Tape, how-to-do-it guide book for more effective use of tape recorders. Producers Manual, concise illustrated short course in TV production intended for users of video-tape recording equipment. Single copy free.

Videoplayer Industry Guide, Suite 3, 4731 Laurel Canyon Boulevard, North Hollywood, California 91607. Reference guide to videoplayer industry.

Westinghouse Learning Directory. Westinghouse Learning Corporation, 100 Park Avenue, New York, New York. 6681 pp, 7 volumes, $99.50, 1970-71, supplement, 1972. Comprehensive guide to instructional materials in all media.