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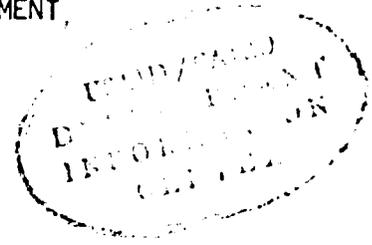
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AN ANALYSIS OF PROBLEMS AND POSSIBILITIES  
OF THE AUDIO-VISUAL GENERAL DEPARTMENT,  
ARAB REPUBLIC OF EGYPT



A Report Prepared for  
U. S. Agency for International Development  
USAID/Cairo

by

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Contract No. AID/afr-C-1131 Egypt  
Work Order No. 54

June 18, 1979

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## EXECUTIVE SUMMARY

### Objectives

The purposes of this research project:

1. To identify the critical sub-systems or functions which ought to exist within the Audio-Visual General Department (AVGD).
2. To identify the other agencies with which the AVGD has important linkages.
3. To assess how well each of the critical sub-systems is functioning currently.
4. To map the major problems and sub-problems which limit the effectiveness of the AVGD.
5. To recommend some possible strategies which might be undertaken by the Agency for International Development and Egyptian authorities to assist in overcoming some of the problems.
6. To assess the capabilities of the Ain Shams University Faculty of Education regarding "Educational Technology" and to recommend possible roles it might play in the improvement of instructional media use in basic education.

### Method

The researchers carried out an informal systems analysis of the functioning of the Audio-Visual General Department through two weeks of on-site visits. The analysis was based on observations, interviews, printed reports, records, and other data sources available in Cairo between May 15 and May 30, 1979. Cross-verification was attempted whenever second-hand data sources were used.

The data-gathering focussed on seeking problems inhibiting the effectiveness of each sub-system. The resulting array of problems and sub-problems was arranged into "maps" showing causative links among problems. The outcome was three problem-structure maps: one focussing on Utilization, the second on Design/Production, and the third on Management concerns.

### Findings

The "Conclusions" section of the report contains a narrative discussion of the findings of the problem-structure analysis. The overall picture which emerges is that any improvement in instructional media access and use in the schools will require solution of problems which are multiple and interrelated. Only a limited number of these constraints lie within the AVGD. The AVGD itself is beset with a number of internal shortcomings in terms of personnel, planning, evaluation, and (to a lesser extent) facilities and equipment. Some of its capabilities have atrophied due to under-funding and the drastic reduction of mass production and distribution activities.

Utilization of instructional media in the schools is constrained principally by problems which are deeply rooted in the whole problematique of Egyptian basic education. These problems will a comprehensive approach, of which upgrading of the AVGD is only one small part.

Despite these limitations, significant strengths still exist in the AVGD -- for instance, the talented personnel in various production departments -- and upgrading may be possible, built around these strengths.

## Recommendations

An extensive list of alternative solutions was generated from the problem-structures. It was felt that the researchers lacked the political competence to recommend which actions should be undertaken so they concentrated on showing which actions could be undertaken by the AVGD, the Ministry of Education, higher education institutions, and AID. If any or all of these recommendations are implemented, however, there is a certain logic to the sequence which should be followed in terms of short range, medium range, and long range actions:

### SHORT RANGE (during the next 12 months)

Before anything else is done, a survey must be done to determine the status quo of instructional materials in the schools -- not only to assess media (Recommendation #2)\* but also to establish BASELINES against which future progress can be measured. All future hopes for rational EVALUATION depend on having baseline data NOW!

Recognizing the need for some immediate, visible actions on the part of AID, #46, 48, 50 could be done rather quickly. These software donations should be preceded by consultations with the AVGD and samples of teachers to determine specific titles which would be of most use. Items 20 and 23 are other "quick fix" activities which would be constructive and not interfere with the overall need to move within a comprehensive plan. The same may be true of Item 41 -- providing some AV equipment -- at least in regard to secondary schools, where there

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\*The numbered items in this section refer to the list of suggestions found in the "Recommendations" section of this report (pp. 84 to 104). For the sake of brevity the entire suggestions themselves are not spelled out in this Summary.

is already some capability of using it. On the whole, though, EQUIPMENT provision should follow needs assessment and consideration of standardization and group purchasing plans (#38 & 39).

For the immediate future the AVGD should concentrate on the pre-conditions for a PLAN, namely needs assessment studies (in collaboration with Ain Shams University), setting priorities, and composing a realistic mission statement. Items 17, 19, and 27 could also be initiated rather soon.

One other set of actions which could reasonably be supported by AID as a "quick fix" would be Items 33, 34, 35, and 36 -- dealing with modest immediate upgrading of the AVGD equipment capability and maintenance capability.

The Ministry of Education might begin immediately to re-examine its PERSONNEL POLICIES (#4, 10, 25, 28) in order to make possible the rebuilding of the AVGD staff for its new mission. Unless such changes are made there is little hope for medium- or long-range improvement in attracting and holding the top level talent needed to accomplish important work. Item 26 is another policy matter for consideration.

MEDIUM RANGE (during the next 2 - 4 years)

After reassessing its role in Egyptian education and establishing baselines of the status quo and the needs, the AVGD will be in a position to pay attention to its own internal organization (#1, 3, 5, 6, 21). As mentioned above, policies regarding standardization and group purchasing of equipment need to be worked out prior to any large scale purchasing (#38, 39). Recommendations 11, 13, and 14 are important considerations for the long-term structure and funding of the AVGD; they should be initiated in the medium range time frame.

Regarding MASS PRODUCTION, careful analyses should be done by AID and AVGD to determine whether AVGD or some other Egyptian agency should take responsibility for this function (#30, 31). Whoever takes over the activity will probably need technical and/or financial assistance from AID.

There may very well be a reorientation of the sorts of products developed and the design process used by the AVGD, based on earlier decisions regarding mission, evaluation procedures, etc. If this is the case, major TRAINING needs will arise, especially for the DESIGN department (#17, 18, 19). Facilities problems, e. g. #32, will also need action in the middle range.

The activities just discussed imply actions which will be appropriate for AID at this point -- #7, 9, 33, dealing with scholarships and equipment/facilities assistance for the AVGD.

Also, after coherent plans have been developed for audiovisual and/or library services in the schools, AID might contribute equipment and materials to support implementation (#41 and 47) . . . and support DISTRIBUTION by continuing to assist the mass production effort (#30).

During the middle range the Ministry of Education should be turning its attention to policies which may be inhibiting media use in the schools (#11, 12, 40). By this time they should also be able to address the issue of merging the AV and library functions and providing the necessary training to make this merger operate effectively (#44, 55).

The Higher Education side (possibly keyed by Ain Shams) should become highly involved during this period. The AVGD and Ministry of Education should be collaborating closely with them regarding programs

for educating future AVGD employees (#5), school media specialists (#55), and teachers skilled in media utilization (#56). As mentioned earlier, they could also supply technical assistance in conducting NEEDS ASSESSMENT and EVALUATION studies (#58, 2, 3).

LONG RANGE (5 years and beyond)

Based on earlier work, the AVGD should by this point be regularly gathering data on needs and evaluating their success in meeting those needs. Goals should be clear and record-keeping and planning should be focussed on these goals (#3). Long-range personnel needs will dictate what training will take place ABROAD (#18) and what done locally (#6). New design procedures should coordinate AV and textbook development (#22). The AVGD should be taking leadership in encouraging UTILIZATION by means of very active programs of INFORMATION (#52) and development of IN-SERVICE TRAINING PACKAGES (#57).

Up through this period AID should have been carrying out plans to address some of the basic physical constraints to media utilization. By this time they should be ready to implement one or more plans for implementation, such as renovations/construction (#42), prefabricated buildings (#43), and/or mobile media vans (#49). It is also assumed that support for mass production and information will continue through the long range.

Finally, by this time the Ministry of Education should have worked out some plans for attacking some of the root causes of teacher non-use of media, such as the "coaching" practices (#52a), the examination system (#53), and the teacher evaluation system (#54). These plans should go into effect within this period.

## LINKAGES

This discussion has not dealt with the recommendations related to linkages with other agencies since there are highly speculative at this point. Obviously, these large-scale organizational restructurings are necessary mechanisms for ensuring that the individual steps mentioned here are synchronized, comprehensive, and long-lasting. The most important linkage recommendations entail combining the AVGD with the School Libraries Department to provide more adequately for both the supervisory/administrative function and the design/production function; reorganization within the Ministry of Education to place the AV, Libraries, and In-Service functions under the same undersecretary; and to establish Regional Centers combining library, AV, and in-service training services in collaboration with a university (for research & development assistance) and local schools (for field-testing of new methods and materials).

### The Role of Ain Shams University

As mentioned in the "Objectives," this study devoted special attention to the potentials of Ain Shams University in approaching solutions to the instructional media problematique. Extensive interviews and direct observations were conducted at the Faculty of Education. As reported in Appendix C, the current capability of Ain Shams in relation to instructional media is extremely limited and surrounded by constraints. Nevertheless, there is little hope for long-range resolution of the problematique unless Ain Shams, the leading Faculty of Education, becomes actively involved in the solution.

Two possible roles are spelled out in Appendix C: as a contributor of research and development capabilities to the proposed combined Regional Center in Cairo, and as an exemplar in its handling of instructional media within its teacher training program. The latter will require extensive upgrading of facilities, equipment, procedures, and professional personnel in the field of educational technology.

## I. INTRODUCTION

### Objectives

The general purpose of this study was to conduct a systematic analysis of the functioning of the "General Department of Educational Aids and Laboratories" referred to in this report as "Audio-Visual General Department," the name used by the agency in its English-language documents, for the purpose of diagnosing the problems or "constraints" which might be hindering its effectiveness. Effectiveness was viewed both internally -- how well the agency functioned -- and externally -- what impact it had on the utilization of instructional media in the schools. A second general goal was to proceed from the diagnosis to suggest remedies which might be applied. Of particular interest were remedies which could feasibly be supported by AID.

Specific objectives of this research project:

- 1) To identify the critical sub-systems or functions which ought to exist within the Audio-visual General Department (AVGD).
- 2) To assess how well each of the critical sub-systems is functioning currently.
- 3) To identify other agencies with which the AVGD has important linkages.
- 4) To map the major problems and sub-problems ("constraints") which limit the effectiveness of the AVGD.
- 5) To recommend some possible alternative solutions which might be undertaken by AID and/or by authorities within the Ministry of Education.

## II. RESEARCH METHODS

The methods used in this study represent rather informal applications of systems analysis (to describe the status quo of the AVGD) and problem structure analysis\* (to trace the relationships among system dysfunctions).

All of the research data were collected by the two authors in Cairo with the assistance of Guirguis Rizk Assad, director of the Design department of the AVGD, who was appointed by the Ministry of Education as a counterpart, and with the cooperation of the top administrators and staff of the AVGD. The analyses are based on eyewitness observations, interviews, printed reports, records, and other data sources available in Cairo between May 15 and May 30, 1979. Direct observations were used wherever possible. Where interviews or other second-hand data sources were used, cross-verification by other sources was always sought.

Despite attempts at thoroughness, time and resources were very limited so the data cannot be assumed to be completely reliable.

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\*Problem structure analysis is not yet a standard or even widely known method. For a discussion of this method and an example of its application, see: John W. Tiffin, "Problems in Instructional Television in Latin America," REVISTA DE TECNOLOGIA EDUCATIVA, vol. 4, No. 2, 1978; pp. 163-235.

### III. FINDINGS

#### A. Status of the Critical Sub-Systems

A survey of the goals and activities of the AVGD in terms of the principles of "living systems" indicated that the following were functions which ought to be found in a successfully operating organization of this type: Management, Planning, Evaluation, Training, Design, Production, Distribution, Maintenance, and Utilization.

##### 1. Management

###### a. Mission

This component is concerned with the agency's objectives: how clear is its mission statement and how relevant is that statement to the activities which are actually conducted.

The most recent and succinct statement of mission is included in a document entitled, "General Department for Educational Aids and Laboratories: Its Objectives, Responsibilities, Organizational Structure, and Plan," dated April 10, 1979. It states:

"Its objective is to provide and develop educational services at the different stages (primary, preparatory, secondary, teachers institutes, technical, private education as well as elimination of illiteracy and adult illiteracy) and educational system to international standards. This requires stimulating the necessary interest in new teaching methods, the use of audiovisual aids, training, follow-up, and the proper functioning and maintenance of equipment."

How relevant is the actual performance of the Audio-Visual General Department (AVGD) to the objectives stated? First, the services reaching the classrooms are not remotely up "to international standards." Regarding the subsidiary objectives, the AVGD conducts few activities aimed at "stimulating the necessary interest"; extremely little "use of audiovisual aids" actually takes place in the schools; "training" reaches only a miniscule number of teachers; there are few mechanisms for contact with users to provide "follow-up"; most schools have little or no audiovisual equipment which could be "properly functioning"; however, there is good provision for "maintenance" of what equipment exists.

The point is that the AVGD with its current level of funding and staffing is capable of achieving only limited objectives within the Egyptian educational system. Unless realistic objectives are set and pursued in priority order the efforts of the AVGD will be very hard to evaluate and these efforts may be widely scattered, precluding any real impact.

b. Boundaries

This component is concerned with the AVGD's relationships with its superior agency and with other agencies.

The Director General interacts with the relevant authority at the Ministry of Education, the Undersecretary for Central Services. He also has proposed an advisory body made up of the several individuals in the country who have doctoral level training in Audiovisual Education; six names have been identified, but this advisory body is not operative at the present time.

The Director General, Deputy Director General, and Director of Design also interact with some frequency with the curriculum consultants and grade-level (Elementary, Preparatory, Secondary, and Teacher Training Institutes) directors at the Ministry of Education. The AVGD designers work directly with the curriculum consultants in planning their AV development projects, getting approval for each item from the curriculum consultant at the end of the design process.

The administrators of the AVGD reported that there were no other agencies in the government which were performing similar functions. The most closely related agency was considered to be the University and Schools Textbook and Educational Aids Division; its only competing function was seen to be the provision of illustrations for textbooks.

c. Internal Organization (see Organization Chart, Figure A)

The Audio-Visual General Department is divided into six departments, each of which has a director, an assistant director, and a number of divisions, each of which has its own head. (Some of these positions are vacant at the present time; this is discussed further under Personnel.) If all the "supervisory" positions were filled, they would constitute approximately 36 positions of a total staff of around 150.

Regarding staff communications, there appeared to be formal and informal opportunities to interact on a regular basis. The six directors of departments meet at the desire of the Director General, usually about every two weeks. Within the Production department there was a twice-monthly staff meeting involving the director and the four unit heads. In general, the supervisors and staff of each unit are housed in the same room, so informal communication is easy and frequent.

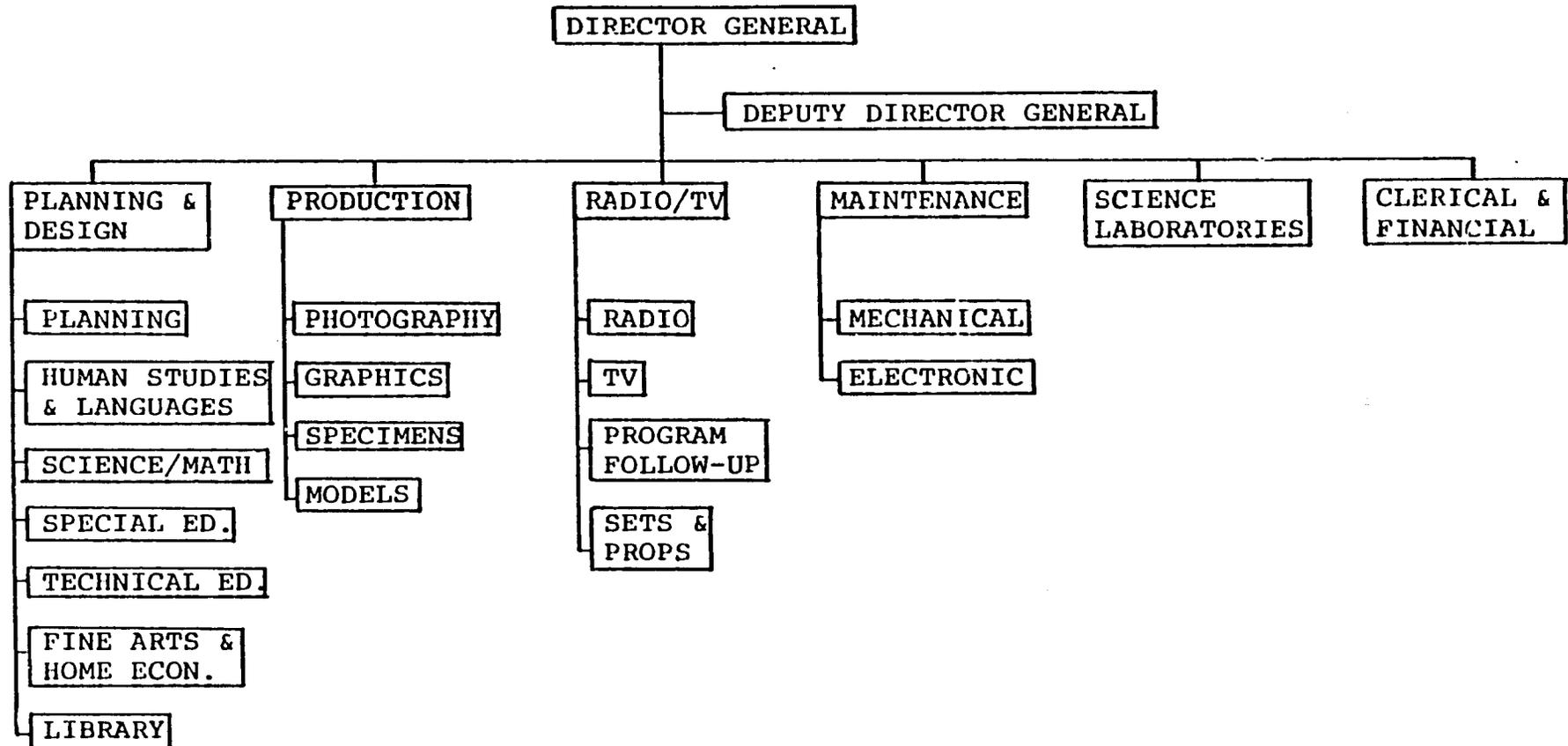


Figure A. Audio-Visual General Department Organization Chart

## d. Personnel

Department	Employees	Vacant Positions
Planning & Design	20	15
Production	16	12
Radio-Television	10	16
Maintenance	7	11
Science Laboratories	15	4
Clerical/Financial	<u>19</u>	<u>1</u>
TOTAL	87	59 = 146

There are no written job descriptions for AVGD positions, nor are the qualifications for positions listed in terms of competencies; the only thing specified is the certificate required for each position.

When an opening occurs a request is sent to the Department of Employees in the Ministry along with specifications of certificate and experience needed. The Ministry selects a candidate from its files (typically holding the certificate but lacking the experience) and assigns him to the AVGD. Ordinarily the person sent is accepted. There is not now a rigorous screening interview process although there was such in the earlier days.

The AVGD is not considered to be a desirable appointment. This was verified by a number of sources. One of the Ministry's curriculum consultants said, "It is not a popular place to work; people are afraid of being put on the shelf."

Salaries, being based on Ministry of Education standard schedules, are low by any measure. They range from about LE 30-45 per month for technicians up to about LE 100 per month for the top administrators.

e. Logistics

Supplies and equipment needs are compiled annually by unit heads; the Director General forwards them to the Ministry, where the Under-secretary for Central Services makes final allocation decisions. It is estimated that 90% of requests are denied.

The purchasing process entails (1) sending notice of intention to purchase to all merchants on the "approved" list, (2) receiving tenders from merchants, (3) visiting each bidder by a committee of three persons, (4) making a selection after comparing prices and products, (5) submitting an order along with a check, (6) examination of the received item by a different committee of three persons.

Equipment and expendable supplies are carefully controlled. For example, use of a projector for preview purposes requires expendable supplies from the stores, an employee needs written approval from his Director and from the Director of Clerical/Financial Department.

Any loss of or damage to AVGD property is the responsibility of the last person who signed for it. For example, any damage occurring to a projector requires a written report. If damage was caused by careless handling, the user would be liable (such a judgment would be very rare, however).

f. Facilities: General

Space utilization is indicated on the attached Floor Plan (see pp.109-12). In general, space appears adequate for current level of operations although possibly not for the more ambitious future envisioned by the AVGD administrators. When the building was originally designed (early 1950s), it was to be centrally air conditioned; financial exigencies in 1956 forced cutback of implementation; currently only the photo labs; radio-TV studios, and film preview room are air conditioned. The building appears basically structurally sound and with adequate electrical power and plumbing, at least for its current purposes.

g. Facilities: Planetarium

A small, "classroom" size planetarium, seating approximately 40 viewers, is located in the courtyard of the AVGD building. It contains a Zeiss planetarium projector which had been inoperative for about two years because of a malfunctioning motor. The repaired motor has been received recently, and the planetarium is expected to be back in service in the near future. Previously, one of the AVGD staff (Guirguis Rizk) had conducted a narrated presentation for school groups. It is planned that one of the AVGD designers from the Geography area will be trained to carry on these performances.

h. Budget

Funding for the Audio-Visual General Department has fluctuated over the years, mainly in response to the exigencies of a wartime economy. Since the 1973 hostilities the budget has stabilized at

around LE 8000\* per annum (excluding salaries, which are paid directly by the Ministry of Education, not by the AVGD.

As an example of budget expenditures, the Production department had the following amounts for the 1979 budget exclusive of personnel costs:

Photography . . . . .	LE 500 materials
Graphics. . . . .	LE 1150 (LE 750 for silk screening)
Models. . . . .	LE 300
Specimens . . . . .	LE 1500
Production equipment. . .	LE 650 (LE 500 for photo)

During the 1979 budget year the Ministry allocated around LE 400,000 for the construction and equipping of the new TV studios in the AVGD. These funds were derived from a laboratory fee assessed to secondary students with the approval of the People's Assembly. (This was reportedly a controversial decision; education is supposed to be free.) The lab fee is now considered to be a permanent fixture although it cannot be predicted what proportion of it might be devoted to audio-visual purposes in the future.

The Ministry has also been paying approximately LE 500,000 per annum to the State TV system for production costs of the 1½ hours of daily educational programming currently being carried on the State TV system. The Director General has proposed that at least a portion of this amount be allocated to the operation of the new radio-TV facilities in the AVGD, since production of the evening educational TV

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\*In mid 1979, the exchange rate was LE 1 = \$1.47.

programming will be shifted to the Center when the facilities and staff training are completed.

Approval from the Ministry is pending for another LE 30,000 for use during the 1979 budget year for construction of an addition to the AVGD building to consist of a garage and an exhibition hall.

The funding for the 34 audiovisual centers associated with each educational zone (the "AV Divisions") is estimated at LE 8000 for the group as a whole), the same as for the main AVGD. The total amount expended nationally on audiovisual materials and services thus comes to something like 3 milliemes (LE 0.003) per student.

## 2. Planning

There are no personnel or procedures of the AVGD specifically devoted to the planning function. There is no formal mechanism for gathering needs assessment data from the audience served by the AVGD. No criteria have been decided on for prioritizing the needs which are perceived. It is reported that there used to be an "Information and Statistics" unit, but it was phased out over the years. The Design division does include the word "Planning" in its title, but there are no staff or procedures allocated to this function.

As to the existence of a long-range plan, no such document was found in written form. There are, of course, hopes and ambitions for the future in the minds of several of the key leaders of the AVGD, but these have not been formalized into an agreed-upon plan. A report has been produced very recently, however, which does put in writing a large number of specific proposals for short-range improvements in the agency. It is entitled, "A Study of the Possibility of Evolution and Strengthening the Services of the Audio-Visual Department" (not dated, but completed around May 1979); it was prepared by a committee of three men including the AVGD's Director General, Deputy Director General, and a professor from the Ain Shams University Faculty of Education.

### 3. Evaluation

Evaluation data are not regularly gathered. There is no objective basis for judging the success of the efforts of the AVGD. Feedback from teachers or students regarding the instructional utility of AVGD materials is not received nor are materials subjected to formative evaluation before final production. Viewership figures for the educational TV programming are not available. The classroom utilization of the radio programs and duplicated tapes is not reported.

The only documentation of the efforts of the AVGD consists of the annual reports of the department directors (inputs; there is little evidence of the impacts of these efforts (outputs)).

#### 4. Training

The most recent Mission Statement of the AVGD mentions "training teachers at both the national and Arab levels" as one of its major tasks. In the light of Egypt's traditional leadership among the Arab nations, it is not surprising that this activity is felt to be one of the major responsibilities of the organization. This responsibility is carried out mainly through workshops and internships.

During the past six months-to-a-year, the following training programs had taken place:

- 1) a workshop for 20 Egyptian teachers on low-cost AV materials production.
- 2) a two-week workshop in production and utilization for 40 heads of the AV Divisions.
- 3) a workshop for persons responsible for AV materials for handicapped learners.
- 4) a one-month training program on AV production for 40 specialists from Sudan, Saudi Arabia, Qatar, Kuwait, and Libya, organized by the Arab League.
- 5) internships in media production for approximately 30 individuals.

During their visit the researchers observed one participant from Sudan undergoing intensive one-to-one training in various aspects of media production. Internships financed by foreign agencies customarily provide direct cash fees to staff members who provide the training.

In-service teacher workshops are organized and financed by the Ministry of Education through its In-Service Department, an agency parallel to the Audio-Visual General Department. The AVGD recommends the content, structure, length, and staffing of such workshops. The Director General's perception was that in the past only one or two of such workshops had been conducted annually, but that a new push was on to increase and upgrade them.

Concerning the AVGD's own internal staff training functions, there is no routine orientation for new staff; on-the-job training is informal; and there is no provision for upgrading of skills through local training (although internships abroad are occasionally available and much sought after).

## 5. Design

### a. Design of Audiovisual Materials

The designing of AV materials is carried out by the staff of the Design department, who are divided into five broad subject-matter groups: Human Studies and Languages, Science and Mathematics, Special Education, Technical Education, and Fine Arts and Home Economics. (The design of radio and TV programs is conducted by the Radio-TV department independently of the process described here; see b below.)

The design process follows a calendar year cycle, as follows:

- 1) the Director of Design sets general goals shortly before the beginning of each year; his priorities are based on his own perceptions of needs, since no needs assessment data are gathered;
- 2) each designer discusses possible targets with a curriculum consultant in the Ministry;
- 3) the designer determines tentative goals, which are checked with the head of his subject-matter unit;
- 4) a timetable is set up;
- 5) audiovisual supplements to the curriculum are devised by closely examining text materials; a rough prototype is created by the end of October (since production must be completed by the end of the calendar year);
- 6) the prototype is turned over to the Production division for translation to finished art work, photography, etc.

- 7) the designer keeps touch with the materials through the stages of production, providing references for visuals, checking accuracy, etc. and making revisions as perceived to be needed;
- 8) the resulting master is taken back to the curriculum consultant at the Ministry for approval and signature.

Volume of design work: Each of the four designers interviewed on the date of the visit to this division reported that he was at work on approximately four different audiovisual products (e. g. two filmstrips, one chart, and one flannelboard set). Four items seemed to be the "norm" informally followed by this group. The intended audiences of the various products seemed to be fairly evenly distributed among elementary, preparatory, secondary, and teacher training institutes. The topics chosen also represented a scattering of subject matter rather than a clear focus on a single topic.

"Quality" of design work: Only a few fragments of work were available for inspection, but, on the whole, they appeared to be worked out thoughtfully and with some artistic touch (in the case of sketches for charts and the like). The prototypes did appear to provide visual treatment of visual concepts. However, they did not reflect a particular sensitivity to specific objectives, student participation, teacher utilization pattern, and other such considerations which might be taken into account by instructional designers in the U. S. or Britain, for instance.

### Reference Library

A reference library for the AVGD staff is located on the ground floor, containing several hundred books related to audio-visual design, production, utilization, evaluation, etc. The majority of these are in English and French. The larger part of the collection, though, is composed of curriculum reference books in English and Arabic, to be used by the designers to research subject-matter and visuals for their projects. A sampling of current and past Egyptian textbooks at all levels is also in evidence. The collection includes virtually no current audiovisual periodicals and generally appears inadequate for staff research and professional updating.

The reference library is supervised and is in orderly condition. However, neither the library head nor any of his assistants has training in librarianship.

## b. Design of Radio-Television Programs

The Radio-TV department of the AVGD is responsible for the design of television programs which are actually produced and broadcast by the State TV System. The de facto designers of the TV educational programs, though, are the tele-teachers themselves. The on-camera "presenters" are selected and approved by the consultants of the Ministry of Education; they tend to be teachers and inspectors who exhibit "showy" styles. The presenters prepare their own scripts (the de facto program design) and present them, for which they receive a fee.

Volume of TV program design: Five educational TV programs are offered nightly on the two government channels, for a total of  $1\frac{1}{2}$  hours of programming.

"Quality" of TV program design: Due to scheduling incompatibility, none of these programs were viewed by the researchers. The only judgment about them is based on the comments by AVGD staff members and observers from Ain Shams University. The impression is that the programs tend to be "talking faces" with some chalkboard support but little if any audiovisual component. There was also some criticism of the "showy" style of some presenters and questions of subject matter accuracy in some cases.

The Radio-TV department also provides three radio programs daily, broadcast over the government radio system during the evening hours. These are not all new programs as a library of some 3000 past programs has been built up.

Two tapes from the collection were heard by the researchers. Both were essentially dramatizations -- one of an English short story, the other of the life of an historical character. Since geography, history, and languages are the most typical subjects for tapes, the dramatic format and dialogues taken from language drills are probably representative of the radio programs in general. The Department retains on its staff a couple of trained and long experienced radio script writers, and a sufficient pool of professional and amateur talent is available to maintain a relatively high standard of quality in radio productions.

## 6. Production

### a. Audiovisual Materials Production

The production of audiovisual materials is performed by the staff of the Production department which is divided into four production divisions: Photography, Graphics, Specimens and Models. The preparation of radio and television programming is conducted by the Radio/TV department and appears to have no formal or informal linkages to the Production department.

The production process is directly linked to the design process since almost all products developed at the AVGD are the result of an interaction between a designer and producer. Approximately 90% of all the products developed are intended for instructional purposes and the remainder are used for publications, publicity, exhibitions and center use. The production process is as follows:

- 1) The designer presents a rough prototype to the Director of Production.
- 2) The Director of Production reviews the prototype with the designer taking into account feasibility, cost, intended audience and length of production.
- 3) The production is assigned a project name and order number and submitted to the head of one of the four production divisions. A tentative production timetable is cooperatively determined between the Director of Production and the division head.

- 4) The division head assesses the extent and complexity of the project and assigns it to the technician(s) in his unit best suited to complete the assignment. The timetable is also formalized.
- 5) The Director of Production acts as the liaison between the division head and designer insuring that the production technician is satisfying the designer's curricular considerations and maintaining quality and cost control.
- 6) When the project is completed it is evaluated by the designer for accuracy and detail, by the division head for production quality and by the Director of Production for both.
- 7) For most every item produced (except maps, posters, and charts) a limited run may occur providing enough copies so that each zone will receive a copy for either distribution or to use as a master to produce duplicates (see page 38 for a discussion of the Distribution function).
- 8) Disposition of the master is determined by the Director of Production. Generally this occurs in a storage area of the AVGD. These storage areas range from excellent (e. g. photo negatives and filmstrips masters catalogued by Dewey cataloging system and stored in file cabinets) to poor (e. g. storage of maps, posters and chart masters in a dusty, damp storage room with no apparent means for systematic retrieval).

### Status of the Production Department

Each of the four production divisions appeared to have a variety of projects in various stages of completion. Based on reports from each division head, interviews with the staff of each production division, and an observation of operations, a summary of products, volume, staff, equipment and facilities is as follows:

Photography - The highest volume of work is for continuous tone black and white photographic prints. Most of these prints are the result of copy work with some on-location photography. Photographic master prints are used to prepare study prints (10 packets produced last year of which four were mass duplicated at the Textbook Division), used as filmstrip masters and as references for future projects. There was no known total of how many prints were prepared last year but it was indicated that during one period they were processing 300 prints of the same negative in one day. Color slides (E-4 Ektachrome hand-processed due to damaged JOBO color processor) were the next most produced item but again no numbers were available. Twenty black and white filmstrips were produced last year (no color) and enough copies prepared to provide one for each of the 34 zones. Small amounts of slide reproduction and microphotography in black and white and color were also prepared. There was no evidence of color print production, instant photography or the production of any type of photographically prepared overhead transparencies. No motion picture production has occurred since 1964 (a total of seven 16mm films had been produced up to that point) since the Ministry of Education expressly forbade this activity and required that educational films have been produced during the last 15 years. Recent

directives have rescinded this order but the Production department does not appear to be inclined to undertake film production activities.

Photographic facilities (see floor plan, Appendix B) and equipment (see equipment list, Appendix A) are 15-20 years old and appear to be functioning as well as can be expected. For example, the water system lacks filtration and temperature control regulators. In addition the sinks are corroding, but ventilation and power appear adequate. There is an anticipated move of some photographic processes to a lab on the ground floor currently under construction.

By far the strongest asset of the photographic unit is its staff, although they are currently short two photographers and three assistants. The four photographers, including the director and assistant director, have all had extensive formal photographic training. The photo products examined appeared to satisfy the basic requirements of instructional photography including the consideration of essential design elements and precision of detail. Given an improvement in processing facilities and the addition of camera, enlarging, and duplicating equipment and access to a greater amount and variety of consumable materials the staff would probably be able to significantly increase both the quantity and quality of the unit.

Graphics - The greatest volume of work is the preparation of instructional and informational posters and charts (especially charts for flannel board cutouts). Masters of these items are prepared for mass production runs but there has not been a large scale run since 1972. However, prior to this date runs of up to 30,000 copies were not uncommon. Most posters and charts are for science and language

studies and all appear to display care in detail including careful consideration of color and form. Approximately 500 masters are currently in storage and available for future mass production runs.

There was no evidence of any type of overhead transparency production except for a limited amount of drawing on acetate. Any lettering is primarily for maps, charts and posters. It is done by free hand, stencil and some dry transfer. No mechanical lettering processes were observed and there is no calligrapher on staff to letter in Arabic. Illustrations for charts and posters are developed as original drawings, tracings from tearsheets and photographs, use of grid techniques, opaque projector and Lacey Lucy tracings and the use of pantographs. Coloring is done with crayon, pencil, felt markers, ink, paint and colored adhesive. The on-site mass production that does occur is done with an antiquated silk screen system. However, the quality of the work is excellent considering many of the final products require a run of four or five colors.

There is one spirit duplicator and mimeo unit for the entire AVGD. However, the mimeo unit is assigned to the Clerical and Financial department and can only be used sparingly by the Production department. Whatever mounting occurs is by rubber cement with some wet and dry mounting procedures used when materials are available. There is no laminating of any sort.

Facilities (see Floor plan, Appendix B) and equipment (see equipment list, Appendix A) are worn and limited but seem to be providing adequate support for the amount of current production. Certainly any substantial increase in production would not be able

to be readily absorbed by the capabilities of the present facilities and equipment. The director, assistant director and two graphic artists have degrees from colleges of fine or applied arts and all have had previous teaching experience.

Models - The emphasis of this division is to produce master copies of display boards and models such as wax fruit, wooden geometric shapes, plaster anatomical figures, paper mache puppets, etc. One master is forwarded to each of the AV Divisions headquarters to be duplicated in quantity by their staff. Based on the simple and limited construction materials of wood, glue, plaster, wax and paper and the limited tools the quality of the products is outstanding. The director of this division has an Education degree in applied art specializing in sculpture. His work is detailed, accurate, attractive and of high quality. He is assisted by a carpenter but lacks an experienced painter and three additional technicians. Other projects being prepared included manipulative devices for mathematics and number concept boxes in braille.

Specimens - The greatest volume of work in this division is the preparation of microscopic slides for secondary schools. A total of six topics (1065 slides prepared for each topic) were completed last year and added to the 60 topics already in existence. Slides of this nature cannot be produced in the AV Divisions and therefore it is the responsibility of the specimen unit to provide the total number of required slides. In addition to this product, display boxes enclosed with a glass face are also prepared. Boxes of this type show the uses of cotton, types of rocks, uses of petroleum, etc.

and are forwarded to the AV Divisions who in turn distribute them to area schools on a rotational basis. Approximately three to five displays are created yearly and over 50 have been done to date. The specimen division is also responsible in preparing plant, animal, insect and aquatic specimens using both dry (taxidermy) and wet (submerged in water or preservatives) preservation methods. These items are also distributed at the AV Division level and over 45 runs, including 15 skeletons, have been completed to date. It was indicated that in the past they have mummified "as many as 600 birds of the same species in one run." There was some indication of plastic encasement but since the process was too costly, it was never instituted in volume. The staff consists of two technicians, one of whom is the acting director. Both have agricultural school training. The unit lacks a director and two additional technicians. Facilities consist of one large room (see floor plan, Appendix B) filled with display cases and worn but still functioning specimen, slide and glass box preparation equipment.

b. Radio and Television Production

The Radio and Television department of the AVGD currently designs programming which is produced and broadcast by the Republic's radio and television broadcast system. (see Section 5b for discussion). Facilities for radio and TV are located in the recently added third floor of the AVGD (see floor plan, Appendix B). Radio programs are produced in two studios and a control room using Ampex equipment of the early 1960s. On the average, 18 programs are broadcast per week. The caliber of recording is of adequate broadcast quality and certainly acceptable for re-recording onto cassette tapes. A library of over 3000 programs currently exists and over the years they have had over 900 blank tapes mailed to the AVGD requesting duplicates of radio broadcasts. Presently there are few maintenance problems in the radio section, but the only qualified radio engineer has recently retired.

Television programs are currently produced and broadcast by the State Television System. However, a new television complex (see floor plan, Appendix B) financed through the collection of science laboratory fees assessed to preparatory and secondary students (approximately LE 400,000) is anticipated to be completed by September of 1979. The capability of this unit will be for both black and white and color recording of broadcast quality ( $\frac{1}{2}$ " cassette) using all Phillips equipment (see equipment list, Appendix ). The actual broadcasting will still occur at the State Television System complex but it is anticipated that almost all original programming will occur at the AVGD.

There is no evidence of a portable video capability therefore indicating total commitment to studio programming. TV props, sets and graphics will be prepared in an adjacent studio but since there is no anticipation of coordinating this service with other AVCD production divisions, there will undoubtedly be duplication of effort.

Staffing of the radio and television unit consists of a director and assistant director and 8 other employees. No people have been trained in direction/production skills for the new TV facilities but a crew of four are expected to be trained in the U. S. Since the technicians have not had a factory sponsored maintenance program concerning the new Phillips TV equipment it should be anticipated that the engineering capability will be at a low level with inevitable production delays.

## 7. Distribution

The Audio-Visual General Department has used and continues to use a number of different channels to distribute audiovisual software to the classrooms of the Republic:

- a) direct distribution without charge of maps, charts, specimens, and other such materials to individual schools.
- b) loan of 16mm films and other such expensive materials.
- c) broadcasting of radio and television programs.

Since the distribution function is not localized in any one office of the AVGD, a variety of distribution patterns is found, depending on the type of material and the current policy of that particular office.

### a. Paper Materials (charts, maps, study prints)

In earlier years, one of the most visible services of the AVGD was the mass production of thousands of copies of paper visual materials in quantities sufficient to reach all schools in the country. For instance, the 1970 Audio-Visual Catalog lists 437 titles of charts which were available (192 in Science alone). Since 1972, the mass distribution of such materials has been virtually suspended. New materials are still being designed but they are sent to storage to await mass production at some indefinite time in the future.

### b. Filmstrips

Currently it is the policy to reproduce one copy of each locally produced filmstrip for each education zone (total of 34). Approximately 20 titles were produced during 1978. The 1970 catalog lists some 74 titles (30 in Agricultural Science alone); the masters of

these are retained in storage and could be reproduced again should the demand arise. Filmstrips were formerly loaned from the AVGD, but no longer are.

c. 16mm Films

A free loan library of some 1800 titles (1850 prints) is in current use. However, due to suspension of purchase of new films and gradual wearing out of old ones, the collection is dwindling; about 1500 of the prints are considered in "good condition."

The majority of films were obtained from U. S. and British distributors, most over 20 years ago. Only about 5% of the films have Arabic soundtracks; another 20% are in languages other than English (e. g. Czech animation films).

Approximately 2400 booking requests are fulfilled during a typical school year. No records are kept of non-fulfillment but the problem is considered a great one. In a subject such as Biology, for instance, the same topic would be covered in all the secondary schools at around the same time, yet only a few prints of that related film would be available (7-8 copies is the maximum number of multiple prints). A few schools have the right film at the right time; the others hope to get it out of sequence or do without.

Requests are received only via the printed booking request form (no telephone or personal orders). Films are mailed to the AV Division in that zone and remailed from there to the school. A one-month booking period is used, meaning that a maximum circulation a given film could serve twelve zones a year.

d. Models, Specimens, other 3-Dimensional Materials

In earlier days, it is reported, several thousand of certain specimens were produced and sent out directly to individual schools. It is now the policy that one copy per education zone (total of 34) be supplied of models, stuffed specimens, wet preservations, display boxes, and the like. In the case of plaster models, it is customary to send the mold to the AV Division of each educational zone, where it is reproduced in sufficient quantity to meet the demand in that zone.

One exception to the above rule is micro-slides. Over 1000 of each specimen are prepared and sent out on the basis of one for each secondary school. . .since each secondary school is equipped with a microscope.

e. Radio and Television

As described earlier in the Design section, a number of radio and TV programs of an educational nature are broadcast nightly through the facilities of the government radio and television. Although no data on audience size are available, the Radio-TV staff estimate that 80% of the Egyptian population live within a TV station coverage area and nearly all within reach of radio. One of the staff guessed that up to 50% of the urban school children (fewer of the rural) were regular viewers of the educational TV broadcasts at their grade level, since the tele-lessons were considered valuable sources of review for examinations. Given the parental and peer pressure surrounding passing exams, there may exist a significant demand for such reviews, as there is a sizable demand for out-of-class tutoring of individual students by teachers (for a fee).

During the period 1974-78 a major effort to provide in-school television to the secondary schools was undertaken. Some 1000 TV sets were distributed, one to each secondary school in the country. Due to problems in reception and/or utilization this project stopped in January 1978; it is hoped to be restarted some day. The residue is the equipping of most secondary schools with TV sets; in addition, some eight sites in the more remote zones have been given video cassette players; however, only about ten video cassettes are available for each site at this time.

At the moment, no radio or TV broadcasts are beamed to schools during school hours. The radio tapes broadcast in the evenings, though, are available on demand in tape or cassette form. A teacher may obtain a duplicate simply by sending in a blank tape to the AVGD with a request for the specific program. Some 900 such requests have been received over the past years. There is no follow-up data, however, concerning what uses these tapes have been put to in formal education.

#### f. Science Lab Supplies

The distribution of science lab supplies such as microscopes, scales, chemicals and the like is coordinated by the Laboratories department of the AVGD from a warehouse located approximately five miles away. Lab supplies are distributed yearly throughout the educational zones by the distribution center which has sixteen employees and a director. Appropriate supplies and equipment are determined by the science coordinator at the Ministry of Education with input from the senior supervisor of science in each directorate. The

science lab section then orders, receives, stores and distributes these materials at the zonal level. This section was placed under the responsibility of the AVGD in 1975 but certainly bears no direct relationship to traditional audio-visual services. However, approximately LE 400,000 of the science lab fees collected last year (30pt. for secondary students and 15pt. for preparatory students) was allocated by the Undersecretary of Central Services for construction of the new radio-television complex. Revenues collected from these fees are not necessarily guaranteed for future AVGD application, however.

## 8. Maintenance

A Maintenance division capable of making both mechanical and electronic repairs operates out of a centralized workshop in the AVGD. There is, in addition, a van outfitted to do television repairs on site; at the moment it is not well stocked with spare parts and the extent of its use was not determined.

The maintenance shop has a staff of seven technicians. It was felt that a major gap existed in regard to advanced radio-TV skills; none of the technicians is factory-trained for the TV equipment in use; and none was considered qualified to repair the studio equipment on hand.

Many repair needs at the school level are fulfilled by the AV Divisions within the educational zones. It would appear that TV equipment and perhaps other more complex problems would find their way to the main AVGD.

As for volume of work, a detailed chart of work performed for the past year was available for inspection. On the average, ten items were received and sent back each month, ranging from over twenty in January to fewer than five in July. This would yield an average of approximately 1.4 items per technician per month. There was reported to be no problem of turnaround time, either at the main AVGD or at the AV Divisions. Items received were able to be handled without undue delay due to backup work.

The management of repair work appeared to be quite laborious. A broken item would be expected to be hand-carried into the shop from wherever it was being used; parts would be obtained on an as-

needed basis in the marketplace, there being no central source for parts. Extreme diversity of equipment models compounds the parts problem. Thirteen separate control forms were associated with various steps in the repair process; a given repair job might conceivably require that each of these forms be filled out.

Repair equipment did not appear to be sophisticated. For instance, no electronic test equipment, such as oscilloscopes, were seen.

## 9. Utilization

The Utilization function represents the "end of the pipeline" for the overall audiovisual system; it is the function for which all the other presumably exist. Being at the end of the pipeline also implies that any faults which exist upstream will diminish what can possibly emerge at the end.

Utilization, although it is the *raison d'etre* of the AVGD, takes place mostly outside the boundaries of the organization. It happens or fails to happen in the classrooms of the Republic. As will be demonstrated later in this report, the AVGD has only partial control over whether or not Utilization takes place; many other elements can block or facilitate this function.

There is no unit of the AVGD specifically charged with promoting or overseeing Utilization. Other than some in-service teacher workshops, few activities related to this function are carried out. Formerly, a catalog of AVGD products was widely disseminated; this is no longer done since there is little capability to mass produce any materials for which a demand might be generated. A catalog of free loan films was published in 1976, but only in sufficient quantities to send one copy to each of the 34 educational zones.

To what extent are audiovisual materials used in the Egyptian schools? Since the schools were not in session at the time of the researchers' visit, direct observation was limited to a cross-section of unoccupied classrooms. There is a clear consensus of opinion, however, among observers who have visited classes in progress and

interviewed teachers. The following represents a composite impression reported by Ministry of Education curriculum consultants, heads of the various divisions in the Ministry, and U. S. members of the Joint U. S.-Egyptian Basic Education Survey Team:

"There is very little use of audiovisual materials in classrooms at any level, although secondary schools have somewhat more access to AV equipment and materials. A typical elementary or preparatory classroom would contain a chalkboard (probably lacking chalk), a map and a science chart which are teacher-made or produced by the governorate AV Division, and a few other teacher made diagrams. No projection or audio recording equipment is available. The teachers are unaware that there is a central Audio-Visual General Department. If the central AVGD disappeared tomorrow, the impact on the secondary schools would be 'zero,' on the preparatory schools 'zero,' and on the elementary schools '5%.'"

## LINKAGES: AGENCIES RELATED TO THE AVGD

Audio-Visual Divisions

In addition to the central AVGD there are approximately 34 major sub-centers, one in each of the education zones.\* They provide supplementary AV services at the individual school building level. Two of these AV Divisions in the Cairo region were visited by the researchers. They had staffs of 15-20 employees and carried out a range of activities virtually parallel to that of the central AVGD described as follows.

\*Design: a group of subject-matter specialists designed materials for local use, primarily three-dimensional models.

\*Production: both centers produced mainly models -- wood, gypsum, and electric boards; one center also did considerable photography (mainly documenting exhibits and special events) and some silk screen reproduction.

\*Maintenance: repairing AV equipment (p. a. amplifiers, audio recorders, film projectors, and radios in that order of frequency).

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\*Since the names ("governorate", "zone", "district") as well as the sizes and numbers of education units has been in flux for the past several years, no attempt will be made here to be precise or consistent with any other source regarding the units.

\*Film Library: each center visited had 100-130 films available for circulation to schools; most films were reported to be old and outdated. (Some of the other centers have no films.)

\*Film Projection Service: both centers maintained a collection of 16mm film projectors which were taken to elementary schools for film showings (since elementary schools do not generally have AV equipment); showings averaged about 25 per month.

\*Workshops: one center had held two teacher workshops during the past year (on local production and AV equipment operation), reaching 60 teachers.

Their annual budget (excluding purchase of equipment and salaries) was about LE 350.

The directors of the AV Divisions report directly to the authorities in the local education zone, not to the AVGD. The AVGD exercises a loose supervisory function, limited to the "academic" side of things, not administration. In practice this seems to mean an annual visit to discuss achievements and plans.

### School Libraries Department

Parallel to the AVGD, but reporting to a different undersecretary (Undersecretary of Educational Activities) is the School Libraries Department. Unlike the AVGD, this Department has direct supervisory responsibility over the school libraries in all the education zones at all levels -- elementary, preparatory, secondary, and teacher training institutes.

The School Libraries Department also evaluates and selects library materials and conducts an awards program.

At none of the levels is the school librarian required to have formal Library Science qualifications. Rather, teachers are prepared as school librarians through a ten-day training course given by the In-service Training Department (see p. 50). School librarians have no training in handling AV equipment and materials. Further, in many elementary schools the space allocated to the school library has been taken over for classroom space due to the press of ever increasing numbers. In the libraries which do exist the materials are very limited (with an annual book budget of about LE 10-20 per school) and the space is used primarily as a leisure reading room.

### In-Service Training Department

Adjacent to the AVGD, in fact sharing the same building, is the In-Service Training Department of the Ministry of Education; it is administratively unrelated to the AVGD and the School Libraries Department.

Each education zone conducts its own in-service training and reports such activities to the national Department, which is responsible for more specialized training work. It operates sub-centers in Cairo, Alexandria, Tanta, and Assiyut. The Cairo sub-center in fact occupies the bottom floor of the Department's building.

The staff of the In-Service Department is authorized at 42 people, but only one-third that number are now in place due to severe reductions mandated by the Ministry of Education.

During 1978-79, the four national level centers conducted training courses for some 7600 teachers in: Languages, Science, Mathematics, Educational Services (includes AV and school libraries), Humanities, Teacher Qualifications, Administration, Art & Home Economics, and Arabic Language (for 180 Sudanese). Annual budget is around LE 100,000.

Participants are paid a regular salary while in training, plus minimal travel and lodging expenses. Some might remain in residence for an entire school year, for example to convert from an academic subject to a foreign language teacher. Reportedly, teachers are not enthusiastic about attending in-service training courses since it could entail a loss of income (e. g. tutoring income) and holiday

time (e. g. the three month summer vacation). Other incentives are therefore sought, such as attractive locations, higher pay scholarships, opportunities for internships abroad, and increased chance to qualify for employment in other Arab countries.

Facilities include:

\*Language Laboratory - very modern and well equipped.

\*Library - one of the largest and most ambitious in Egypt; it is heavily used by Education students from Ain Shams and Cairo Universities; the librarian is trained in the "comprehensive library" concept.

\*Science Lab - a model for other secondary schools, but a realistic one, not too much better equipped than the average.

\*Auditorium - spacious and basically well laid out, but now rundown and lacking acoustical and light control; seats 200.

\*Classrooms - nine, seating from 20 to 80 persons.

## B. Problem Structures

The analytical method used here to examine the problems associated with the operation of the Audio-Visual General Department (AVGD) is derived from the field of systems analysis. It happens to be a convenient way to illustrate the interrelationships among problems in and around any given system.

The problem structure technique begins with the assumption that problems within human systems are seldom simply or unitary. That is, we usually find clusters of multiple problems themselves having multiple causes. Some use the term "problematique" to refer to such clusters. For instance, overpopulation is better thought of as a problematique -- a force which shows itself in many forms and which has many roots, social, cultural, economic, etc. Likewise, the difficulties which afflict the AVGD can best be seen not as discrete problems but rather as problematiques -- clusters of problems and sub-problems.

So, in the following pages is presented an analysis of clusters of problems and sub-problems which limit the effectiveness of the AVGD. These could also be viewed as "constraints" in the current terminology of the Agency for International Development.

These clusters of problems and sub-problems are arranged into maps to visually illustrate the causative links among them. Since it would have been cumbersome to array all the elements on one overall map, the situation has been divided into three maps, each

focusing on a different broad area. The first focuses on Utilization, which is presumably the *raison d'etre* of the entire AVGD effort. Audiovisual materials are designed, produced, and distributed so that they may be utilized by teachers for the benefit of their students. All the rest of the analysis flows backward from this end point.

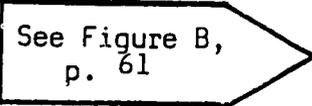
The second map focuses on the sub-problems which have an impact on the Design/Production function(s). The third map of problem structures concentrates on elements affecting Management.

Since the functions of Utilization, Design/Production, and Management are actually interrelated, the maps have a certain redundancy to them. For example, the factors of "Budget," "Administrative Regulations," "Needs Assessment," and "Evaluation" appear as root problems on all three maps. This underlines the fact that certain elements have pervasive impacts on the system.

#### HOW TO READ THIS SECTION

It should be noted that the maps and the accompanying narrative are meant to be read together; neither makes much sense alone. The map provides the outline. It should be read from bottom to top with the interpretation that each rectangle represents a problem or sub-problem, each being connected to one or more sub-problems, leading back to what are presumably the root causes.

Each rectangle is numbered. The narrative contains a discussion of each number, explaining what the rectangle represents and giving examples illustrating the problem. To repeat, the narration should not be expected to make sense when the items are simply read in numbered order. Rather, they should be read in the order in which they are connected on the map.



See Figure B,  
p. 61

## UTILIZATION SUB-PROBLEMS

### 1) CLASSROOM AV EQUIPMENT

Audiovisual equipment is scarcely available in the schools: secondary schools typically have one 16mm film projector and one TV receiver; preparatory and elementary schools have virtually no projection or recording equipment at all.

### 2) CLASSROOM AV FACILITIES

a) Classrooms lack the facilities needed for audiovisual utilization: Light control, electricity, storage space, screens, etc.

b) In most elementary schools the room supposedly set aside for a school library has been taken over for additional classroom space.

### 3) ADMINISTRATIVE REGULATIONS

a) Administrative regulations require that AV materials and equipment be received by the "stores" clerk at each school; he is legally liable for loss or damage, so he is reluctant to allow materials and equipment out of his control.

b) Teachers must request AV materials and equipment through their own zone's authorities; this might not always be the nearest or most convenient source.

- c) The Audio-Visual General Department and School Libraries Department reporting to different undersecretaries in the Ministry leads to lack of coordination of instructional materials at all levels.
- d) Elementary schools often operate on two shifts, sometimes even three shifts a day; each shift has its own teachers, principal, and so on; the keys to the school library and other specialized facilities are not handed on from one to the next, which means that each shift must maintain duplicate sets of facilities (e. g. two different rooms serving as school library at different times of the day).
- e) In general, the strictness of security coupled with short working hours often produces a situation in which needed equipment or materials are locked up, with "the man with the key" being absent.

#### 4) MATERIALS AVAILABILITY

Very few AV materials are available at the individual classroom level -- typically only a few charts, posters and a map or two, all of which are either very old or teacher-made; films, filmstrips, slides, overhead transparencies, realia, records, and audio tapes are seldom encountered.

#### 5) DISTRIBUTION

- a) The AV materials which have been designed and produced at the AVGD are no longer being mass produced and distributed in quantities sufficient to supply the needed items to the appropriate classrooms.

b) Materials available for loan to schools are inadequate in quantity, quality, and variety of subjects; only films are currently being circulated -- of which there are only about 1500 prints in "good" condition, and the majority of these are over twenty years old.

6) PRODUCTION

The type, quality, and numbers of AV materials which can be produced by the AVGD is limited; mass production is far below what would be needed to supply all schools.

7) PURCHASE OF EXTERNAL MATERIALS

Some materials could presumably be purchased from commercial sources more cheaply than they could be locally produced, but except for 16mm films virtually no externally-produced materials are seen.

8) DESIGN

The selection of types of materials and topics to be produced is determined by the Design function; these decisions may not always be based on the strongest criteria.

9) BUDGET

The regular budget allocations of the Ministry of Education are inadequate to support the critical sub-systems up to a level of effective functioning.

10) NEEDS ASSESSMENT AND EVALUATION

Decisions about budget priorities, curricular needs, and so on, should be based on an assessment of the most pressing

needs of the schools; current data gathering methods cannot provide the assessment required. Likewise, designers lack feedback about the effectiveness of the materials they produce.

11) INCENTIVE TO USE

Teachers lack incentive to utilize AV materials -- the materials are difficult to obtain and cumbersome to use, and there is little reward for making the extra effort required. Underlying this is the more basic problematique of the relative undesirability of teaching as a profession. Salaries and working conditions are not attractive; high ability students would seldom seek to study Education as a first choice. Its major attraction is that jobs are available, including large numbers in other Arab countries. . . meaning that many of the most able go abroad, at least for the four years they are legally allowed to stay.

12) EXAMINATION SYSTEM

The examination system exerts strong pressure on teachers and students to concentrate on short-term memorization of specific verbal information.

12a) TUTORING ("COACHING") SYSTEM

Although it is technically illegal, the practice of teachers giving special out-of-school tutoring to students is probably quite widespread. Since teachers' salaries are very low (average about LE 15/month), they are under pressure to seek

supplements. Parents and students, seeing education as one of the few paths up from poverty, are also under pressure to seek an "edge." These two mutual needs yield a system in which parents pay a small fee to the teacher for specific out-of-school tutoring as well as other small gifts to ensure "special attention" for their children in school. The sum of these extra payments can equal or exceed the government salary of teachers. (In order to keep these abuses hidden, teachers are careful to make sure that principals are compensated for looking the other way.)

A major consequence of this tutoring system is a disincentive for teachers to provide more effective, individualized instruction in the classroom. That is, the less a child learns in the classroom, the more he needs tutoring.

### 13) TEACHER EVALUATION SYSTEM

The current method of inspecting and evaluating the work of classroom teachers does not give adequate weight to the teacher's practices and success regarding the use of instructional media.

### 14) INFORMATION & LOCAL COORDINATION

- a) The AV services which are available need to be promoted in order to arouse teacher interest; currently there is little communication downward from the AVGD.
- b) Information about AVGD products is hardly available; there is no current catalog of locally produced items;

the catalog of free loan films was last revised in 1976 and its distribution was limited to one copy per zone.

- c) Assistance to teachers is needed at the classroom level; but there are no AV coordinators in the elementary schools. This function is performed in some of the secondary schools (probably by the person who was appointed as the TV coordinator during the era of in-school TV broadcasts).

15) TEACHER AV SKILLS

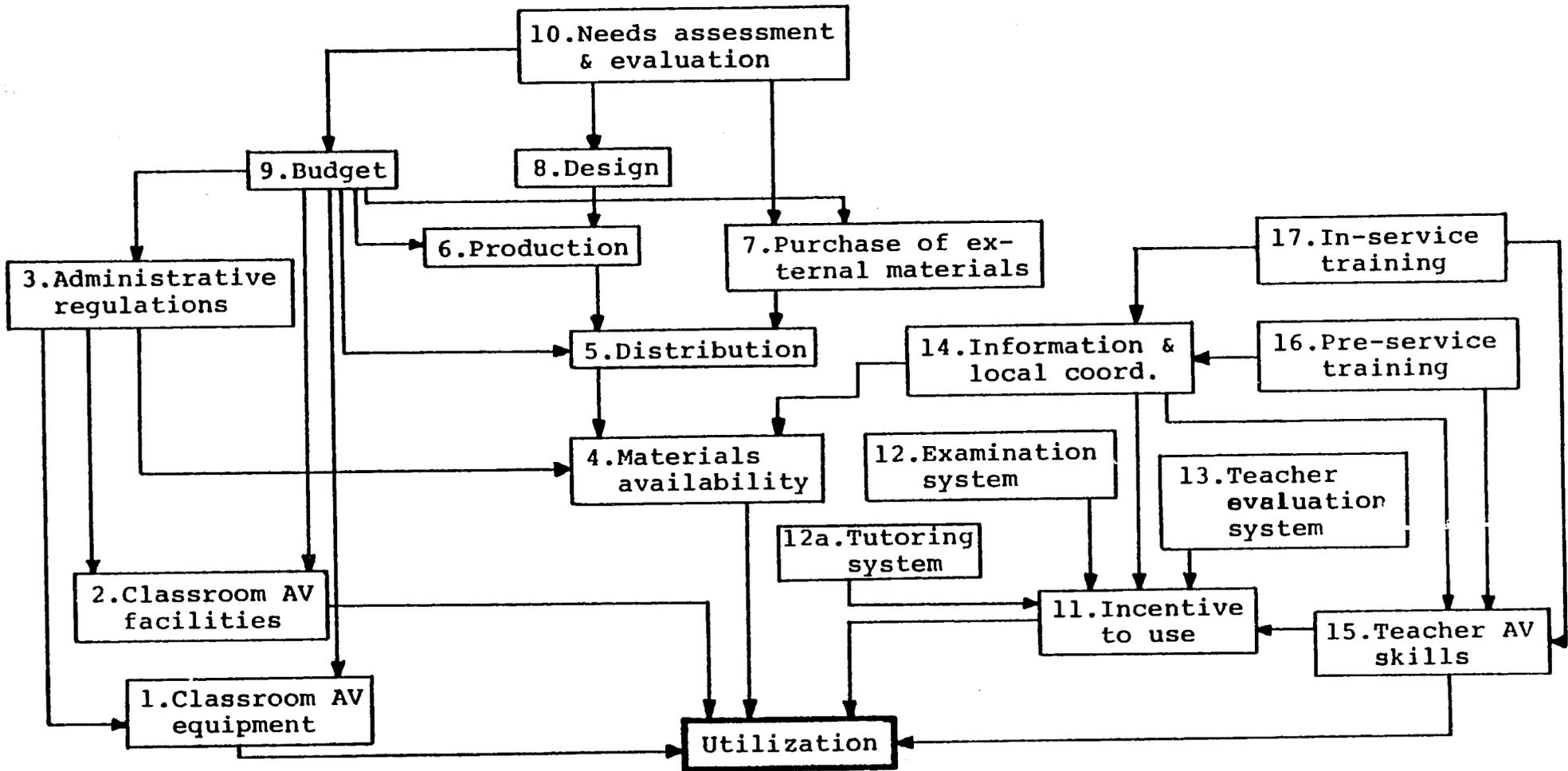
Teachers at all levels lack necessary skills in AV equipment operation, basic local preparation techniques, and pedagogical integration of AV materials.

16) PRE-SERVICE TRAINING

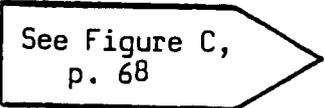
During pre-service training in the Teacher Training Institutes and (especially) in the Universities, teachers' exposure to audiovisual skills tends to be "brief and theoretical." Further, the trainees are not exposed to good "role models" to demonstrate and exemplify good media use.

17) IN-SERVICE TRAINING

In-service training in AV skills currently touches only a tiny fraction of teachers each year. . .under 100 at the national level, more at the zone level (estimated).



Problem Structure Number One - Utilization  
Figure B



See Figure C,  
p. 68

## DESIGN/PRODUCTION SUB-PROBLEMS

### 18) STAFF SKILLS

The current AVGD staff does not possess all of the skills required for effective working of the Design/Production functions.

- a) Currently, TV programs are designed essentially by the "presenters," who are chosen mainly for their teaching flair, not necessarily for skills in media or instructional design.
- b) The proposed television production unit has no one qualified to perform as producer/director/designer.
- c) Designers lack specific training in instructional design: most also lack background in pedagogy; they had not acquired a "school" point-of-view prior to or during their service.

### 19) TRAINING

Neither pre-service nor in-service training arrangements provide satisfactorily for the gaps in staff skills; also, the high demand for on-the-job training detracts from conducting the other Design/Production activities efficiently.

### 20) SELECTION/PROMOTION PROCESS

The way in which staff members are assigned to the AVGD by the Ministry of Education does not ensure that the most

competent are identified and selected. Similarly, promotion based primarily on seniority does not reward and foster superior achievement.

21) NEEDS ASSESSMENT

Decisions about what to design or produce are not based on objective data regarding classroom needs.

22) FORMATIVE AND SUMMATIVE EVALUATION

The creation of effective instructional materials requires that prototype materials be field-tested and revised prior to production, while materials are still in the "formative" stages; the final products should also be tested in the classroom to make a "summative" judgment of their usefulness. Neither type of evaluation is conducted at the AVGD; the lack of feedback makes it difficult for designers and producers to improve their practice.

22a) DESIGN PROCEDURES

The steps now being followed in AV materials design represent an intuitive, not systematic, process. This is tolerable within the current operations but will not be suitable for the larger scale or more sophisticated projects anticipated in the future. Systematic "instructional development" procedures such as are now used in the U. S. and United Kingdom might be viewed as models.

Further, current procedures limit the outcomes to certain types of audiovisual products. For the future, what will be

required are PACKAGES made up, not only of AV materials, but also student response booklets and teacher guides. Coordinated design of packages will require changed procedures.

#### 22b) RESOURCES

AVGD designers are currently operating with very limited resources, lacking, for example, a library containing reference materials, current instructional development literature, and exemplars of good instructional design. They are out of contact with the outside world of instructional development.

#### 23) ADMINISTRATIVE REGULATIONS

- a) The policy of personnel assignment based on considerations other than qualifications severely handicaps the AVGD staffing situation, as does promotion based on seniority.
- b) It is interpreted that current regulations regarding the field-testing of materials in the classroom inhibit the conducting of formative evaluation.
- c) Current practices governing the hours of work yield a working day of about  $3\frac{1}{2}$  productive hours.

#### 24) INCENTIVE TO DO GOOD WORK

A number of factors interact to lower morale and lower incentive to work seriously to the fullest extent of one's professional ability.

## 25) SALARIES

The current level of compensation does not encourage the AVGD staff to think of their jobs as full-time professional positions.

## 26) MASS PRODUCTION AND DISTRIBUTION

Enthusiasm for creative work is dampened when one's work is not carried out to reach its intended audience. Many of the AVGD's productions are not carried through to mass production or distribution.

- a) Paper visual materials (such as charts and maps) have not been mass produced since 1972; masters are simply filed away in Storage.
- b) In-school TV programming was suspended in 1978 due to an accumulation of reception and utilization problems; the TV programs being produced now are seen as "enrichment," not integral to the curriculum.
- c) Other AV materials are reproduced only in small quantities, usually one copy for each educational zone; AVGD designers do not see their creations reaching the classroom level.

## 27) UTILIZATION

Due to many inhibiting factors, there is little actual utilization of AV materials in the classroom. This lack of demand automatically tends to reduce the justification for greater mass production and distribution.

## 28) FACILITIES AND EQUIPMENT

Certain AVGD production divisions are hampered to some degree by inadequate facilities and/or equipment.

a) The TV production studio is not yet fully outfitted.

Exactly what may be needed was not clear, partly because of the ambiguity of the mission of the TV unit, partly because of their reluctance to provide full information on what was now in place.

b) The Photography division is inhibited from doing color slide processing because of broken equipment; their darkrooms suffer from a water system lacking filtration and temperature controls. The proposed "new" laboratory which is under construction is entirely unsatisfactory at this time.

c) The Graphics division is using an antiquated silk screen system; they have no mechanical lettering equipment.

d) The Radio-TV department is called upon to reproduce many audio tapes by request of individual teachers, but it lacks a high-speed tape duplicator.

d) Design, Production, and Clerical departments could produce more adequate print materials with up-to-date spirit-duplicating, mimeo, and xerographic equipment.

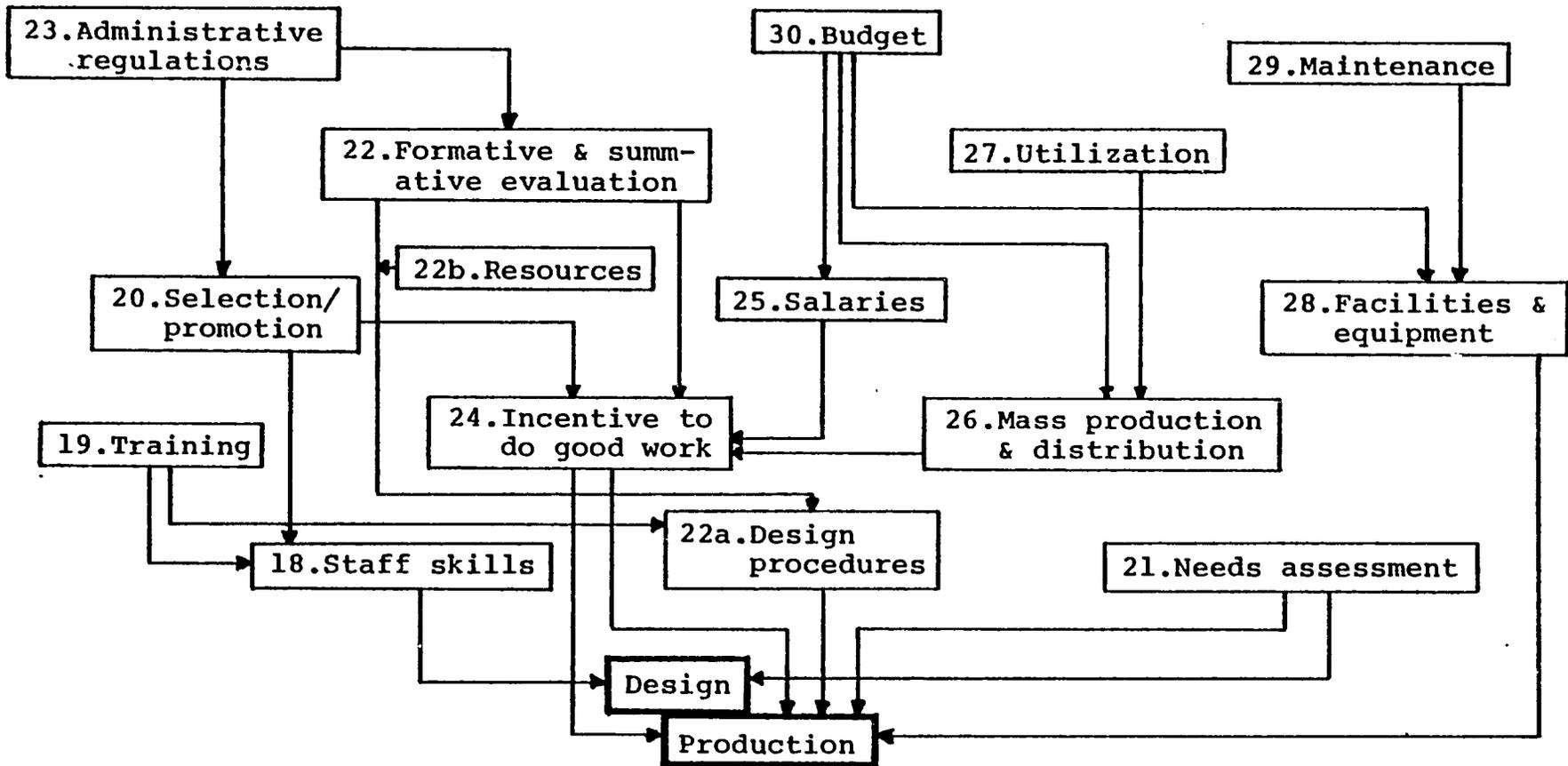
## 29) MAINTENANCE

The proposed television production unit will require sophisticated maintenance skills, which now are clearly lacking in the current AVGD staff. The production sub-system cannot

function unless all the delicate apparatus is kept in top operating condition; this seems quite unlikely at the moment.

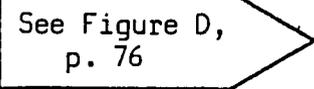
30) BUDGET

The current level of AVGD funding from the Ministry of Education is inadequate to enable effective functioning of such elements as "salaries," "mass production and distribution," and "facilities and equipment."



Problem Structure Number Two - Design/Production

Figure C



See Figure D,  
p. 76

#### MANAGEMENT SUB-PROBLEMS

##### 31) STAFF PERFORMANCE

Although there are many exceptions, there is a general problem of relatively low productivity of the AVGD staff as a whole; work appears to be designed to be labor intensive.

##### 32) JOB DESIRABILITY

Appointment to the AVGD is not sought by most eligible employees. Currently 40% of the authorized positions are vacant, including most of the division heads; many of the best qualified have "escaped" to positions in other Arab countries; and there is little "reserve strength" to replace them.

##### 33) STAFF COMPETENCIES

Many AVGD staff members lack the competencies required to perform their duties to the level which would ordinarily be expected at a national center.

- a) Example - many of the instructional designers lack Education credentials; only one-half have any elementary/secondary teaching experience; in fact, only one has ever taught elementary school. Only one or two have received specific formal training in instructional design or other aspects of instructional media.

- b) Example - none of the eight employees in the Library unit have any training or background in Librarianship. The Film Library is being managed by a young man with only a secondary diploma in metalwork.
- c) Example - in the Maintenance department, only one of the six technicians has a post-secondary Engineering degree. The staff is considered capable of repairing television sets, but none have received specific training with the new Phillips studio equipment nor are they considered able to carry out the system design and engineering which will be required on a day-to-day basis to keep the closed-circuit TV operation going.

#### 34) ENTRY TRAINING

As suggested in #3 above, in many cases new employees are assigned to the AVGD without prior training in the function which they are expected to perform.

#### 35) IN-SERVICE TRAINING

On-the-job training is handled informally, with no special provisions, such as released time for the trainer or the trainee. While in service, the employee has few opportunities for advanced training in his specialization (e. g. three in the Design department had taken workshops in AV equipment operation; two had in-service courses in Education). A handful have had study trips abroad.

## 36) SELECTION

The AVGD lacks control over the selection of its own staff; for the most part this is controlled by the Ministry of Education with little participation by the AVGD. Criteria for appointment do not appear to be based primarily on job competence. For example, it is claimed that currently the Ministry is attempting to trim its central office staff in order to meet the demand for decentralization, so new job openings are being filled by looking first for available central staffers rather than for others elsewhere who might be better qualified.

## 37) PROMOTION AND OTHER PERQUISITES

Promotion to higher positions and other perquisites such as internships abroad are not necessarily based primarily on merit or on overall AVGD need; seniority and other factors often take precedence.

## 38) SALARIES

The salary schedule for the AVGD is the same as for other Ministry of Education employees -- i. e., too low to maintain a life style which an educated professional would ordinarily expect. It means, for instance, that a teacher would be receiving a reduction in income by joining the AVGD staff since he would be losing the tutoring opportunities available to teachers.

## 39) WORKING CONDITIONS

Overall, working conditions in the AVGD are not particularly attractive; the building itself is quite rundown; office and work spaces are rather cramped; there is no central heating; air conditioning reaches only the photo labs, radio-TV studios, and film preview room; many workers lack the basic tools needed to make their work more efficient and effective.

## 40) FACILITIES AND EQUIPMENT

In many ways the AVGD has altered its goals and work methods to adapt to the tools which are available; elsewhere in this report there are discussions of the equipment limitations in such areas as Photography, Graphics, Television, etc. Nearly all functions of the Department suffer from antiquated, obsolete, or insufficient facilities and equipment.

## 41) ADMINISTRATIVE REGULATIONS

- a) Ministry of Education personnel policies do not demand or reward competence as a top priority. Initial appointment, tenure on the job, and promotion revolve around criteria other than merit. This is discussed further in #6 and #7 above.
- b) The role of audiovisual materials in the schools does not appear to be codified adequately in the laws and administrative rules of the Ministry of Education. Thus, the AVGD lacks a clear mandate for its basic minimum responsibilities in regard to education in the Republic.

This inhibits the critical task of defining and pursuing a clear mission. It also makes it difficult to present a persuasive argument for more adequate funding.

- c) Regulations concerning hours of work, overstaffing of some positions, amount and level of work expected, etc. tend to contribute to low productivity.

#### 42) BUDGET

The regular budget provided by the Ministry of Education is inadequate to keep the AVGD equipped and supplied appropriately to do the job expected of it. Similarly, the budget for salaries contributes to the problem of attracting and holding qualified staff.

#### 43) GOAL-SETTING

The AVGD does not appear to have a clear, consistent mandate from above. Its own expressed goals are not particularly congruent with its available resources. . .e. g. "to ensure that teachers have the materials necessary for effective learning." Priorities at any given time suffer from a certain arbitrariness.

#### 44) DESIGN, PRODUCTION, DISTRIBUTION, UTILIZATION, AND OTHER FUNCTIONS

Although they are detailed in other sections of this report, it should be borne in mind that there are management-related problems in a number of AVGD functions other than the Management sub-system itself.

## 45) PLANNING

Although the current leadership of the AVGD has projected a number of short-range plans for the improvement of its services and operations, there does not appear to be a coherent long-range plan systematically describing what the AVGD will be at any given point in the future. The function of planning does not appear to be specifically provided for in the actual activities carried out from day to day.

## 46) EVALUATION

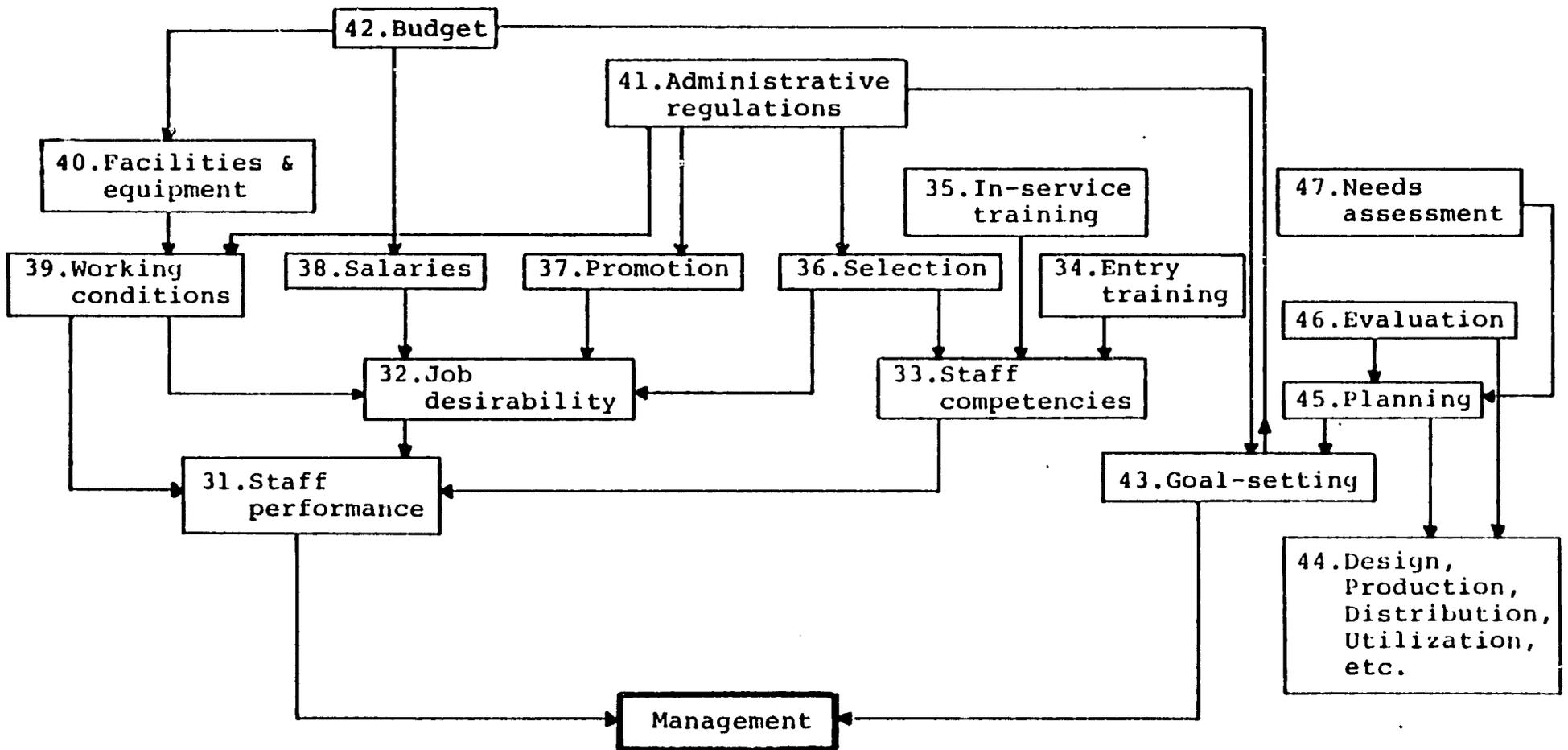
Carrying out this function entails measuring the input and output of each of the sub-systems within the organization. At some point in history there was an "Information and Statistics" unit in the AVGD but it no longer exists. There are many indications that decision-makers lack the data necessary to make rational decisions regarding the success or failure of many AVGD activities.

- a) Example - The size and composition of the audience of radio and TV broadcasts is not known, nor is the impact of these programs measured.
- b) Example - The Film Library is unable to determine the number of booking requests which are denied because the films are unavailable at the time requested ("non-fulfillment rate"). This is one of the most basic data in the film library business.

- c) Example - The AVGD Design and Production departments do not field-test their products to determine their effectiveness prior to final production ("formative evaluation") nor do they gather feedback from teachers regarding the usefulness of the materials which do eventually reach the classroom ("summative evaluation").
- d) Example - Although a number of in-service workshops and other training endeavors are carried out, there is no orderly, reliable measurement of how well these workshops achieve their objectives.

#### 47) NEEDS ASSESSMENT

At the root of many of the decision-making problems is the lack of systematic data gathering regarding the needs of the various target audiences of the AVGD activities. Statistics are not kept, for instance, on what AV materials are available to teachers, which are used, what other ones are needed, and the like. Nor are the many instructional needs prioritized according to logical and consistent criteria.



Problem Structure Number Three - Management

Figure D

#### IV. CONCLUSIONS

The findings of this study are presented above under two major headings: "Status of the Critical Sub-Systems" and "Problem Structures." That is, the findings attempt to explain what exists in the Audio-Visual General Department (AVGD) and what are some of its problems (or "constraints") which inhibit it from full effectiveness.

The purpose of this section is to pull together these two elements into some general observations about the strengths and problems of the AVGD, including its organizational linkages.

##### Management, Planning, Evaluation, Training

The AVGD would not be judged to be a highly productive or efficiently operating system. In the first place, its mandate is unclear. But whatever its mission may be, it lacks the resources -- human and physical -- and some system components needed to play a major role in Egyptian education.

Management decision-making is hindered by unavailability of data required for Planning and Evaluation (cf. Problems (43-47)). In addition, the managers themselves are not necessarily oriented toward the use of evaluative data in their decision-making.

Staff productivity suffers due to some shortcomings in competence -- traceable to problems in selection and training -- and the fact that many of the employees are not particularly keen on being appointed to this agency. Their lack of enthusiasm stems from factors of selection, promotion, salary structure, and working conditions (cf. Problems 31-40). Underlying these conditions are the pervasive

problems of under-funding and certain counter-productive administrative policies of the Ministry of Education.

Brightening this rather bleak picture are some positive influences. The current leadership of the AVGD are ambitious and look forward to having the agency play a major role in the improvement of education. The leadership includes a cadre of "old-timers" who were a part of the AVGD at its origins in the 1950s; they provide continuity and a vision of what can be achieved with more plentiful resources. Line and staff responsibilities are relatively well defined; there is good internal staff communication, which facilitates design/production integration.

The physical plant presents a run-down appearance and it does suffer from inadequate provisions for heating and air conditioning. But the building is of adequate size and condition to support the current level of service. Even with some increase in the level of services the facility should continue to provide the space necessary for its key activities. Further, the building is located in close proximity to the Ain Shams University Faculty of Education, the In-Service Training Department, and some primary, preparatory, and secondary schools; so some sort of unified plan would not be hindered by locational constraints.

Although Planning and Evaluation are not formally provided for, it should be acknowledged that the current leadership has generated a number of proposals for specific, short-range improvements of the AVGD (see, for instance, "Study of the Possibility of Evolution and Strengthening the Services of the Audio-Visual General Department").

Similarly, although the selection, promotion, and internal training practices militate against building a competent staff, several production units are staffed with personnel having especially high competencies in their work -- notably in photography, model making, and science specimens. Further, the AVGD provides a significant amount of training and internship for media personnel from other Arab countries: to some extent it is viewed as a showcase within the Arab World.

#### Design, Production, Distribution

Activities within the Design and Production functions are handled fairly proficiently. The constraints are imposed largely by external factors. Creativity and energy are stifled by the knowledge that few of the products created will ever trickle down to use in classrooms since mass production/distribution capabilities are severely impaired (cf. Problems 24-27).

Failure to assess actual teaching/learning needs systematically and failure to conduct field-testing diminish the usefulness of materials which are produced (cf. Problems 21-22). There is little if any systematic attempt to identify what materials might be procured from external sources rather than being locally produced.

Shortcomings in staff competencies, facilities, and equipment also impinge (cf. Problems 18-20, 28-29) but are generally balanced by a number of strengths in these same areas. For instance, the AVGD designers, albeit not particularly trained in instructional design procedures, have viable working relationships with curriculum coordinators in the Ministry of Education and with the in-house production people.

Despite the constraints on Production functions, there are a number of strong points:

- 1) The AVGD is currently capable of producing virtually all of the most basic audiovisual media: slides, filmstrips, charts, maps, models, specimens, audio recordings, etc.; by the end of 1979 a minimal closed-circuit television studio will also be outfitted (it remains to be seen whether this will become and remain a viable production unit).
- 2) Greatest production strength is in the "non-electric" media, which are especially appropriate for the Egyptian school setting. . .i. e. charts, maps, study prints, models, realia, microscopic slides, and the like.
- 3) The radio production unit includes mature and proven competence in the design of audio programs.

Distribution functions stand out as one of the most troublesome problem clusters within the whole audiovisual system. The existing resources allocated to this field simply do not allow the needed materials to be mass produced and distributed to the appropriate schools. But even here there are some points of strength around which new efforts could be built:

- 1) For a number of media formats the archives include a considerable stock of masters which are well preserved and ready to be put into mass production, e. g. photos, slides, filmstrips, charts, maps, and models.
- 2) A rudimentary film library is operating and could be upgraded to provide loan films throughout the Republic.

- 3) The State broadcasting system already allots time daily for transmitting educational radio and TV programs.
- 4) A rudimentary media distribution network -- a "pipeline" -- involving the AVGD and the zones' AV Divisions is already in operation.

### Utilization

The domain most beset by difficulties is the one which provides the raison d'etre for the entire audiovisual effort; it is at the same time the domain most beyond the control of the AVGD -- the whole domain of Utilization. The AVGD is attempting to provide services within an environment which inhibits media use at every turn.

Teachers are hampered by altogether inadequate AV facilities and equipment (cf. Problems 1-3). Exceedingly few instructional materials reach the individual school; others which might be available in theory are not actually known about and so might as well not exist (cf. Problems 4-10).

Even if these barriers were overcome, Utilization would be reduced because so many teachers lack the competencies and/or the motivation to use AV materials. Weaknesses in pre-service and in-service training coupled with lack of on-the-scene assistance leave many teachers unable to function vis-a-vis AV materials (cf. Problems 14-17). Motivation to use such materials is quashed by a verbal-dominated examination system which does not reward students for visual comprehension; furthermore, the teacher evaluation practices support this tendency. Perhaps most inhibiting of all is the illegal but pervasive practice of

teachers receiving fees for "coaching" students out-of-school, a practice which, in effect, rewards ineffective teaching in school (cf. Problems 11-13)).

Finally, as is the case with so many of the other problem-structures, under-funding and certain counterproductive administrative policies underlie several of the hindrances to Utilization.

### Linkages

In a formal sense the AVGD is not especially well linked to the other agencies with which it shares responsibilities for the improvement of instruction. For instance, the School Libraries Department, the In-Service Training Department, the Ain Shams Faculty of Education, and even the AV Divisions, all report to different Undersecretaries or other authorities in the Ministry of Education. There is no formal mechanism for coordinating their efforts.

On the other hand, over the years the AVGD has built up various informal, often personal, linkages with these other agencies. These informal linkages vary in strength and durability, however. If any one of the top leaders of the AVGD were to leave, certain of the informal linkages would depart with him. At least for the moment, though, a major strength is the support and interest enjoyed by the AVGD at the highest echelons of the Ministry of Education. Part of this linkages has arisen from the rather regular interaction among the AVGD designers and the curriculum consultants in the Ministry. Another point of strength is the history of collaboration with educators at the zone level through the AV Divisions.

### Summary

To make an impact on the improvement of instruction at the classroom level will require solution of problems which are multiple and interrelated. Only a limited number of these problems lie within the Audio-Visual General Department.

The AVGD itself is currently beset by a number of internal shortcomings in terms of personnel, planning, evaluation, and (to a lesser extent) facilities and equipment. Some of its capabilities have atrophied due to under-funding and the policies of the Ministry of Education. However, significant strengths remain around which a new effort might be built. But it must be emphasized that any new effort will have to attack the multiple problems in a coordinated and systematic way if any progress is to result. Remedying only a part of the problematique is unlikely to yield significant, lasting improvement.

## V. RECOMMENDATIONS

### Introduction

This section has been developed as a further extension of the logical process begun in the "Problem Structures" section. That is, for each problem or cluster of problems there are certain remedies which suggest themselves.

The researchers have attempted to be liberal in suggesting a wide array of potential remedies. They have borrowed from many other people's ideas and have contributed some original suggestions. Not all of these ideas may be feasible; some are doubtless "far out" in terms of the current capabilities of the concerned agencies. So this list should be regarded to some extent as "brainstorming."

Which of these recommendations are financially feasible? Which should receive highest administrative priority? What are the likely political/economic consequences of each? These are questions which are beyond the scope of the researchers to answer. They are essentially political decisions and should be made by those in an informed position regarding the Egyptian polity and the polity of AID.

Just one point must be emphasized: it should be abundantly clear by now that any problem-solving approach must take into account the existence of multiple, interconnected sub-problems within the problematique of instructional improvement in the Egyptian education system. ATTACKING JUST ONE CLUSTER OF SUB-PROBLEMS IS UNLIKELY TO YIELD SIGNIFICANT OR LASTING IMPROVEMENT. What is needed is a comprehensive plan with provisions for step-by-step implementation of solutions. This report hopes to provide the road map for that plan.

## HOW TO READ THIS LIST

Each solution statement is numbered and it is cross-referenced to the problem or cluster of problems toward which it is aimed (see the Problem Structure maps, pages 61, 68, and 76).

Each solution statement also suggests whose action might be needed in order to implement that solution.

### ABBREVIATIONS:

AVGD = Audio-Visual General Department

Min Ed = Ministry of Education

Hi Ed = Higher Education institutions, i. e.

Egyptian universities and/or

teachers' institutes

Funder = External funding agency, e. g. AID

Solution Statement	Related to Problem #:	Action by:
MANAGEMENT PROBLEM-STRUCTURE		
<p>1. Draft a realistic, feasible MISSION STATEMENT including specific objectives which can be achieved within the limitations of the organization; EVALUATE the AVGD annually to determine how well these objectives are being met. Use successes to justify future budget increases.</p>	42, 43	AVGD
<p>2. Set up mechanisms (e. g. surveys, headmasters' reports) to regularly gather objective data concerning the NEEDS of the schools regarding learning resources; what is being used, what is useless, what is still needed and desired by teachers. Use data to set PRIORITIES.</p>	45, 47	AVGD
<p>3. With a clear mission statement and clear assessment of needs and priorities, establish mechanisms to EVALUATE THE SUCCESS OF THE AVGD in reaching those goals. Records within each unit should be kept to document progress toward goals. The results of the evaluation should feed into the PLANNING process.</p>	45, 46	AVGD

- |    |  |                  |                |
|----|--|------------------|----------------|
| 4. | Restructure the SELECTION system to provide more qualified employees, e. g. set up job descriptions and select on the basis of COMPETENCIES.   | 32-33, 36,<br>41 | AVGD<br>Min Ed |
| 5. | Identify schools and colleges which are "feeders" of trained personnel into AVGD and other AV agencies. Discuss ways and means of improving their TRAINING to provide a better pool of prospective employees.  | 34               | AVGD<br>Hi Ed  |
| 6. | With specific job descriptions written it should be clear what competencies are needed for each job. For new employees, GENERAL ORIENTATION TRAINING should be uniformly provided, plus ON-THE-JOB TRAINING to make up for any skill deficiencies they might have. A program of IN-SERVICE TRAINING should be available to allow employees to remain current in their skills and to allow upward movement along the career ladder. | 35               | AVGD           |
| 7. | Provide STAFF SCHOLARSHIPS for study abroad and use returned students to provide in-service training to others.  | 35               | Funder         |

- |     |  |                 |                |
|-----|--|-----------------|----------------|
| 8.  | Establish "local apprenticeships" to allow talented teachers to get inside the AVGD and work with the staff in materials development. . .as a way to identify and recruit local talent.  | 35, 36          | AVGD<br>Min Ed |
| 9.  | Provide AVGD building RENOVATION, upgrading of FACILITIES, and additional EQUIPMENT to improve working conditions.   | 31-32,<br>39-40 | Funder         |
| 10. | Restructure the REWARD SYSTEM to encourage productivity; e. g. promote on the basis of MERIT rather than seniority, and supplement salaries to attract the talented.                     | 37-38, 41       | AVGD<br>Min Ed |
| 11. | Undertake political actions to legally establish STANDARDS for learning resources in the schools, e. g. how many textbooks, reference books, charts, maps, etc. per pupil or per school. | 41              | AVGD<br>Min Ed |
| 12. | Re-examine POLICIES which may unnecessarily hinder successful management of AVGD.  | 41              | Min Ed         |

- |     |   |    |                |
|-----|---|----|----------------|
| 13. | Reconsider the role of LABORATORIES within the AVGD structure; it probably should be retained only if the associated secondary school science lab fees provide REVENUE to the AVGD on a continuing basis. | 42 | AVGD<br>Min Ed |
| 14. | Propose an elementary school materials fee to finance basic AV materials and books.   | 42 | AVGD<br>Min Ed |
| 15. | Re-allocate Education budget to support activities which have an IMPACT on educational improvement.   | 42 | Min Ed         |
| 16. | Provide financial assistance to supplement local capabilities where appropriate.  | 42 | Funder         |

Solution Statement	Related to Problem #:	Action by:
DESIGN/PRODUCTION PROBLEM-STRUCTURE		
17. Update and strengthen the designers' INSTRUCTIONAL DESIGN SKILLS through a substantial program of in-service training.	18, 19, 22a	AVGD
18. After determining what new design skills will be required in AVGD's LONG-RANGE PLAN and restructuring design procedures, consider special TRAINING ABROAD to fill needs which cannot be met locally. There is no source for "instructional development" skills training in Egypt.	18, 19, 22a	AVGD Funder
19. Provide incentives for designers to become familiar with the needs and constraints of actual classrooms by OBSERVING AND/OR TEACHING in classrooms of various levels for short periods.	18, 19	AVGD
20. Provide TRAINING ABROAD for TELEVISION DESIGN/PRODUCTION specialists.	18, 19	Funder
21. Base design/production PRIORITIES on assessment of actual NEEDS in schools.	21	AVGD
22. Coordinate AV materials design with TEXTBOOK DESIGN; both should be worked out together using systematic INSTRUCTIONAL DEVELOPMENT PROCEDURES.	22a	AVGD

- |     |  |         |        |
|-----|--|---------|--------|
| 23. | Enhance the collection of the REFERENCE LIBRARY with new AV and Instructional Design books, add subscriptions to AV periodicals (e. g. through Sustaining Membership in AECT), and add more visual reference books.  | 22b, 24 | Funder |
| 24. | As a matter of standard procedure, all materials developed at the AVGD should be subjected to FORMATIVE AND SUMMATIVE EVALUATION in order to determine whether revisions are needed (formative) and whether they are used by teachers and succeed in helping students learn (summative). | 22      | AVGD   |
| 25. | Consider revisions of PERSONNEL POLICIES to ensure appointment and rewarding of the most competent.  | 20, 23  | Min Ed |
| 26. | Consider revision of any regulations which inhibit FIELD-TESTING prototype materials in the classroom.   | 22, 23  | Min Ed |
| 27. | CONSOLIDATE duplicated efforts, such as the Graphics and Photo units operating separately in the Television department.  | 23      | AVGD   |

- |     |   |            |                          |
|-----|---|------------|--------------------------|
| 28. | Provide SALARY AND PROMOTION STRUCTURES which will attract and hold talented professional people and technicians.           | 24, 25, 20 | Min Ed                   |
| 29. | MOTIVATE designers and producers by ensuring that their work is carried through into mass production.                       | 24, 26     | AVGD<br>Min Ed<br>Funder |
| 30. | Provide commodities and/or direct funds to allow continuous MASS PRODUCTION of newly designed materials.                    | 26, 30     | Funder                   |
| 31. | Reconsider AVGD's role in MASS PRODUCTION. Could some AV materials be produced more efficiently or inexpensively elsewhere? | 26         | AVGD<br>Min Ed           |
| 32. | Improve storage facilities for PRESERVING MASTERS, especially paper materials.  | 28         | AVGD                     |
| 33. | Provide new EQUIPMENT to upgrade production capabilities.   | 28         | Funder                   |
| 34. | Equip the AVGD Maintenance units with MODERN DIAGNOSTIC ELECTRONIC TEST EQUIPMENT and up-to-date repair tools.              | 29         | Funder                   |
| 35. | Send TV technicians to the equipment manufacturer for FACTORY TRAINING.   | 29         | Funder                   |

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|--|----|------------------|
| 36. Update all AVGD technicians' training, based on the Long-Range plan indicating what design, production/distribution activities are going to be initiated or continued. Consider American University in Cairo as a training site. | 29 | Funder           |
| 37. Provide financial resources needed to carry out high quality design and production.  | 30 | Min Ed<br>Funder |

Solution Statement	Related to Problem #:	Action by:
UTILIZATION PROBLEM-STRUCTURE		
38. Distribute AV EQUIPMENT more widely by STANDARDIZING on a limited number of brands of equipment (e. g. the Halight projector). Before <u>any</u> item is selected as the standard, obtain samples and <u>test</u> <u>them in use</u> before committing to pur- chase.	1, 3	AVGD
39. Distribute AV EQUIPMENT more widely by taking advantage of GROUP PURCHASING SCHEMES. . .e. g. set up competitive bidding for large volume "state contracts."	1, 3	AVGD Min Ed
40. Re-examine Policies which tend to restrict teacher ACCESS to needed materials and equipment.	1, 3, 4	Min Ed
41. Provide funds for AV EQUIPMENT most needed in schools.	1, 9	Funder
42. Provide funds needed for school building RENOVATION and/or construction.	2, 9	Funder

- |     |   |           |        |
|-----|---|-----------|--------|
| 43. | Design and Construct PREFABRICATED COMPREHENSIVE LIBRARIES. . .an entire one-room building which could be mass produced and moved into place at selected schools.   | 1, 2, 9   | Funder |
| 44. | Combine AV SCHOOL LIBRARIES at the school building level. Librarians serve as "instructional media specialists."  | 4, 11, 14 | Min Ed |
| 45. | Stock the COMPREHENSIVE LIBRARIES with standard collections of reference books and specific AV materials.   | 4         | Funder |
| 46. | Distribute Externally-Produced AV MATERIALS to schools on a massive scale. The exact materials should be identified in consultation with the AVGD, the AV Divisions, and teachers (e. g. a survey of what is most lacking and most desired). They should be materials which are <u>wanted</u> and will be used but cannot be supplied economically by AVGD or AV DIVISIONS. | 4, 5, 7   | Funder |
| 47. | Distribute sets of AV materials to selected schools which would serve as MODELS.  | 4, 5, 7   | Funder |

- |  |           |                |
|--|-----------|----------------|
| 48. Update the AVGD FILM LIBRARY by identifying most demanded titles and obtaining sufficient MULTIPLE PRINTS in new editions. (Also obtain new film inspection/editing equipment and train technicians in its use.)   | 4, 5      | Funder         |
| 49. Establish a program of MOBILE MEDIA VANS to carry materials and training out into the zone and individual school levels.   | 4, 5      | Funder         |
| 50. By providing commodities and/or direct funds, enable the AVGD to MASS-PRODUCE and distribute Key AV materials for which masters are already in stock.  | 4, 5, 6   | Funder<br>AVGD |
| 51. Conduct STUDIES to determine what materials are <u>needed</u> ; analyze whether needs can best be met by purchasing external materials or designing/producing by AVGD, AV DIVISIONS, or teacher self-production.   | 6-10      | AVGD<br>Funder |
| 52. PROMOTE AV SERVICES by preparing and distributing print and non-print information. . .for example:<br>- a BROCHURE (and/or filmstrip or videotape) describing the services and products of the AVGD and Divisions. | 4, 11, 14 | AVGD<br>Funder |

- a NEWSLETTER (and/or media announcements) regularly announcing new products, services, workshops, etc.
  - an updated CATALOG of AVGD products.
- 52a. Investigate and document "COACHING" abuses, then formulate a restructured salary schedule which would reward excellence in teaching -- determined by student mastery of instructional objectives in the classroom. 12a Min Ed
53. Consider reform of EXAMINATION SYSTEM to emphasize understanding and competence rather than mere rote memorization. 11, 12 Min Ed
54. Consider reform of TEACHER EVALUATION SYSTEM (including pre-service practice teaching) to reward teachers for appropriate use of media. 11, 13 Min Ed  
Hi Ed
55. Restructure pre-service and in-service TRAINING OF SCHOOL LIBRARIANS to enable them to effectively manage both print and AV service. 14, 16, 17 Min Ed  
Hi Ed
56. Emphasize pre-service and in-service training to enable TEACHERS TO SELF-PRODUCE MATERIALS. Courses in the teachers' institutes and universities must emphasize more PRACTICAL SKILLS. 15, 16, 17 Min Ed  
Hi Ed

57. Increase IN-SERVICE TRAINING OF TEACHERS IN AUDIOVISUAL UTILIZATION. Use the "multiplier" concept to amplify the AVGD's training efforts: the AVGD and other central agencies thereby serve as the "trainer of trainers". . .the graduates of AVGD programs go on to pass along their new skills to other groups. To implement this will require the development of "PACKAGED INSTRUCTION," training materials which can be picked up and carried to field sites, such as schools.
58. Conduct objective NEEDS ASSESSMENT and EVALUATION studies.

15, 17

AVGD

Min Ed

10

Hi Ed

## SUGGESTIONS REGARDING LINKAGES

It was beyond the scope of this study to analyze in depth the current and potential political relationships among the AVGD and all the other related organizations in Egyptian Education. Nevertheless, since many of the problem-structures branched out beyond the boundaries of the AVGD itself, some superficial attention was given to such linkages. The following suggestions are, therefore, put forward very cautiously. They are not necessarily supported by data, nor can the side effects of such actions be clearly predicted by the researchers.

### Audio-Visual and School Libraries

First, communication and constructive action regarding learning resources is severely hampered by the governmental organization which has separated Audio-Visual and School Libraries not only into separate departments but also under different undersecretaries. These two agencies perform a similar mission -- facilitating access to learning resources -- and could complement each other more effectively if combined into one agency. These functions would also be combined at the school level, with the school librarian taking over responsibility for AV equipment and materials as well as printed materials.\*

At the national level a library - AV merger could capitalize on the complementary strengths of the two agencies, with the Libraries Department's experience as an "inspectorate" with its layers of supervision reading down to the individual schools and the AVGD's experience

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\*By the way, this library - AV merging is a strong trend in other countries, being urged by professional associations in the U. S. and by UNESCO organs internationally. In Egypt, it is represented by the movement toward "comprehensive libraries."

as a designer and producer of learning resources. The new organization should clearly distinguish between and provide mechanisms for these two very different functions.

#### In-Service Department

Since such a merger would entail large-scale and continuous in-service education and since the utilization of materials and introduction of new curricula also entail constant, large-scale in-service education, it would also make sense to create some sort of alliance among the AV, Libraries, and In-Service Training departments, perhaps under the umbrella of instructional development. At the very minimum, these agencies should report to the same undersecretary to improve coordination of their efforts.

#### AV Divisions

Any reorganization should also clarify the relationship between the AVGD and the AV Divisions which now exist at the zone level. At best, the AV Divisions would merge with the School Library operations at the zone level and would be placed under closer supervision and guidance from higher up. Currently the AV Divisions are autonomous for all practical purposes; in many ways their services duplicate and conflict with the presumed Mission of the AVGD. And in the absence of real accountability to knowledgeable peers in educational technology, their practices tend to slip backward away from professionalism.

#### Regional Centers

An organizational plan which seems to serve the In-Service Department well is the operation of four regional centers (at Cairo, Alexandria, Tanta, and Assiyut) to decentralize services while

maintaining coordination. This regional center concept could serve as the backbone for the new, merged Library/AV/In-Service agencies.\*

Figure E illustrates a possible organizational plan for regional centers. It is based on the idea of setting up one such center (e. g. in Cairo) as a prototype. After testing, other centers could be set up in Alexandria, Tanta, and Assiyut.

#### University Linkage

Figure E also goes on to suggest a further set of linkages which are now lacking in the existing arrangement. . .that is, some alliance with a university to provide objective, sophisticated capabilities in such areas as research, evaluation, planning, and curriculum development. Again, Cairo appears to be a convenient model for such an alliance since the Ain Shams Faculty of Education is located directly adjacent to the AVGD and the In-Service Training Department (with its Cairo center in the same building). Despite this proximity and the obvious common interests, there is currently no systematic collaboration among these organizations. The walls built up by means of rigid, separate lines of authority in the Ministry of Education are probably stronger than the merely physical walls which now separate these organizations.

(The special role which Ain Shams Faculty of Education might play in this reformation is discussed in greater detail in Appendix A).

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\*The idea of establishing regional centers to provide learning resources services to education districts has been a successful one in the U. S. If this idea is pursued it is highly recommended to seek advice from one such center, for instance one from the State of Iowa.

Beyond the Cairo region, each of the other three proposed regional centers has a local university which could become a vital partner in its educational improvement efforts.

### "Laboratory" Schools

A final element in the plan visualized in figure E is the addition of a real-life laboratory to each of the regional centers, in the form of linkages with actual schools and teachers' institutes in that region. These "laboratory" schools and teachers' institutes would perform many functions:

- 1) to provide practice teaching sites having enriched resources allowing practice of more sophisticated skills;
- 2) to serve as field-testing sites for new AV prototype materials;
- 3) to be laboratories for research on teaching methods;
- 4) to serve as models which can be visited and emulated by educators from other schools;
- 5) and others. . . .

### Mass Production Roles

On a more mundane level, one other organizational linkage is left unresolved: it has to do with responsibility for mass production of curriculum materials, particularly printed ones (possibly including maps, charts, and other materials now handled by the AVGD). The University/Schools Textbook and Educational Aids Division publishes textbooks for the Republic. In the future, it may have the capacity to mass produce other materials. Careful study should be given to its role vis-a-vis the AVGD in relation to mass production.



### American University in Cairo

Finally, an institution which at the moment has few if any linkages with the Egyptian learning resources agencies is The American University in Cairo (AUC). The Audio-Visual Resource Center at AUC is an outstanding exemplar of a college AV center. It ought to be viewed at least as a model for other universities. Its technical and maintenance services are particularly well managed and effective. In fact, in the opinion of the researchers, few colleges in the world could match its preventive maintenance program. AUC ought to be strongly considered as an in-country training site for audiovisual technicians.

### Overall Coordination

It is assumed that the sorts of reorganizations discussed here would be coordinated by a higher government organ responsible for guiding the whole Basic Education reform. The researchers have discussed this concept with members of the Basic Education Survey Team and feel reasonably confident that the suggestions here will be complementary to their recommendations.

APPENDIX A

AVGD EQUIPMENT LIST

## AVCO EQUIPMENT LIST

Directors of the various units within the Audio-Visual General Department were requested to supply lists of equipment which had been assigned to their unit. The lists were not always complete, and in some instances particularly television department minimal information was supplied. This list is a composite of the information supplied and observations made by the researchers.

Photography

- 5 b/w enlargers (Durst and Micopta, circa 1960)
- 1 Viewlex slide/filmstrip projector
- 1 print washer (broken)
- 1 print dryer (broken)
- 2 flatbed print dryers
- 1 dry mount press (broken)
- 1 paper cutter
- 1 filmstrip duplicator
- 1 color slide copier
- 1 JOBO color processor (broken)
- 2 copy stands
- 2 tripods
- 5 studio lights
- 1 microscope copy stand
- 1 16mm camera (Bell & Howell)
- 7 35mm cameras

- 3 Exacta 1 new, 1 circa 1960
- 1 Praktica new
- 2 Praktica circa 1960
- 1 Leica circa 1960
- 3 view cameras
  - 2 13 x 18 circa 1960
  - 1 18 x 24 circa 1960

### Graphics

- 1 complete silk screen setup (circa 1960)
- 1 compressor and air brush
- 1 Lacey Lucy enlarger reducer
- 1 spirit master duplicator
- 2 pantagraphs
- 1 opaque projector
- a variety of illustration equipment, including technical pens  
and rulers (no templates)

### Specimens

a variety of taxidermy and woodworking equipment

### Models

woodworking tools

sewing machine

drill press

### Television

- 8 video cassette recorders (Phillips VCR M1500, M1520)
- 4 television cameras (Phillips, 2 color, 2 b/w)

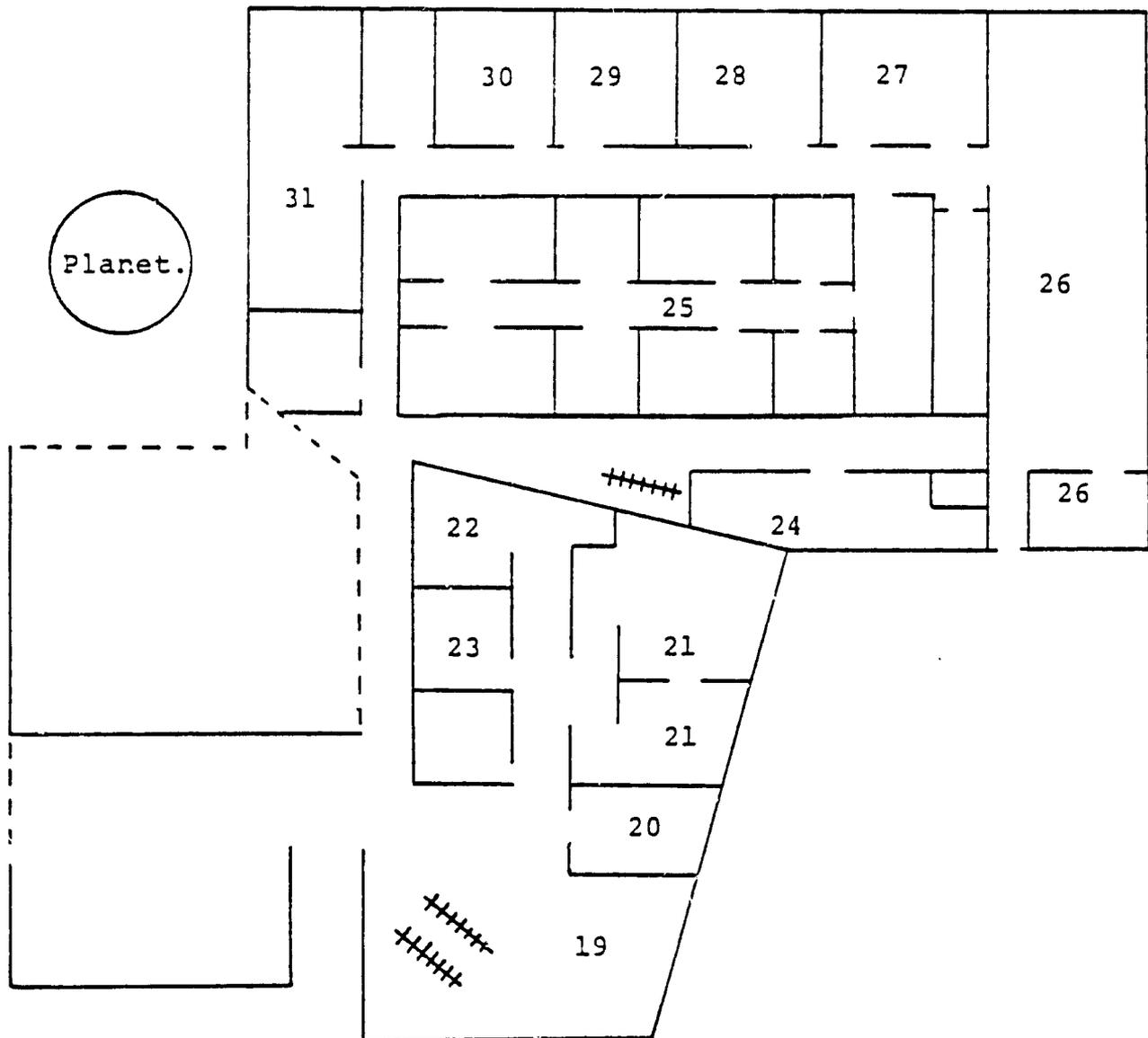
A control room and studio equipped with current Phillips color studio-type equipment (no specifics supplied)

Design and Preview

- 5 16mm projectors
  - Bell & Howell, optical sound
  - Bell & Howell, magnetic sound
  - Victor
  - Okrania
  - Terta
- 1 8mm film loop projector, sound
- 1 8mm film loop projector, silent
- 1 overhead projector
- 1 opaque projector
- 1 slide projector (Gamma)
- 1 slide/filmstrip projector (Viewlex)
- 1 synchronized slide projector
- 1 projection screen
- 1 cassette tape recorder
- 1 record player
- 1 tuner
- 2 amplifiers

APPENDIX B

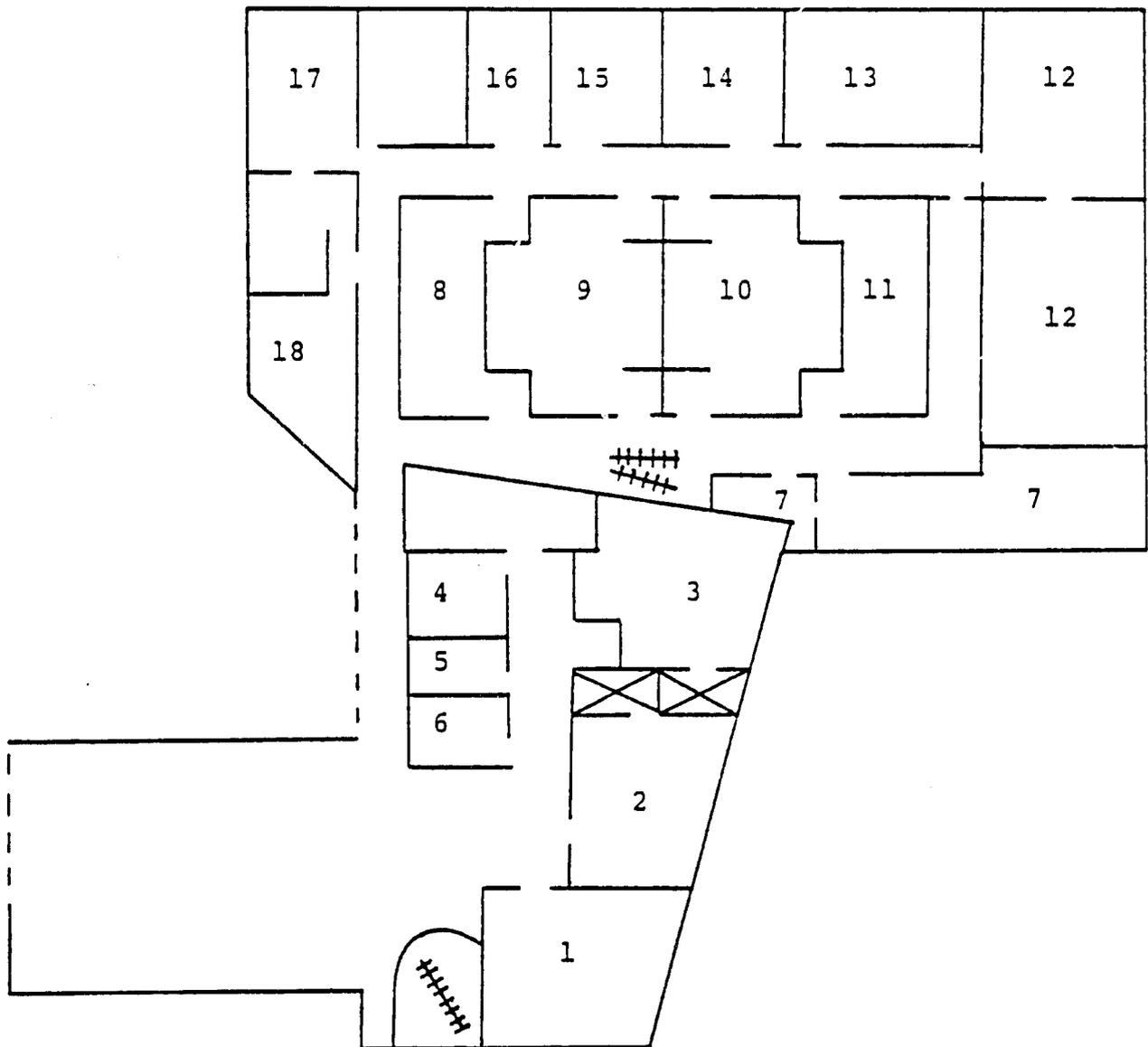
AVGD FLOOR PLAN



GROUND FLOOR AVD

19. Reference Library  
 20. Library Dept. Head  
 21. Film Library  
 22. Chart Library  
 23. Filmstrip Library  
 24. Stores

25. Color Process Lab (under constr.)  
 26. Specimens  
 27. Design Dept.  
 28. Design Dept.  
 29. Design Dept.  
 30. Design Dept.  
 31. Maintenance



## SECOND FLOOR AVD

- |                            |                           |
|----------------------------|---------------------------|
| 1. Dir. General            | 10. Photo Lab             |
| 2. Dir. Design & Deputy DG | 11. Photo Lab             |
| 3. Clerical/Financial      | 12. Graphics & Silkscreen |
| 4. Clerical/Financial      | 13. Photo Div.            |
| 5. Dir. Clerical/Financial | 14. Photo Div.            |
| 6. Dir. General Sec.       | 15. Dir. Production       |
| 7. Models Production       | 16. Div. of Supervising   |
| 8. Photo Archives          | 17. Radio Tapes Archive   |
| 9. Photo Lab               | 18. Radio Studio          |



## THIRD FLOOR AVD

32.Meeting Hall  
 33.Cinema Hall  
 34.Asst. Dir. Radio  
 35.Dir. R/TV  
 36.Asst. Dir. TV  
 37.Script Writer  
 38.Script Writer  
 39.Script Writer  
 40.Script Writer  
 41.R/TV Tape Library

42.R/TV Tape Library  
 43.Technical Lab  
 44.Technical Lab  
 45.Props  
 46.TV Studio  
 47.Control Room  
 48.TV Equipment  
 49.Sound Studio  
 50.Sound Studio

APPENDIX C

EDUCATIONAL TECHNOLOGY AND  
AIN SHAMS UNIVERSITY FACULTY OF EDUCATION

## Introduction

This Appendix aims to assess the present capabilities of Ain Shams University Faculty of Education regarding educational technology and to suggest some possible roles it might play vis-a-vis the Audio-Visual General Department (of the Ministry of Education) in the improvement of Egyptian basic education.

To begin with, there is a semantic problem to be dealt with: the many definitions of "educational technology" which co-exist and get in the way of precise communication. The definition which seems to be held by most of the faculty of the Ain Shams Faculty of Education embraces virtually all applications of "technique" in Education. . . whether for instruction, administration, curriculum development, testing and measurement, psychological counseling, or whatever. We could label this notion as ET(1).

On the other hand, the AID usage and the usage of the Ain Shams professors who are working in this area seem to equate "educational technology" with audiovisual media -- hardware and software. This we could refer to as ET(2).

In the researchers' discussions with the Ain Shams Dean and faculty, there was considerable enthusiasm for ET(1) as an important concept for the reform of Egyptian education. Although it is not necessarily evident in this Appendix, the researchers have given serious consideration to the concept. However, they feel it is beyond the province of this report to explore an issue so broad in these pages. Rather, they will leave it to the broader report of the Basic Education Survey Team to deal in depth with ways and means of supporting research, development, dissemination, and other broad "techniques" in Education.

Therefore, this report will focus primarily on the concept of ET(2) -- educational technology as audiovisual media.

## CAPABILITIES OF THE FACULTY OF EDUCATION

Ain Shams has strong claim to being the leading Faculty of Education in Egypt, possibly even in the whole Arab world. It traces its direct ancestry back to 1925 to support its claim of being the oldest institution of its kind in the Arab world. It currently graduates some 16,000 students a year with B. Sc. and B. A. degrees, another 200 with Master's degrees, and around 80 with the Ph. D. The numbers trend has been uninterruptedly upward for at least the past 20 years (see chart on page 116).

### Students

The gross numbers of students and the rise of graduates in Education should be viewed in the context of the attractiveness of this field as a major. Traditionally, Education has been near the bottom among the disciplines to which Egyptian secondary school graduates compete for entry. The top run has always belonged to Medicine and its adjuncts, Pharmacy and Dentistry. Engineering ranks next, followed by Law, Commerce, and Political Science. The Arts, Sciences, and Education have clustered below all these.

Recently there reportedly has been a shift in favor of Education vs. the Arts and Sciences. A major cause of this has been the continuing high demand for teachers, not only within Egypt but also in other Arab countries. Teaching jobs are not highly remunerative, but they are jobs and do present some further opportunities.

Graduates of Ain Shams Faculty of Education, 1958-1978

YEAR	B. SC. & B. A.	M. A.	PH. D.
1958	550	1	-
1959	980	11	-
1960	1,400	13	2
1961	1,830	18	3
1962	2,160	25	3
1963	2,450	28	4
1964	2,820	38	7
1965	3,150	42	8
1966	3,530	50	11
1967	3,910	59	12
1968	4,260	66	13
1969	4,710	76	17
1970	5,630	84	19
1971	7,130	99	25
1972	8,830	110	33
1973	9,730	122	42
1974	10,860	140	49
1975	12,060	151	55
1976	13,450	166	60
1977	14,790	178	73
1978	16,200	197	81

### The Faculty

Students receive not only their professional training but also their basic academic education within the walls of the Faculty of Education. The academic departments outside of Education are: Biology, Mathematics, Physics and Chemistry, Foreign Languages, Social Sciences, and Arabic Language.

The total faculty numbers some 125 persons: 26 full professors, 32 associate professors, 66 instructors, plus larger numbers of teaching assistants and demonstrators.

Of the total staff of 125, some 36 teach in one of the five departments within Education: Foundations of Education, Curriculum and Methods of Teaching, Comparative Education, Mental Hygiene, and Educational Psychology.

#### Profile of the Education Faculty

During their stay in Cairo, the researchers conducted interviews with many faculty members and distributed a questionnaire to be filled in by the various department heads. The questionnaires basically solicited demographic information about the professors in each unit plus several open-ended items aimed at gathering information about special training, particular competencies in "educational technology," and research interests. All of the departments heads responded except Mental Hygiene; so data were collected on 24 of the 36 faculty members. No names were used on the forms.

All of the 24 individuals for whom data were supplied hold doctoral degrees. The origin of the doctoral degrees is as follows:

Egypt . . . . .	11 (46%)
United States . . . . .	5 (21%)
United Kingdom. . . . .	4 (17%)
USSR. . . . .	3 (13%)
France. . . . .	1 ( 4%)

Concerning previous teaching experience, the Ain Shams faculty rates as quite mature. Of the 22 people responding, the average amount of secondary school teaching experience was six years; the average experience in university teaching was thirteen years. None of the group had had previous experience in elementary school teaching.

The lack of direct experience in elementary school teaching is understandable since teachers for this level are not university graduates but rather of the teacher institutes; in addition, the graduates of Ain Shams are qualified for preparatory and secondary teaching, not elementary. On the other hand, this lack must be viewed as a weakness insofar as the Faculty does teach at least one course in Elementary Education, which is required for all would-be Master's degree students. Further, the Dean reported that approximately 10% of their students are ex-elementary teachers. . .and these tend to be the ablest and most motivated of all their students. Since Ain Shams does have pretensions to leadership in all levels of education and since they intend to play a significant role in the reform of basic education, their credibility and their capability are shaky without a cadre of staff with successful elementary experience.

#### "Educational Technology" Capabilities

Currently, the major activity of the Faculty of Education in the area of "educational technology" in any narrow definition of the term, is the offering of half of one course: the course in teaching methods gives one-half of its time to audiovisual applications. This "educational technology" component meets for one class period per week for one academic year typical enrollment, 40-50 students. It includes about six to eight hours of student time spent in the Educational Media Laboratory described below under "Facilities". The laboratory component is taught by the technician for the Lab; he demonstrates AV equipment operation and some simple materials preparation techniques (e. g. hand-drawn transparencies, mounting, charts and displays, etc.).

The course instructors indicated that students are not held accountable for mastery of skills in the Laboratory area. There is no practical lab exam, and the final course examination does not include questions related to equipment operation or materials preparation.

One infers that students have little incentive for practicing actively with the AV equipment and materials. Emphasis clearly is on the lecture content of the course. Topics covered in the lectures include: communication theory, advantages and limitations of various audiovisual materials, use of environmental aids, Egyptian problems in using educational aids, and sources of AV materials. The examination questions used in the Spring of 1979 dwelt within these areas (e. g. role of teacher regarding various media; application of a communication model; pedagogy of conducting a field trip). This information supports the testimony of former students and Ministry of Education personnel who reported to the researchers that the "educational technology" training given in the universities, including Ain Shams, tended to be "brief and theoretical" and makes little lasting impact on graduates.

This course component is currently being taught by three professors from the department of Curriculum and Methods of Teaching. None of the three -- in fact, none of the six in the department -- had degrees specifically in Educational Technology. One came from Mathematics Education, the second from Social Studies Education, the third from Curriculum and Arabic Language. Others in the department had backgrounds in Math Education and Science Education.

Curiously, in the part of the questionnaire labeled "Any Educational Technology Competencies?" none were listed for any of the Curriculum faculty, nor did any claim "special training" in this area.

In interviews with them, the indication was that the initiative for teaching in this area came from the Dean, not from their own private interests or motivations. One man, the chief among this group, had completed his doctoral dissertation in the area of "correspondence teaching in Egypt." In general, though, there was little evidence of special expertise in practical aspects of audiovisual media or in the broader contemporary concept of educational technology. None of the men interviewed showed acquaintance with primary sources in this field nor were they in touch with international movements in the field.

Several professors outside the Curriculum department were indicated to have some past experiences or interests related to "educational technology." One member of the Foundations department had served as head of a unit of an Egyptian/American audiovisual project and he maintained an interest in educational films, slides, and recordings. Several others indicated competencies which might be relevant to ET(1), the very broad notion of "technique" in Education. . . claiming skills in Systems Analysis, Educational Planning, and Economics of Planning.

#### Facilities Related to Audiovisual Media

Ain Shams was designed by a joint Egyptian/American team around 1956 as part of the Manshiet Al Bakrie complex (including the Audio-Visual General Department and the In-Service Training Department. . . all three components now separated by a ten-foot high wall). The Ain Shams buildings are of a modern type consisting of six classroom and laboratory buildings, two libraries, a student center, administrative offices, and various other classroom and office facilities.

Of particular interest to this study was the state of facilities for the use of audiovisual media. For the most part, classrooms are of the theatre type, accommodating 200-250 students. They are fully booked from 9:00 a.m. until 8:00 p.m. Indications are that they are overcrowded and overscheduled for proper upkeep. They lack adequate lighting and light control (i. e. room darkening for AV presentations) and many appear to have only one electrical outlet, and that at the front of the room. In general, the facilities are not conducive to use of the most common types of electrical media.

Besides the classroom limitations, faculty wishing to use media in their instruction must confront all but insurmountable hurdles. First, any equipment needed must, for all practical purposes, be supplied by one's own department since there is not a functioning centralized AV equipment pool. And even if there were, the classroom buildings have no elevators or ramps for transport up and down. As an example, the one overhead projector in the Biology department had been purchased through the departmental budget but no funds were currently available for its repair. Similar instances were widely reported.

Besides the hardware, any software (e. g. films, filmstrips, overhead transparencies, etc.) which might be considered for classroom use must also be obtained by the individual instructor through his department or from an outside agency such as USIS. No mechanism or budget for centralized ordering exists. In fact, there are no means by which an instructor can have a chart, poster, overhead transparency prepared unless he were to take the initiative to do it himself. Even in such a case there is no budget available for the purchase of materials necessary to effect the production. Based on these constraints

it is remarkable that any media utilization at all goes on. Interviews indicated that such use was rare indeed.

There are, however, three media laboratories reserved for students involved in the "educational technology" course component. They are maintained by a technician who also teaches AV equipment operation and demonstrates simple materials production within the lab unit of the course.

### The Educational Media Laboratories

Lab #1 is basically a small closed-circuit television studio, reportedly used sporadically for microteaching demonstrations. It is equipped with a functioning half-inch video cassette recorder (Phillips N-1502) plus a switcher fed by two industrial-type b/w video cameras (Phillips VC-45). Individual chairs for 25 people occupy the perimeter of the room; reportedly, visits by groups of up to 50 were not uncommon. The walls were draped for improved acoustics.

Lab #2 and Lab #3 are also classroom-sized rooms and are very similar to each other. The rooms are intended for demonstration and practice of AV equipment operation and simple materials production. Both were quite crowded with equipment and appeared to have little table space for student work, especially in view of class sizes of around 50 (presumably split between the two rooms). Both rooms contained numerous items of AV equipment, on tables and stored in locked cabinets. Types of equipment were approximately as follows:

Tape recorders. . . . .	.9
Record players. . . . .	.2
Opaque projectors . . . . .	.5

Filmstrip/slide projectors. . . . .	.4
Overhead projectors . . . . .	.2
16mm film projectors. . . . .	.2
8mm loop projector. . . . .	.1

Although the items were not tested, their physical condition did not appear to be very good and it is unlikely that a very high proportion functioned properly. Further, they represented a true potpourri of brands and models -- Polish, German, Russian, British, American, and Egyptian. Obviously, the lack of standardization has created problems, especially in the acquisition of spare parts and the provision of maintenance.

Both labs displayed samples of student-prepared materials (although a paper cutter was virtually the only mechanical production aid seen). Also in evidence were maps, globes, specimens, posters, and charts from the Audio-Visual General Department.

The use of the Educational Media Labs appeared to be restricted to students in the Curriculum course; other faculty use was not encouraged.

#### POTENTIAL ROLES IN EDUCATIONAL TECHNOLOGY

Despite the constraints described above, the researchers feel that the Ain Shams Faculty of Education can and must play an important role in any future plan for upgrading of "educational technology" -- in the sense of ET(2) -- as part of basic education reform.

The first potential role is as a participant in the "Cairo Regional Center" described in pages 99-104 and illustrated in Figure E. Ain Shams could provide an objective research/evaluation function to help overcome the present total lack of data-gathering for needs assessment

and evaluation purposes within the AVGD (see Problem #10). Also as part of the "Cairo Regional Center" the University could oversee laboratory schools near to the Manshiet El Bakrie complex to provide field-testing sites for formative evaluation of new AV materials produced at the AVGD and new teaching methods which might spring out of the joint research and development efforts of the agencies joined by the tearing down of the walls at Manshiet El Bakrie.

A second and quite irreplaceable role for Ain Shams is as a MODEL teacher training program in the utilization of "educational technology" -- in any of the senses of the term. At present one of the great constraints to improved instruction in the schools in general is the shortcoming in teacher skills in the area of educational technology (Problem #15). This problem is attributable to the sub-problems of inadequate pre-service training (Problem #16) and insufficient and/or ineffective in-service training (Problem #17). Until this piece of the problematique is solved, efforts in the other areas will be quite in vain.

In order to become an exemplary teacher training program in this area, two big limitations must be surmounted. First, the overall Ain Shams faculty use of instructional media must be upgraded. It is a truism throughout the world that "teachers teach as they were taught." Currently Ain Shams graduates receive precious little exposure to appropriate use of media by their own teachers. Overcoming this barrier will require a multi-faceted solution to the logistical problems discussed above, e. g.:

- availability of equipment
- access to software
- provision of local materials preparation facilities
- renovation of classroom facilities
- orientation of faculty toward use of media and  
provision of relevant skills.

The second barrier should be considerably easier to achieve. . . to upgrade and expand the current direct instruction in instructional media utilization. The one-half course will need to be expanded and its emphasis reoriented to give priority to practical skills. To achieve this improvement will require a greater personal commitment and dedication on the part of the faculty currently assigned to this task. This means incentives to get fully involved in educational technology as more than a limited assignment imposed from outside. And it means extensive updating, preferably by means of study at institution(s) abroad which are directly involved in the world mainstream of educational technology (in all its senses).

APPENDIX D

WORK LOAD AND COMPENSATION IN  
EGYPTIAN HIGHER EDUCATION

(AIN SHAMS UNIVERSITY FACULTY OF EDUCATION)

### Basic Work Load and Compensation

- 1) Basic salary requires a set number of hours of teaching contact per week:

Professor. . . . . 8 hours/week

Assoc. Professor . . . . . 10 hours/week

Asst. Professor. . . . . 12 hours/week

Teaching Assistant . . . . . 14 hours/week

- 2) Faculty load also includes 4 hours per week of supervising student teachers in the field; one might supervise 4-8 students per term in their practice teaching.

"University Allowance" is a special supplement added to University faculty salaries; it totals about 30% of the regular salary schedule as a bonus.

### Internal Sources of Extra Compensation

- 1) Teaching at other universities is allowed up to a matching of one's regular salary.
- 2) Hours teaching graduate courses are compensated at double the rate for undergraduate courses.
- 3) Grading examinations pays a bonus.
- 4) Supervising M. A. theses and Ph. D. dissertations provides additional fees.

### External Sources of Extra Compensation

- 1) Royalties on the sales of required textbooks can yield substantial profits. This would vary, of course, with the number of students enrolled in one's courses. Since there are no electives, course requirements being rigidly set, there is

a strong incentive for teaching high-enrollment basic courses. . . and for using a text authored by oneself as the required text. It is not unusual for textbook royalties to exceed a professor's regular salary.

- 2) Research or consulting contracts with outside agencies -- e. g. World Bank, Ministry of Labor, Ministry of Education, ALESCO -- provide direct compensation to participating faculty members. These provide direct payment above one's salary (largely tax-free) by the hour, including time spent in meetings.
- 3) Tutoring outside of class is not allowed, although it is reportedly practiced in highly competitive disciplines, such as Medicine. There does not appear to be a significant demand for tutoring in Education.

APPENDIX E

DAILY SCHEDULE:

MICHAEL MOLEND A AND ANTHONY DIPAOLO

## DAILY SCHEDULE

MICHAEL MOLEND A &amp; ANTHONY DIPAOL O

Day	Date	
1	Sat., May 12	Preparation
2	Sun., May 13	Travel to Cairo
3	Mon., May 14	1) Travel to Cairo. 2) AID orientation with <u>Al Bisset</u> , Director of Office of Education and Human Resources.
4	Tues., May 15	1) Edaret El Wasael El Talimea (Audio Visual General Department - AVGD) orientation with <u>Guirquis Rizk Assaad</u> , Director of Design and Planning Department. 2) Meeting with staff of AVGD Design and Planning Department. 3) Meeting with <u>Don Wilson</u> (USC) of the Basic Education Survey Team. 4) Meeting with <u>Al Bisset</u> (AID).
5	Wed., May 16	1) Ministry of Education meetings to discuss tasks: a) <u>Haleem Grace</u> - Undersecretary for Preparatory and Secondary Education. b) <u>Abdal Aziz Habib</u> - Undersecretary for Central Services. c) <u>Monsour Hussein</u> - Deputy Minister of Education. d) <u>Hassan Ismail</u> - Minister of Education. e) Meeting with <u>Byron Massialus</u> (Florida State) of Basic Education Survey Team.
6	Thurs., May 17	1) Continuation of AVC orientation with <u>Guirquis Risk</u> . 2) Meeting with <u>Ramadan Osman Salem</u> , Director General of AVGD. 3) Meeting with <u>John Hafenrichter</u> (Education Advisor on Materials for Office of Education, Humanitarian Affairs, Science and Technology - AID).
7	Fri., May 18	1) Meeting with <u>Al Bisset</u> (AID). 2) Preparation of survey materials for AVGD.
8	Sat., May 19	1) Research at AVGD. a) Molenda - Met with Design and Planning Department. b) DiPaolo - Met with <u>Artif Haqet</u> , Photography Division Director.

Day	Date	
8 (cont.)		2) Meeting at Ministry of Education Library Department with <u>Hassan Abdel Shaffi</u> , Head of the Division of Planning and Evaluation Department of Libraries and <u>Hassa Bigami</u> , Director of Department of Libraries. 3) Visit to Ministry of Education Professional Library. 4) Visit to Ministry of Education Museum and Director.
9	Sun., May 20	1) Research at Babalouck Teacher Training Institute, Cairo. 2) Research at AV Division of West Cairo. 3) Research at AV Division of North Cairo. 4) Research at Secondary School for Girls adjacent to AV Division of N. Cairo.
10	Mon., May 21	1) Research at AVGD. a) Molenda met with <u>Ramadan Osman Sa' m</u> , AVGD Director General. b) DiPaolo met with <u>Akef Farid</u> , Assistant Director of Media Production Department. 2) Meeting at Ministry of Education In-Service Training Department with <u>Esmat El Zavaf</u> , Director General of In-Service and <u>Soraya Abdullah</u> , Director of Foreign Language In-Service.
11	Tues., May 22	1) Research at AVGD. a) Photography - <u>Atif Haqet</u> , Director Division. b) Graphics - <u>Raga Amin</u> , Director Division. 2) Meeting with <u>Al Bisset</u> .
12	Wed., May 23	1) Research at AVGD. a) <u>Moustafa Ibrahim Abu-Henidy</u> , Deputy Director General. b) <u>Akef Farid</u> , Director, Media Production. c) Clerical/Financial Department review. d) Division of Models - <u>Galel El Bagouri</u> , Director Division. e) Radio/TV Department - <u>Rushdy El Ashwah</u> , Director and <u>Ahmad Josef</u> , Assistant Director. 2) Meeting with <u>Al Bisset</u> .
13	Thurs., May 24	1) Meeting with Ministry of Education Curriculum Consultants in English (2), Science, Social Studies and Math at AVGD.

Day	Date	
13 (cont.)		2) Research at AVGD. a) <u>Moustafa Ibrahim Abu-Menidy</u> . b) Maintenance Department, <u>Hashim Lashim</u> , Director. 3) Meeting with <u>Hader Ghaleb</u> , Professor of Pharmacology, Faculty of Education, Cairo University.
14	Fri., May 25	No work.
15	Sat., May 26	1) Orientation at Ain Shams University, Faculty of Education with <u>Abdel Ghaffar</u> , Dean and <u>Saad Moursi</u> , Chairperson Education Founda- tions Department.
16	Sun., May 27	1) Meeting with Ministry of Education Directors of Education Departments (Primary, Pre- paratory, Secondary and Teacher Training Institutes) at AVGD. 2) Research at AVGD. a) Radio/TV Department. b) Maintenance Department. c) Planning & Design Department.
17	Mon., May 28	1) Preparation of AVGD draft report.
18	Tues., May 29	1) Preparation of AVGD draft report. 2) Research at Department of Science Labora- tories, <u>Shouki Muhammed Hassam</u> , Director. 3) Meeting with <u>Al Bisset</u> .
19	Wed., May 30	1) Preparation of AVGD draft report. 2) Review of report with <u>Guirquis Rizk Assad</u> . 3) Meeting with <u>Robert Richter</u> of the African American Labor Center (AALC). 4) Meeting with <u>Bruce Manzer</u> , Fulbright Librarian at AID/Cairo.
20	Thurs., May 31	1) Meeting at Ministry of Education with <u>Hassan Ismail</u> , <u>Haleem Grace</u> and <u>D. Raqwan</u> , Director of Teacher Syndicate. 2) Continue writing AVGD report. 3) Discussions with <u>John Haffenrichter</u> , <u>Bruce Manzer</u> , and <u>Michael Albin</u> , Library of Congress regarding Egyptian educational publishing.
21	Fri., June 1	1) Continue writing AVGD Preliminary Report. 2) Preparation for Ain Shams Research.



Day	Date	
29	Sat., June 9	<ol style="list-style-type: none"> <li>1) Meeting with <u>Dean A. S. Ghafiar</u>, <u>Dr. Saad Moursi</u>, and others to review Ain Shams Preliminary Report.</li> <li>2) Meeting with <u>Guirquis Rizk Assaad</u> to review final sections of AVGD report.</li> <li>3) Molenda wrote mini-reports for Bisset and Educational Technology definition paper for Balbaa.</li> <li>4) DiPaolo met with <u>Mr. El-Diwalloway</u>, Director General of the Workers Education Assoc., <u>Hussein Hassan</u>, and <u>Robert Richter</u> to discuss audiovisual equipment specifications.</li> </ol>
30	Sun., June 10	<ol style="list-style-type: none"> <li>1) Write Special Summary of AVGD report for Minister of Education.</li> <li>2) Continue writing Ain Shams Appendix.</li> <li>3) DiPaolo continue AV specifications report for Workers' Education Association.</li> <li>4) Begin editing of AVGD Final Report.</li> <li>5) Informal meeting with <u>Norman</u> and <u>Judy Gary</u>, TEFL program at Ain Shams University.</li> </ol>
31	Mon., June 11	<ol style="list-style-type: none"> <li>1) Meet with Minister of Education, <u>Hassan Ismail</u>, for final review of findings and recommendations of AVGD Report.</li> <li>2) Work with <u>Guirquis Rizk Assaad</u> to prepare paper to accompany Final Report in which a suggested sequence is given for the Recommendations.</li> <li>3) DiPaolo met with <u>Robert Richter</u> to review final AV equipment specifications.</li> <li>4) Continue writing Ain Shams Appendix.</li> </ol>
32	Tues., June 12	<ol style="list-style-type: none"> <li>1) Continue writing Ain Shams Appendix.</li> <li>2) Write Executive Summary.</li> <li>3) Meet with <u>Stanley Applegate</u>, AID, to review findings and recommendations of final report.</li> </ol>
33	Wed., June 13	<ol style="list-style-type: none"> <li>1) Rewriting and editing of Final Report Draft.</li> <li>2) Specify remaining work to be done</li> <li>3) Xerox all work completed to date.</li> </ol>
34	Thurs., June 14	International Travel: return to U. S. A.
35	Fri., June 15	Writing additional material for Final Report.
36	Mon., June 18	Final rewriting and editing of Final Report.