DOCUMENT RESUME

ED 029 822 SP 002 603

The EPIC Brief: A Description of the EPIC Evaluation Center.
EPIC Evaluation Center, Tucson, Ariz.
Spons Agency-Office of Education (DHEW), Washington, D.C.
Pub Date [68]
Note-19p.; The EPIC Brief, Issue No. 1
Available from-EPIC Evaluation Center, 1034 East Adams, Tucson, Arizona
EDRS Price MF-$0.25 HC-$1.05
Descriptors-Administrative Organization, Curriculum Evaluation, *Demonstration Centers, Program Evaluation, Regional Programs, *Supplementary Educational Centers
Identifiers-*EPIC Evaluation Center, Evaluative Programs for Innovative Curriculums

This initial issue describes the development, organization, staff, and facilities of the EPIC (Evaluative Programs for Innovative Curriculums) Evaluation Center, a cooperative effort of the U.S. Office of Education (under Title III of the Elementary and Secondary Education Act), the University of Arizona (College of Education), and the public and nonpublic schools of Arizona. Introductory sections trace the historical background and philosophy of the Center, which began in 1967 to provide educational agencies with technical assistance, facilities, and inservice training programs necessary for them to assess their current and innovative instructional programs. The major section describes the organization of the Center (under a director responsible to a board of directors) and the responsibilities of each of the two divisions: the Field Services Division, which established and maintains contact with school districts requesting Center services, and the Evaluation Services Division, which (1) provides technical assistance for the selection of treatments, measurement instruments, evaluation designs and statistical analyses; (2) processes data; and (3) reports the results of the evaluation process. Job responsibilities are outlined for the division coordinators and the 11 members of their professional staffs. The Center's data processing equipment and inservice training programs are also described. (This document is related to SP 002 101. RIE August 1969.) (JS)

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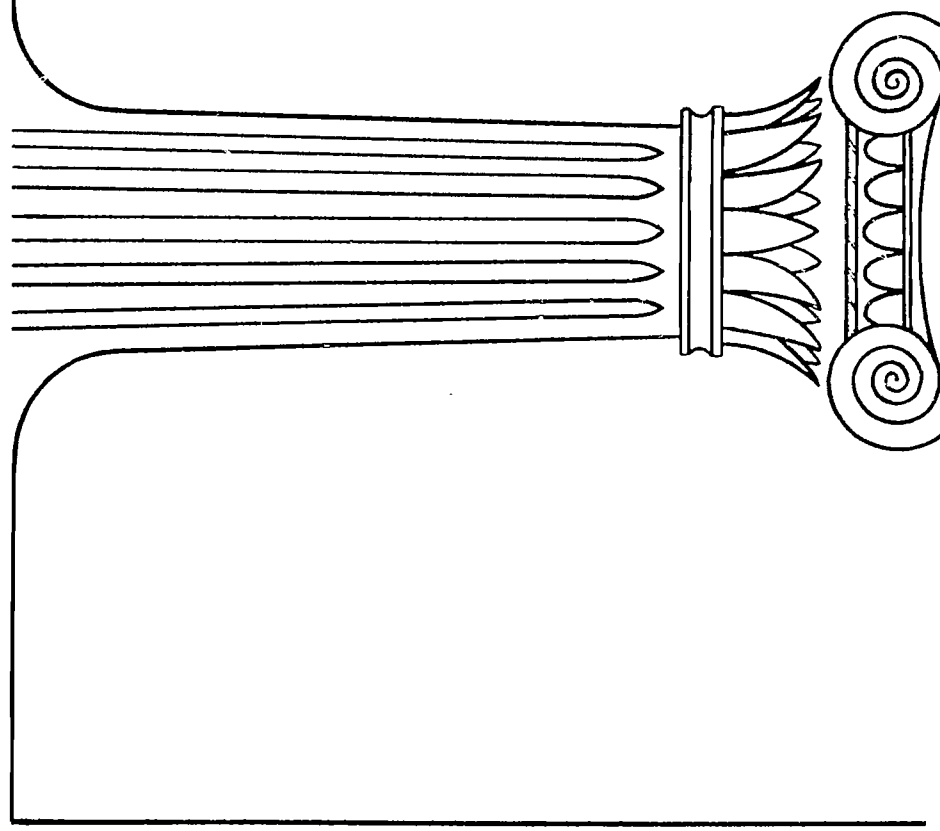
The EPIC BRIEF

A DESCRIPTION
OF THE
EPIC EVALUATION CENTER



EVALUATIVE PROGRAMS for INNOVATIVE CURRICULUMS

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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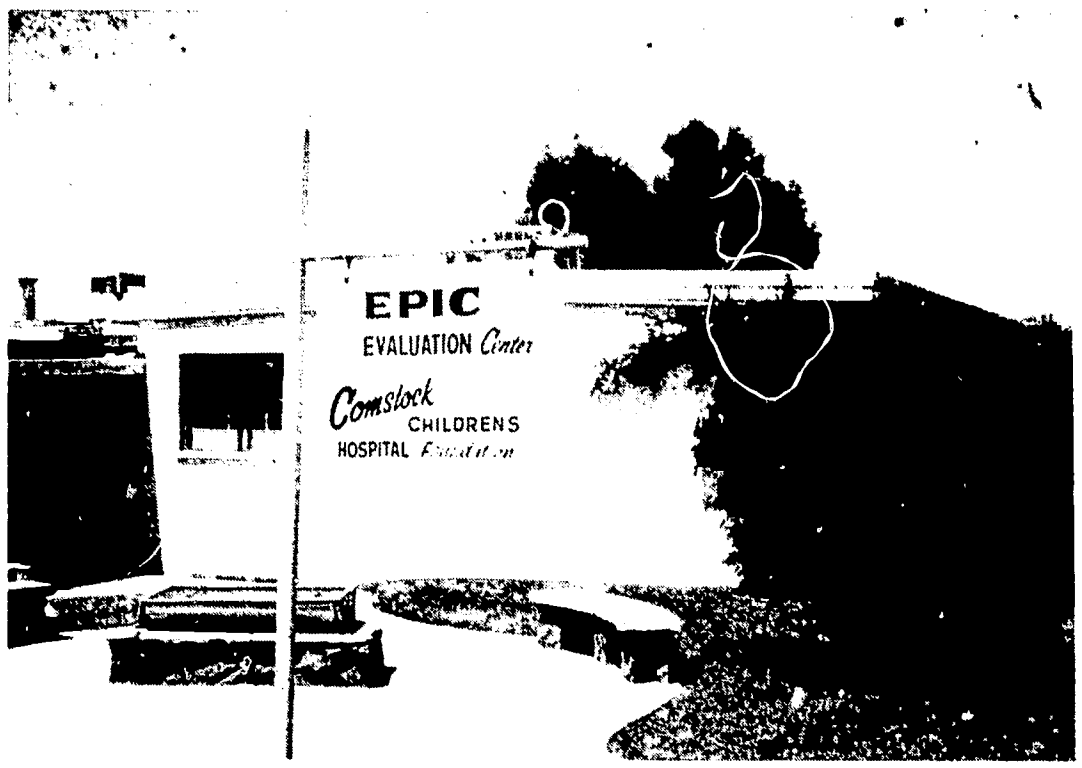
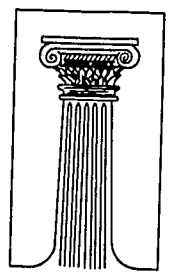
Issue #1 of the EPIC BRIEF is published by the EPIC Evaluation Center, 1034 East Adams, Tucson, Arizona.



EPIC EVALUATION CENTER
1034 East Adams
Tucson, Arizona

Established July 1, 1967, the EPIC Evaluation Center is supported by the U.S. Office of Education under the Elementary and Secondary Education Act of 1965, P.L. 89-10, Title III. Although it is federally funded, the Center basically functions as a regional evaluation center with its control, leadership, and services guided by the educational needs of the region it serves.



PREFACE

The EPIC Evaluation Center represents a unique cooperative effort with the U. S. Office of Education, The University of Arizona (College of Education), and the public and non-public schools of Arizona to produce an exemplary innovative approach to the problem of evaluation.

The creation and development of a center for the purpose of providing educational agencies with the technical assistance and facilities necessary to develop and maintain sound and continuous programs of evaluation resulted from a year of intensive planning by a team of educators. As EPIC progressed through its initial year of operation (1967-68) a center concept was implemented, evaluated, and refined. The purpose of this initial issue of the EPIC BRIEF is to describe the development, organization, staff, and facilities of the EPIC Evaluation Center.

HISTORICAL OVERVIEW AND DEVELOPMENT OF THE EPIC EVALUATION CENTER

The need for a systematic approach to the evaluation of innovations has become one of education's most pressing problems. Only by systematic evaluation can education avoid the fads, pressures, pendulum-swingings of educational practice and address itself to the basic question concerning an educational innovation: Is it really effective in achieving its expressed objectives?

Title III of the Elementary and Secondary Education Act of 1965 placed high priority on the funding of innovative and exemplary education programs. Public and private schools have been given the responsibility, through Federal support, for utilizing knowledge and ideas from research. In addition to this application of knowledge through research, comes the request for programs designed to share information relating to the strengths and weaknesses of the innovations derived from research. This use in sharing new ideas requires effective procedures for appraising and reporting the results of attempts made by those educational agencies that have accepted the challenge for change.

The EPIC Evaluation Center, created to meet this challenge, has attempted to produce an innovative and exemplary approach to the problem of evaluating instructional programs. EPIC represents an approach to evaluation created through a structure and scheme for the analysis of variables acting on a given innovation or program, and a Center to provide the facilities and services necessary to apply the program. The courage to try new programs requires the support of appropriate technical assistance and facilities.

The EPIC Evaluation Center became operational on July 1, 1967, following a year of intensive study by a team of educators representing various disciplines. The results of the previous year's planning were incorporated during the initial operational year (1967-68). The EPIC Structure and Scheme for Evaluation were applied to the instructional programs of selected elementary and secondary schools in Arizona. Thus, a proposal that began with an innovative approach to evaluation evolved into a practical and functional approach. Various modifications in organization and procedures have taken place since EPIC's conception; however, at present (1968-69) it is practical to describe the EPIC Evaluation Center as truly an exemplary approach to the problem of evaluation.

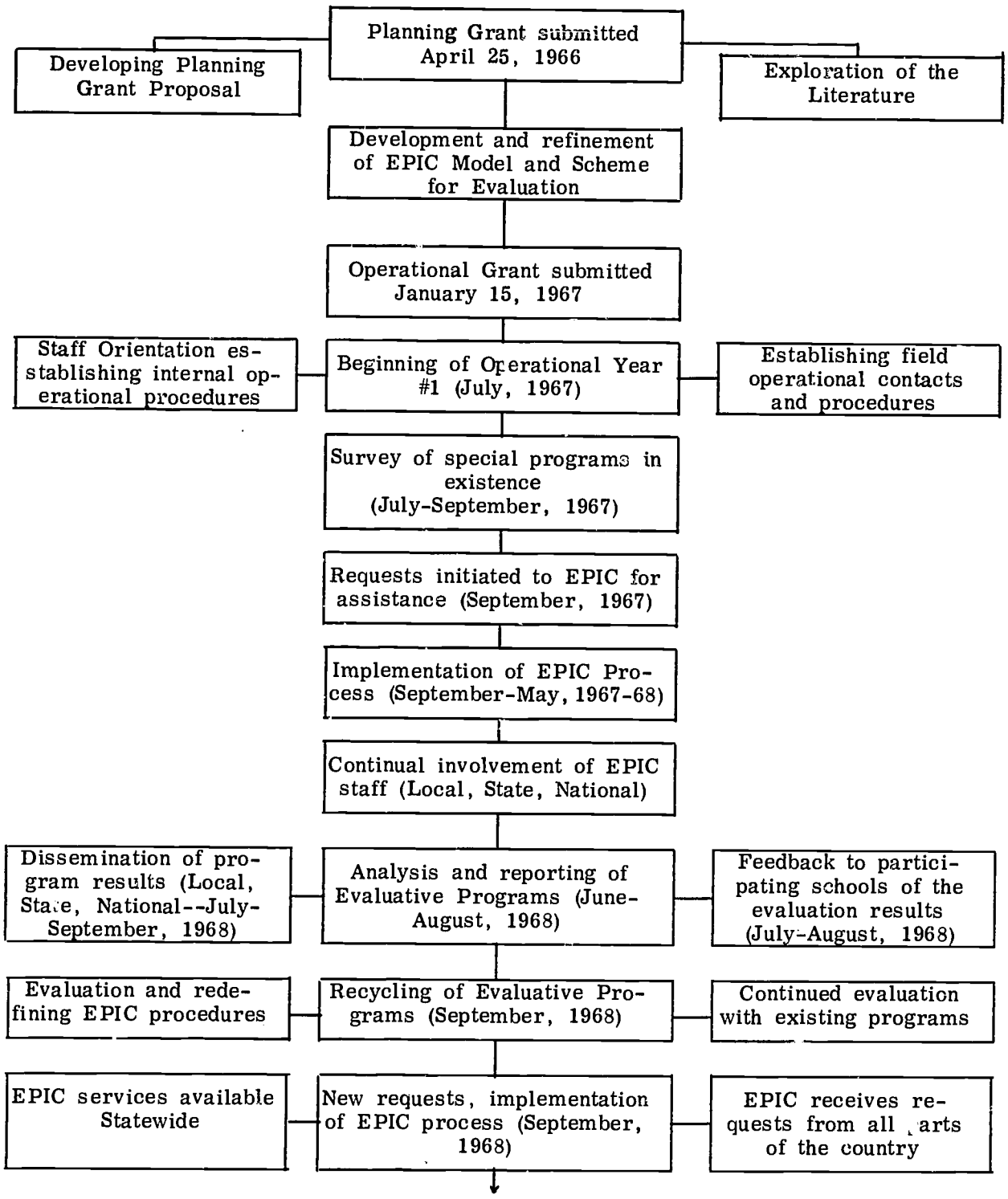
Figure 1 describes the stages in the development of the EPIC Evaluation Center.

PHILOSOPHY OF THE EPIC EVALUATION CENTER

The EPIC staff believes that many school districts seek aid in the form of evaluation tools and personnel to adequately assess their current and innovative instructional programs. Applying evaluation to the classroom requires technical assistance, hardware, and in-service training programs beyond the resources of most school districts. The primary purpose of the EPIC Evaluation Center is to assist schools in the evaluation process and in the design of appropriate evaluation techniques. EPIC does not function as an outside evaluation agency, but operates on the principle that evaluation must be a product of local schools. Evaluation service agencies should work only as consultants in developing and strengthening skills required by professional educators to successfully accomplish the task of assessment. EPIC is a service agency--staffed, structured, and equipped to aid educators in answering the ever-present question: "How well are we doing our jobs?"

FIGURE 1

DEVELOPMENT OF THE EPIC EVALUATION CENTER



ORGANIZATION OF THE EPIC EVALUATION CENTER

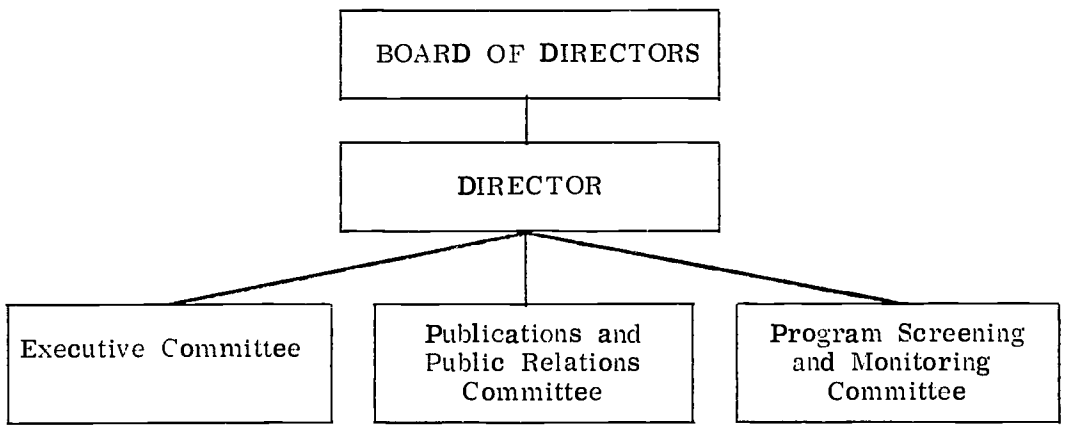
The EPIC Evaluation Center is responsible to its Board of Directors, whose members represent the Arizona educational agencies and school districts which supported the initial application for funding under Title III of the Elementary and Secondary Education Act of 1965--Ajo Public Schools, Amphitheater Public Schools, Buena Public Schools, Catalina Foothills Schools, College of Education (The University of Arizona), Flowing Wells Public Schools, Marana Public Schools, Nogales Public Schools, Patagonia Union High School, Pima County Public Schools, Sahuarita Public Schools, San Manuel Public Schools, Sells Public Schools, State Department of Public Instruction, Sunnyside Public Schools, Tucson Diocesan Catholic Schools, and the Tucson District #1 Public Schools.

General supervision of the activities of the EPIC Evaluation Center is the responsibility of the Director. In addition to maintaining close contact with the involvement of EPIC in assisting schools and agencies in evaluation programs, an important responsibility of the Director is to develop and maintain liaison with the state and national level agencies concerned with EPIC's progress.

The Assistant Director and Division Coordinators (Evaluation Services and Field Services) assume administrative responsibilities, as well as assisting the Director in the formulation of policies and procedures relating to the day-to-day operation of the Center. The Organizational Structure of the EPIC Evaluation Center is shown in Figure 2 (page 4).

Other administrative and operational procedures, as well as overall development and planning, are the responsibilities of the committees within the Center. The specific responsibilities and membership of each committee are described in the EPIC Policy and Procedure Manual. Figure 3 explains the EPIC Committee Structure.

FIGURE 3
EPIC COMMITTEE STRUCTURE



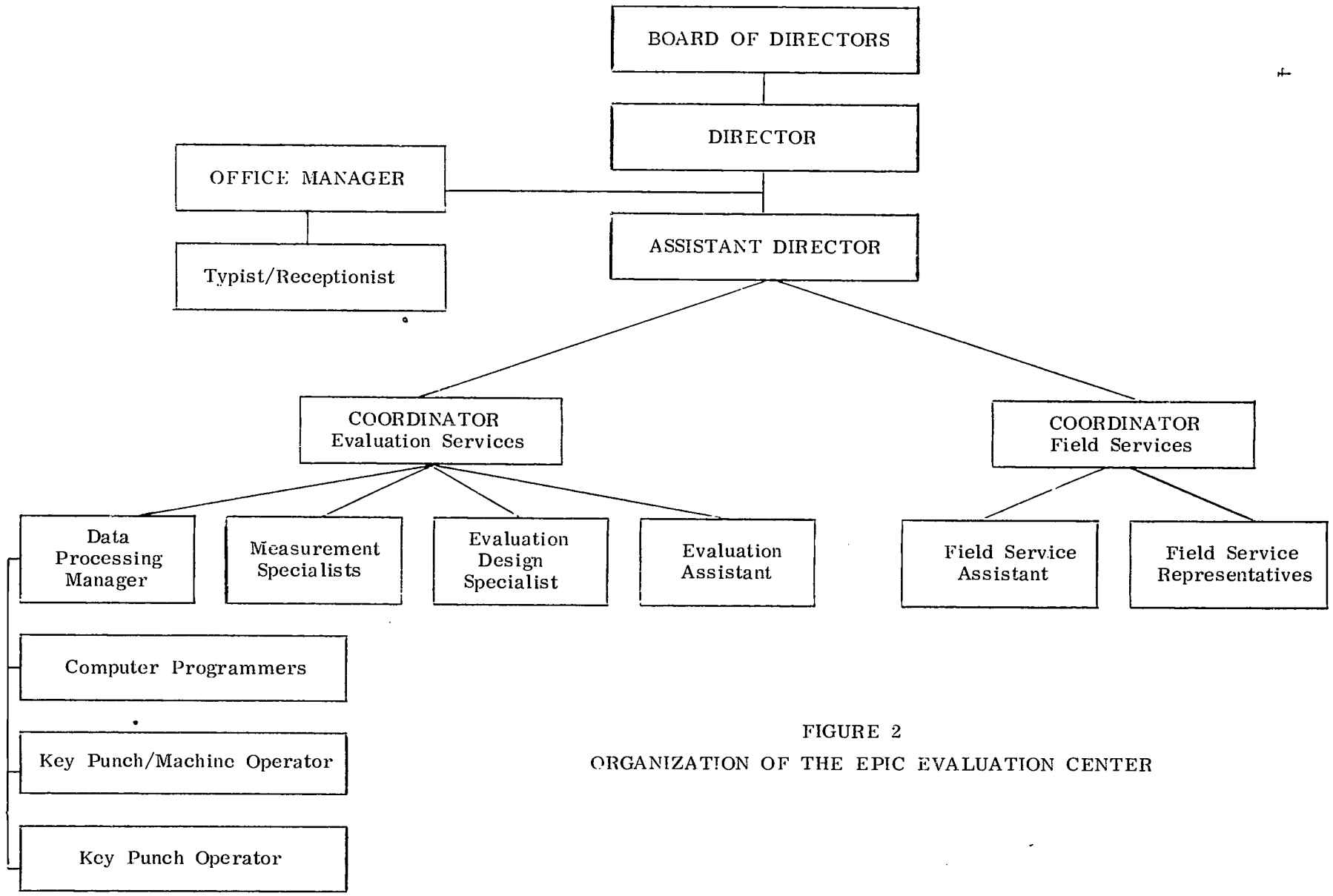


FIGURE 2
ORGANIZATION OF THE EPIC EVALUATION CENTER

THE TWO DIVISIONS OF THE EPIC EVALUATION CENTER

The Field Services Division and Evaluation Services Division are the two major Divisions of the EPIC Evaluation Center. While each Division has many distinct responsibilities, there are many activities and functions undertaken by the Center in which the two Divisions complement each other. The Coordinator of each Division is responsible for the operation of his respective Division and is in turn responsible to the Director of EPIC.

Figure 4 (page 6) presents the major functions of the Field Services and Evaluation Services Divisions of the EPIC Evaluation Center. The two Divisions are discussed in some detail in the following pages.

FIELD SERVICES DIVISION

INTRODUCTION

The Field Services Division is under the direct supervision of its Coordinator. The staff of the Field Services Division currently has five Field Service Representatives and one Field Service Assistant.

The primary function of this Division is to establish and maintain contact with those school programs requesting the services of the EPIC Evaluation Center. After a request for service is received by the Center, the first contact with personnel of the program is usually made by a Field Service Representative, at which time the initial interview and on-site survey are conducted. The purpose of this interview and survey is to gather pertinent information describing the program. During the initial interview, information is gathered

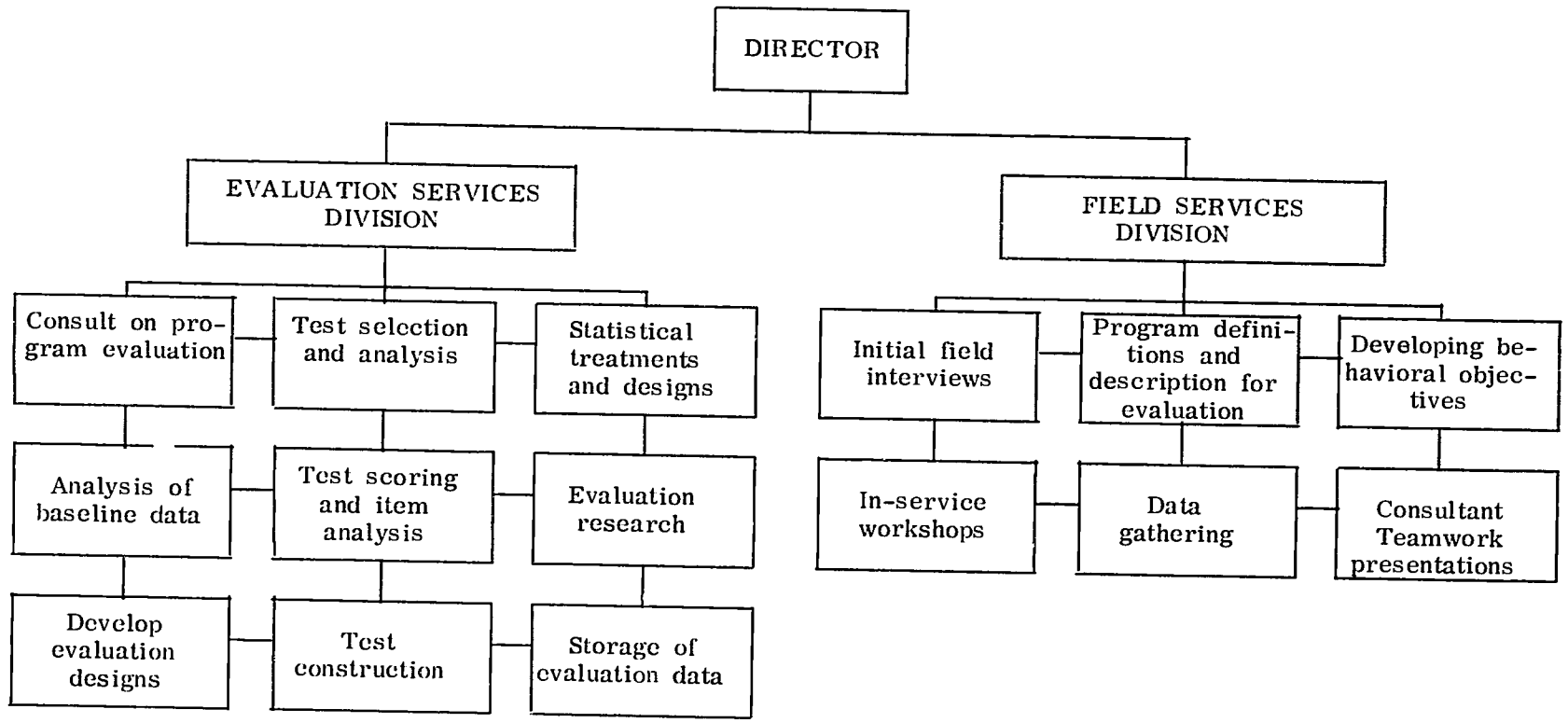


FIGURE 4

FUNCTIONS OF THE TWO MAJOR DIVISIONS OF EPIC

concerning the origin and background of the program. A brief written description of the program, personnel involved, and other pertinent information which will assist the Center in initiating evaluative procedures are also obtained at this time. The Field Service Representative is the communications link between the Center, the teachers, and administrators in the field. This contact is maintained by personal visits, telephone conversations, and letters during the entire evaluation process.

COORDINATOR

The Coordinator of the Field Services Division has the responsibility for supervising the activities of the Field Services Division, and coordinating its responsibilities with the Evaluation Services Division. Specifically, the Coordinator (1) responds to requests for service from school districts and agencies, (2) assigns Field Service Representatives to each accepted program, (3) maintains frequent contact with all programs, (4) assists in the selection and training of the staff, (5) periodically reports the progress of each program, and (6) assists in the formulation and implementation of general policies and procedures of the EPIC Evaluation Center.

REPRESENTATIVES

The Field Service Representatives are assigned full responsibility for given programs, and this responsibility includes: (1) the initial interview and on-site survey (includes write-up), (2) developing a folder on each assigned program for the Field Services Division file, (3) maintaining frequent contact (letter, telephone, personal visit) with assigned programs, (4) assisting in the data gathering, (5) collecting information which provides descriptive details concerning the participating students, teachers, school, and community, (6) continual monitoring of program to provide for the actual program description, (7) writing of program descriptions, and with the assistance of the Evaluation Services Division personnel, finalizing the program write-up following completion of evaluation, (8) assisting the school district personnel in the recycling process: that is, making decisions for program changes or future evaluation, and (9) assisting in the development and implementation of EPIC workshops and in-service training activities.

As evaluative programs are implemented, the Field Service Representative has two extremely important responsibilities. First, he advises and assists the program personnel in the collection of data necessary and required in the mutually accepted evaluation design. This implies that the monitoring procedures employed by the Field Service Representative adhere to the predetermined program calendar. A second, and somewhat related responsibility, is that of assisting the program personnel to develop an "actual program" description as the instruction takes place. This enables the Field Service Representative to identify the variations in the actual program from the planned program in order to make the necessary adjustments in the evaluation process. It also provides the necessary information from which to draw conclusions and make decisions following the termination of a program.

EVALUATION SERVICES DIVISION

INTRODUCTION

The three primary functions of the Evaluation Services Division are: (1) providing technical assistance for the selection of treatments, measurement instruments, evaluation designs, and statistical analyses, (2) processing data, and (3) reporting the results of the evaluation process.

The assistance given in the selection of treatment is, in most cases, limited. The nature of the program to be evaluated dictates the nature of the treatment to be administered. However, certain programs permit a degree of flexibility in the treatment. For these cases, the Evaluation Design Specialist recommends a specific treatment which will optimize the evaluation process.

The role of the Evaluation Services Division in the measurement process is to ensure the appropriateness of measuring devices and procedures. To support this role, a file of published and unpublished instruments is maintained. This file contains reliability and validity information on those tests for which it is available. However, many programs have measurement needs for which no instruments exist. In such cases, the personnel of the Evaluation Services Division devise or construct the necessary instruments.

For a program to be evaluated, the process of selecting treatments and measurement devices delimits the general form of the evaluation design. The Evaluation Services Design Specialist then selects a specific evaluation design appropriate to the problems involved. It is within the framework of this design that tests, selected by a Measurement Specialist, determine whether or not the objectives of a program have been met.

Depending on the particular evaluation design selected, the tests of the program's objectives are based on several of the standard statistical procedures.

In most cases, the evaluation design dictates the statistic to be used. Further exploratory statistical analyses are often selected in addition to the planned tests of the objectives. Such exploratory analyses are selected in order to maximize the information available for input into future evaluations. Conditions which affect the functioning of a program frequently are not known and can only be discovered by means of exploratory statistical analyses.

Before processing data, information concerning students, teachers, the school, and specific data related to each program is collected. Student and teacher identification numbers are assigned for each individual, to identify him for as long as he is associated with the Evaluation Center. Test data collected by the Center is formated into the test data file, using a predetermined scheme.

If possible, data is collected on test scoring answer sheets to be scored and punched automatically. When answer sheets cannot be used, the data is punched from the original test documents into data processing cards.

After the data has been analyzed and compared to the program objectives, a written report of the results is preapred. This report provides school personnel with feedback concerning the degree to which their program objectives have been met.

This feedback is used to begin the recycling process, and those objectives which were not accomplished, along with new objectives, are considered for future or on-going evaluation.

The Evaluation Services Division currently has a staff of ten persons, four of whom hold advanced degrees in their respective fields.

COORD'NATOR

The Coordinator of the Evaluation Services Division has the responsibility for supervising and coordinating all activities and programs with the Field Services Division, and maintaining liaison with the Director. In addition, the Coordinator (1) selects and classifies personnel, (2) assigns general and specific responsibilities to the personnel in the Division, and (3) prepares and approves reports and materials for publication originating within the Division.

SPECIALISTS

The Evaluation Design Specialist is responsible to the Division Coordinator. His main responsibilities are to: (1) develop the evaluation designs for those programs undertaken by the EPIC Evaluation Center, (2) supervise the collection of pertinent research data for the purpose of evaluating selected instructional programs, (3) provide statistical procedures and methods for the programs undergoing evaluation, and (4) assist in in-service training in statistical design and analysis, objective writing, and the use of evaluative instruments.

There are two Measurement Specialists directly responsible to the Coordinator. Their main duties are to: (1) supervise the construction of scales,

questionnaires, and other such instruments as required for the evaluation of the programs, (2) compile and make available normative data, standardized and nonstandardized tests for use in evaluation, and (3) assist with in-service training on the local school level in the areas of statistical design and analysis, objective writing, and the gathering and interpretation of normative data.

The Data Processing Manager, who is also responsible directly to the Coordinator of the Division, plans and directs the activities of the data processing facility. His specific responsibilities are to: (1) develop and design cards, forms, computer programs, and other materials necessary for the efficient functioning of the processing facility, (2) develop storage and classification systems for collected information, (3) supervise the operation, scheduling, and use of all computer equipment in the data processing facility, and (4) assist with in-service training in the uses of computer equipment in the educational setting.

The Evaluation Assistant is directly responsible to the Coordinator of the Division. His main responsibility is to assist Specialists in the development of evaluation design and statistical analysis procedures. In addition, he assists in any in-service training carried out at the local school level by the Center.

The Machine and Keypunch Operators are directly responsible to the Data Processing Manager, who in turn assigns them specific duties in terms of the operation and use of the equipment. In addition, the machine and keypunch operators are responsible for maintaining all information and data files.

The Division has two Programmers who are responsible to the Data Processing Manager. Their main responsibility is to write the computer programs necessary for the processing of data collected for the evaluation of selected instructional programs.

COMPUTER FACILITIES

The processing of data, using an electronic digital computer and supportive equipment, is an integral part of the Evaluation Services Division.

Equipment

The data processing equipment in use at the EPIC Evaluation Center is best described in terms of the functions it performs.

Input--data is received by the Evaluation Services Division from two sources:

1. from programs in the local schools (e.g., student information forms and test answer sheets), and
2. from within the Center (e.g., time accounting forms and program status information).

All data is punched into cards. Where applicable, machine-readable test answer sheets are used and data is punched automatically using the IBM 1230 optical mark scoring reader in conjunction with the IBM 534 keypunch. Other data is punched by hand on the IBM 029 keypunch, and the punched output verified using the IBM 059 verifier.

Processing and Output--An IBM 083 sorter is used to order data into a meaningful sequence and to separate data into groups.

An electronic digital computer, the IBM Model 20 System 360, is the principle device used in the processing and output of data. The Model 20 is equipped with a 2560 multi-function card machine and a 2203 printer. The 2560 performs the functions of reading input and punching output, as well as selecting data cards, matching, merging, and selective printing on cards. The 2203 provides printed output of results at the rate of 250-600 lines per minute.

An unlimited number of applications may be performed using the Model 20. Some forty applications, useful in the processing of data received by the Evaluation Services Division, have been defined and computer programs written for each.

Applications

Applications in use may be categorized into three major areas:

Statistical Application

1. Pearson Product Moment Correlation
2. Point Biserial Correlation
3. Means and Standard Deviations
4. Chi square
5. Intercorrelation Matrix
6. Analysis of Variance
7. Dependent t-tests
8. Independent t-tests
9. Covariance
10. Factor Analysis

Program Information Storage and Retrieval

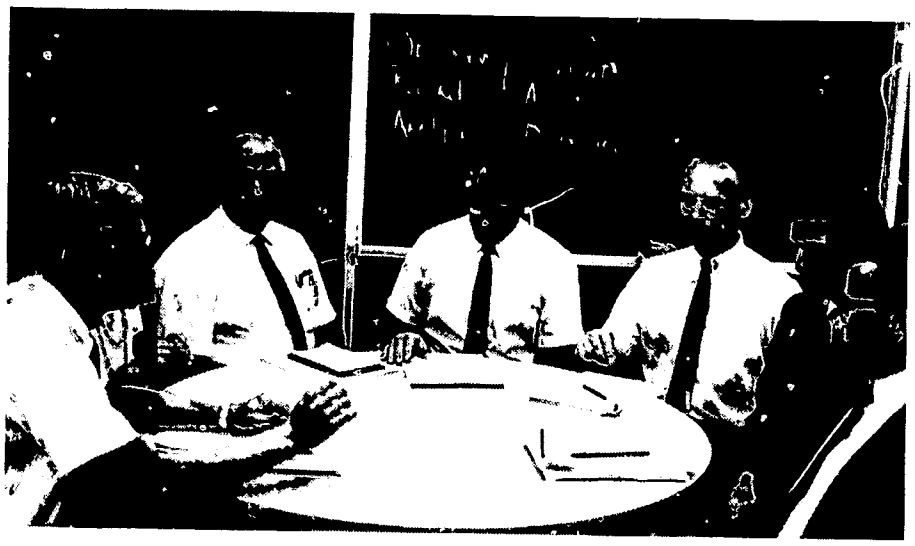
1. Student Information
2. Teacher-Administrator-Educational Specialist Information
3. On-Site Inspection Report
4. File of Behavioral Objectives
5. Family Information
6. Coding Systems List

7. File of Standardized Instruments
8. Literature Review Summaries

Internal Control Information

1. Program Status Report
2. Time Accounting for Evaluative Programs
3. Machine Utilization Summary
4. Contacts with Program

JOINT FUNCTIONS AND RESPONSIBILITIES OF THE TWO DIVISIONS OF EPIC



It was previously stated that the two Divisions of EPIC are complements and work together on many occasions. The following statements describe the cooperative responsibilities of the Field Services and Evaluation Services Divisions.

Communication

The representatives of each Division have the responsibility of: (1) communicating to the participating school personnel that evaluation is a cooperative venture. That is, evaluation demands certain commitments on the part of the school and its personnel. (2) Evaluation must take place through carefully defined steps, and often demands considerable time. Developing the kind of rapport and working relationships necessary to carry on the mutual involvement of the Center and school district results only from the EPIC representatives having a clear understanding of the educational process. The communication skill is also very important in the feedback stage of evaluation. The interpretation, writing, and reporting of evaluation results become a cooperative effort of the two Divisions.

In-Service Training of School Personnel

Learning that evaluation is a complex and developmental process requires in-service training of school personnel involved in programs receiving assistance from EPIC. Perhaps a most crucial step in the EPIC Scheme for Evaluation is that of developing program objectives. An important responsibility of the EPIC Evaluation Center is to conduct the necessary in-service training of school personnel in understanding the terminology and definitions used in the EPIC process, and in particular, relating this understanding to the development and actual writing of objectives. Many of the workshops to serve this purpose are jointly planned and conducted by the two Divisions of the Center.

Additional training of school personnel is often required to augment the development and ultimate evaluation of a given program. This training may necessitate the in-service training of teachers and administrators in the ways of analyzing and observing classroom behavior (employing such systems as Flanders Interaction Analysis[1] and Roberson's Verbal and Non-Verbal System[2]) or in the area of teaching skills such as listening, questioning, using student ideas, and the logical development of ideas. This training, as in objective writing, is also a shared responsibility of the two Divisions.

Training of EPIC Staff

A third major responsibility shared by the two Divisions overlaps the first two discussed. Professional growth of EPIC personnel is a must. There is a continuous in-service training and orientation provided to the Center staff in order to enable them to keep abreast of the current evaluative techniques and skills demanded in their daily work.

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[1]Ned A. Flanders. Interaction Analysis in the Classroom: A Manual for Observers. Ann Arbor: University of Michigan Press, 1960.

[2]E. Wayne Roberson. Manual for Coding Teacher Verbal and Non-Verbal Classroom Behavior. Tucson: The University of Arizona, 1967.

SUMMARY

This initial issue of the EPIC BRIEF was developed to present a concise description of the EPIC Evaluation Center. What has been reported in this publication is not a suggested plan of action to be implemented at some future date, but describes the Center as it now operates. It goes without saying that further refinement of the organizational structure and operating procedures will be inevitable as the Center continues to assist school districts and other educational agencies in the implementation of evaluation programs.

As the EPIC Evaluation Center progresses through its second year of operation, it is committed to the fulfillment of several ambitious goals:

1. To create not only greater interest and enthusiasm on the part of educators in the EPIC concept of evaluation, but to develop an ever-increasing involvement of schools and other educational agencies in programs of evaluation.
2. To continue to refine the EPIC Structure and Scheme for Evaluation in order to clearly demonstrate their practicality and their potential contribution to the development and improvement of instructional programs.
3. To demonstrate the contribution of the center concept to a Statewide or regional systematic approach to the problem of evaluation.

Subsequent issues of the EPIC BRIEF will be devoted to specific procedures, techniques, and processes developed and employed by the EPIC Evaluation Center. Issue #2 of the EPIC BRIEF is entitled, "A Structure and Scheme for the Evaluation of Innovative Programs." The intent of Issue #2 is to explain and apply the systematic procedures used by the EPIC Evaluation Center in assisting school districts and agencies in evaluating programs of concern.

STAFF OF THE EPIC EVALUATION CENTER

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Assistant Director	*Robert Kraner
Coordinator of Evaluation Services	*Terry Cornell
Coordinator of Field Services	*Wayne Roberson

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Machine/Key Punch Operator	Sue Nelson
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Field Service Representative	*Henry Butler, Jr.
Field Service Representative	Robert Carlson
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