This is to certify that the

thesis entitled

INCORPORATION OF EDUCATIONAL AND
EXPERIENTIAL VARIABLES IN THE
NEEDS ASSESSMENT PROCESS
FOR NEWLY EMERGING SPECIALTIES

presented by

Elouise Elaine Jordan

has been accepted towards fulfillment
of the requirements for

Ph.D. degree in Administration
and Higher Education

Major professor

Date April 17, 1981

INCORPORATION OF EDUCATIONAL AND EXPERIENTIAL VARIABLES IN THE NEEDS ASSESSMENT PROCESS FOR NEWLY EMERGING SPECIALTIES

By

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A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

Department of Administration and Higher Education

1981

ABSTRACT

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STATEMENT OF THE PROBLEM.

This study was designed to develop a process evaluation system which would incorporate (1) a method of identifying an educational and experiential profile of professional learners and (2) a feedback mechanism to help continuing professional education decision makers constantly improve the quality and focus of their programs.

DESIGN AND INSTRUMENTATION

The design of this study was an adaptation of Stufflebeam's evaluation process design focusing on the three components of delineating, obtaining, and providing information for educational decision makers who develop continuing education programs. The target group for this study were the physicians attending the annual scientific

assembly of the American College of Emergency Physicians.

The evaluation instrument was designed to gather student profile data on experiential and educational backgrounds and to determine if these variables influence the participants' perception of the level, or the professional value, or their recommendations for continued offering of continuing education courses in which they were enrolled.

The research design identified four groups of emergency physicians with the most divergent experiential and educational backgrounds. The first two groups were those who had practiced emergency medicine full time for five years or more and those who had practiced it only on a part time basis. The other two groups were those which constituted the largest populations with similar medical education backgrounds. These were emergency medicine and surgery.

CONCLUSIONS

The overall student profile data indicated that emergency medicine was the major educational background of the respondents but other medical areas comprising 10% or more of the population were Surgery, Family Practice and Internal Medicine.

The experiential data indicated that of those who participated in the continuing medical education program less than 10% were physicians who practice emergency

medicine part time, but that 65% of the total population in this study were physicians who had practiced emergency medicine for five or more years.

Additional data on the participants' perceptions of the level, professional value and recommendations for the individual continuing medical education courses was compiled and included in the report to the decision makers for needs assessment and evaluation for planning future programs.

RECOMMENDATIONS

Some of the specific questions used in this study should be revised to gather more specific data and give a broader range of responses for participants. The evaluation needs assessment instrument should be expanded to gather more data from the respondents regarding specific continuing education needs they wish to identify.

To be of significant value, the process of gathering information as delineated in this study must be incorporated into the overall educational planning and evaluation system of an organization. This system should be expanded to include the self-directed professional learner as well as other organizational decision makers. In such a system it would be possible to simultaneously meet the needs of the individual and the organization.

DEDICATION

To the memory of my father

Roy A. Stewart

who encouraged me to accept life's obstacles

as challenges to reach the full potential

for growth.

ACKNOWLEDGMENTS

Without the love and encouragement of my children Audrey, Linda and Laura, this endeavor could never have been accomplished. Also the love and support of my mother and my sisters often stood in the gap between my own frailty and the distant goal. I am deeply grateful to them and to a group of friends whose assistance and inspiration I will always treasure: Ronald Thompson, Joan and Edward Parker, William Drake, Marilyn Hayden, Benson Munger, Charlie Maclean and Sara Knaggs.

To Dr. Max Raines, my dissertation chairman, I am especially indebted. His humanitarian concern for the student and dynamic approach to educational theory continue to influence my professional life. I would also like to thank Dr. Lawrence Lezotte, my research advisor, whose scholarly direction and personal encouragement was indispensable in the research design and data analysis for this dissertation. My deep appreciation goes to Dr. Richard Featherstone and Dr. Joseph Papsidero who not only worked patiently with me as members of my doctoral committee, but also as mentors in educational theory and practice through the seminars they taught at Michigan State University.

I also want to thank Arthur Auer, the executive director of the American College of Emergency Physicians, and other ACEP staff members who allowed me the freedom to work simultaneously on my research and on the continuing education projects of the College. I am especially grateful to Clara Blair for her special ability and patience in turning my scribbled pages into precise, neat copy for publication.

TABLE OF CONTENTS

LIST OF TABLES

Table | Page

LIST OF FIGURES

CHAPTER I

INTRODUCTION

"When Justice Oliver Wendell Holmes asserted that education begins when what is called education is over, his words were prophetic of our times . . . continuing professional education is a worldwide activity. In the United States it has developed into an art form." McCoy (1979)

By definition, a profession is comprised of persons who have a specialized body of knowledge acquired through rigorous formal education and thereafter continually refined and corrected by science and experience.

Historically, professionals have accepted personal responsibility for keeping abreast of new developments in their respective fields of knowledge. In the last few decades, scientific, technological and societal changes have caused considerable difficulty for professionals in maintaining competency and credibility.

The major complicating influence in keeping abreast of new concepts is the expansion of the knowledge base in a vast array of expertise, especially those related to science and technology.

Maintaining professional competency is further complicated by societal changes which affect the roles and responsibilities of modern professionals. Schein (1972) points out that the changing roles are caused by "a correlated and interdependent set of changes in society. Problems which previously were not even acknowledged as legitimately in the domain of a given profession are now being recognized and defined as legitimate and important areas of concern."

One of the reasons for this change is that modern Americans are better educated, more inquisitive and introduced regularly by mass media to new and often controversial technological, sociological and scientific concepts which heretofore had been the domain of professional knowledge. This public information base and evolving societal roles contribute to changes in client/professional relationships. Clients today are less in awe of the professionals than they were in years past, and no longer passively accept professional judgment and actions. The spread of malpractice suits against real estate agents, architects, corporate directors, and health care professionals is clear evidence of this change.

Legislators, who have heard the consumer's challenges and demands, have further complicated the professional education arena by mandating continuing education for relicensure. Phillips (1978) indicates that "mandatory continuing education for licensed professionals is steadily becoming the rule

rather than the exception." State licensing boards have statutes requiring continuing education for relicensure for a wide variety of professionals, including certified public accountants, realtors, social workers, lawyers, administrators of nursing homes and health care practitioners.

Some indications are that in the wake of these increasing demands the professions which have traditionally taken the responsibility of updating and policing their own ranks, may lose some of their autonomy. Based on a national study of current professional accreditation practices, the Newman Report (1971) specifically recommended that (1) the composition of established accrediting organizations should be changed to include representatives of the public interest; and (2) federal and state governments should reduce their reliance on established professional organizations for determining eligibility for federal support.

Another dimension of the continuing professional education (CPE) labyrinth comes from the professional societies. To help stem the tide of external involvement and/or intrusion, professional organizations have also begun to require continuing education for membership. Williams (1979) summarizes the state of the art of continuing professional education. She states that the concept of maintaining competence through continuing education "appears to have achieved an acceptance and status comparable to that enjoyed by motherhood." She further asserts:

> Motivated by the consumer movement, supported by professional associations, and increasingly mandated by state legislatures, continuing education for the professions now appears to be regarded as the panacea that will guarantee improvement of health care, ensure well-designed buildings, and eliminate functional illiteracy from the classroom. Despite the unanswered question of how continuing education relates to competency, the move toward requiring periodic relicensure or recertification for those already admitted to practice based on evidence of participation in continuing education is gathering momentum with each legislative session. Concomitant is the increase in occupations or professions for which licensing is the entrance requirement into the field.

STATEMENT OF THE PROBLEM

Often traditional continuing education programs are, in the best procrustean tradition, designed to fit the needs of the students to the interest or expertise of the faculty. Even when programs are planned specifically for an intended audience, program planners do not have clear indications of the unique needs of the practitioner/learner and must base decisions regarding content and level of courses on the planner's perception of participants' needs. Groen (1956) indicates that these "teacher or planner-oriented approaches are both limited and limiting since they may only incidentally or accidentally meet the needs of the learner and probably less often of the client/patient."

If the amount of new information/skills were very small, these planning methods would be less problematic, but with the present knowledge explosion, it is imperative that educational methods be efficient, practical, and

focused to the specific needs of the learners. Even with improved educational methods and accurate needs assessment, the expanding knowledge base makes it virtually impossible for professionals to maintain indepth competency in broad areas of knowledge and has led to increased specialization. Two major professions which have experienced this specialization are education and medicine.

Newly emerging specialties have some important traits in common. One of them is that the body of knowledge which will comprise this new profession must be identified. Often this delineation of professional responsibilities is an eclectic combination of roles of several different traditional specialists.

Knowles (1970) identifies one of these new educational specialists, the adult educator. He devotes an entire chapter to the topic of "Andragogy: An Emerging Technology" and another chapter to the "Role and Mission of the Adult Educator." In these discussions he indicates that the Adult Educator must be perceived as a new specialist performing specialized roles which require specialized training. To defend his proposal that this new specialist is needed, he states that:

> . . . the time is past when any good teacher or principal has the equipment necessary to manage a public school adult-education program or a good professor or dean can administer a university division of education, or any good personnel man can direct a training program in industry.

The adult educator is described as a professional whose competencies are an eclectic combination of administration, teaching, counseling and organizational skills. Knowles asserts that this new specialist must function

> . . . both as a line officer -- managing the adult education activities for which he is directly responsible -- and as a staff officer -- influencing policies that affect the educative quality of the total organizational environment and providing consultative and training services to all personnel in the organization regarding their part in the educative process.

Another newly emerging professional in education is the evaluation specialist, and he/she has the same eclectic pattern of role identification.

Provost (1969) identifies an ideal evaluation team whose professional abilities include a series of interface and technical roles. This evaluation team would include:

1. Several nondirective evaluation specialists skilled in small group process work and ethnological techniques.

2. One or more psychometrists familiar with a wide range of cognitive and affective instruments and capable of rapidly designing ad hoc instruments.

3. A research-design specialist capable of drawing carefully-defined samples, designing experiments, and directing the statistical analysis of data.

4. One or more technical writers familiar with educational "language" and evaluation concepts.

5. A data processing unit with capacity for data storage, retrieval, and statistical analyses as directed.

6. Subject specialist consultants.

7. A status figure capable of communicating directly with the superintendent of schools and all program directors.

Portions of these roles from many areas of expertise are subsumed in the role of the evaluation specialist as defined by Stufflebeam (1971). He delineates three generalized roles: (1) the interface role, (2) the technical role, and (3) the administrative role. The interface role evolves around the decision making process which includes identifying decision situations, providing relevant information to impact these decisions, and maintaining productive interactive communication with all other persons involved in the decision making. The technical role encompasses converting criterion statements into measures, sampling, data processing, and interpretation. The administrative role includes deciding planning, stimulating, coordinating and appraising the evaluation process.

In the field of health care, specialization is also growing rapidly. Breslow (1976) notes that this "increasing division of labor . . . arises naturally from the growing technology in health care and appears to be in a crescendo phase." Research identifies more than 50 distinct health care vocational or professional groups, and Brodie (1978) indicates that "Each group seeks to identify itself with a specialty health service, and many have established education and training programs to provide practitioners with the knowledge and competencies they require for practice."

Emergency medicine is one of the new specialties whose core of professional knowledge/skills is derived from

many areas of medicine but focuses on the initial diagnosis and management/treatment of a broad range of medical emergencies. In 1976 the "Core Content of Emergency Medicine" was published in the Journal of the American College of Emergency Physicians. It identified twenty-two areas of traditional medicine, portions of which were requisite knowledge for the practicing emergency physician.

The eclectic identification of knowledge and skills for new professions poses special problems in the education of the new specialists. Although educational components are usually available in various University schools and departments, there is not a cohesive unification of these components and a clear identification of the interrelationships as they will apply to the specialized practice of the new professionals.

The formal education for these specialties often can be established through interdepartmental cooperation until a large enough student body is formed to establish a new department. However, practitioners in the new specialty who have already completed their formal education are in a unique situation. Since new specialties are usually established by individuals who were trained in one of the identified professional components of the new profession, these inaugural members add a depth to the field which perhaps could not occur in any other way; but they also present unique educational needs which must be met through continuing professional education.

This process of evolution of a new specialty creates a first generation of professionals who have extremely diverse educational and experiential backgrounds. CPE planners cannot even assume that these practitioners have essentially the same formal professional educational background. Further, as a given profession grows, there is no clearly defined method to identify the traditional specialty area(s) from which the new professionals are coming.

Therefore, one of the important needs which exists for CPE planners in emerging specialties is a method of identification of an educational and experiential profile of the professionals who are enrolling in CPE courses which they are developing.

Chickering (1969) attests to the need of this background information in intelligent decision making. He states:

> The evidence from research and from my own experience is unequivocal. More effective education requires taking more clear account of differences among students and acting accordingly . . . sound decisions about what is needed must derive from knowledge of where a student is, where he wants to go, and what equipment he brings for the trip. With such information at hand, intelligent planning can occur.

Pochyly (1978) discusses this information need in relationship to a "process evaluation" which incorporates adult education principles in continuing medical education. He indicates that "evaluation in terms of process addresses the issue of whether or not an instructor's activities are consistent with factors which facilitate or interfere with adult learning." The first question he poses for such a

process evaluation is "Did the instructor understand the backgrounds and educational needs of the physicians attending the program?" This needs to be a continual feedback process.

STATEMENT OF PURPOSE

The major purpose of this study is to develop a process evaluation model which will incorporate (1) a method of identifying an educational and experiential profile of professional learners and (2) a feedback mechanism to help CPE decision makers constantly improve the quality and focus of their programs. The target group for this study was the newest medical specialty, emergency medicine.

RESEARCH QUESTIONS

Research questions which will be addressed are:

1. What are the major student profiles in terms of longevity (i.e., years of practice/experience in emergency medicine), current involvement in other medical specialty areas, and medical education background?
2. Do the participants perceive that the courses they take are of significant professional value?
3. At what educational level do the participants perceive the courses to be?
4. Do the participants recommend that the courses be offered to others?
5. Do emergency medicine residency trained physicians perceive the professional value and level of the educational offerings they attend to be the same as other participants perceive them?
6. Do physicians who have formal education backgrounds in surgery perceive the professional value and level of individual courses to be the same as other participants perceive them?

7. Do physicians who have practiced emergency medicine full time for five or more years perceive the professional value and level of individual courses to be the same as other participants perceive them?

8. Do physicians practicing emergency medicine part time perceive the professional value and level of individual courses to be the same as other participants perceive them?

9. Are there significant differences among the groups in #5, 6, 7 and 8 above in their overall perceptions of the Scientific Assembly courses on the variables of professional value, level and recommendation?

PROCEDURES

The data for this study will be taken from the largest annual scientific meeting of the specialty society. The instrument will be a course evaluation form which will be utilized for the learners to evaluate individual courses offered and to gather data on the participants' professional experiences and educational background.

UNDERLYING ASSUMPTIONS

The first major assumption is that the profile of participants in the scientific meeting may not be identical to the overall profile of members in the specialty. Another assumption is that participants will be more candid in their evaluation of courses if the responses are anonymous.

LIMITATIONS

Several important variables in this study cannot be controlled. One is the identification of who will attend

an annual Scientific Assembly. This introduces questions of the generalizability of this sample.

The sample will further be limited to those participants who are willing to complete the evaluations. The educational needs of those who will not comply with this request may be very different from those who do comply.

NEED FOR THIS STUDY

The growth of medical and technological knowledge demands the best educational processes to help health care practitioners keep abreast of their area of specialization and within the House of Medicine important questions are being raised about:

1. the purpose and effectiveness of continuing education
2. the best educational methods for teaching adult professionals, and
3. needs assessment processes.

The Council of Medical Specialty Societies (CMSS) in conjunction with the Accreditation Council for Continuing Medical Education (ACCME) is in the process of revising standards for accrediting organizations which provide Continuing Medical Education. Two areas which the new standards emphasize are principles of andragogy and identification of appropriate needs assessment and evaluation processes especially as they relate to self-directed learning by professionals.

CHAPTER II

HISTORICAL OVERVIEW OF CONTINUING EDUCATION IN EMERGENCY MEDICINE

This chapter will briefly review the historical development of emergency medicine by tracing the emergence of the specialty society and the concurrent growth and development of continuing education activities. Then it will give a review of the literature on the philosophy and methodology of adult education, needs assessment and evaluation especially as they relate to professional continuing education for emerging specialties.

EMERGENCE OF NEED FOR EMERGENCY MEDICAL SERVICES

In 1960, 42 million patients received emergency medical treatment in hospitals across the United States; by 1979 this number had grown to nearly 82 million (AHA 1980). The reasons for this tremendous increase have been theorized by many, and several important factors emerge. Some of these are the marked advance in medical knowledge and technology which was spurred on by the advances made during World War II and the Korean Conflict. Another factor was the increased

mobility of the populace, which caused a maldistribution of medical coverage especially for general practitioners. Even though the medical schools continued to prepare trained physicians, many of them moved into specialty areas other than routine primary care. Concurrently, comprehensive medical insurance plans, as well as Medicare and Medicaid, became increasingly available and made health care financially feasible to vast numbers of American citizens who heretofore had had limited access to the medical system. Mass media also had an effect, both through news and through fictional episodes, in making the public aware of medical advances and in increasing medical care expectations.

The result of these and other factors was that the American public placed a heavy demand for immediate, up-to-date and effective medical care, much of which was delivered through the emergency departments. When this pressure emerged in the sixties, emergency departments were primarily staffed by house physicians or other attending medical staff. These physicians were not trained in emergency medicine, and too often the coverage was inconsistent and sometimes inferior.

DEVELOPMENT OF EMERGENCY DEPARTMENTS

A number of physicians around the country became increasingly concerned about the growing gap between the demand and the ability to deliver emergency medical services. In 1961 two groups of physicians, one in Alexandria, Virginia

and one in Pontiac, Michigan, incorporated to give consistent quality coverage in local emergency departments.

As physicians began to practice full time emergency medicine they recognized the need for continuing medical education which would directly address the initial diagnosis and management of a broad spectrum of emergency medical services, as well as information on how to improve their emergency departments.

Few traditional programs were sufficiently focused to meet the needs of these new practitioners, and they turned to one another for information exchange.

FORMATION OF NEW SPECIALTY SOCIETY

On August 16, 1968 eight physicians met in Lansing, Michigan to discuss the formation of a professional society for emergency medicine that would meet their unique educational and professional needs. This society was named the American College of Emergency Physicians (ACEP).

The exceptional development of this new specialty is seen in the dramatic growth from a few members in 1968 to over 10,700 in 1980, which makes it the 13th largest medical specialty society in the United States. The College's educational development is similarly impressive.

GROWTH OF CONTINUING EDUCATION IN EMERGENCY MEDICINE

At its inception ACEP established organizational

goals of education oriented to the practice realities of emergency medicine, and in 1969 ACEP held its first Annual Scientific Assembly in Denver, Colorado with 128 physicians attending. It consisted primarily of one hour clinical lectures followed by roundtable discussions with the lecturers.

Gray (1978) points out the "immense forward strides" in emergency medical continuing education that are reflected in the 1978 Scientific Assembly from which this dissertation data was gathered. He states: "Not only has the meeting been expanded to include sessions for nurses and emergency medical technicians, but much of the material for emergency physicians has reached esoteric levels that would have seemed implausible nine years ago." The meeting included philosophical discussions on issues such as "The Right to Die," as well as more than forty workshops and postgraduate courses. Two hundred commercial and scientific exhibits, independent study laboratories, and an advanced cardiac life support course rounded out this impressive educational offering.

RECOGNITION OF VALUE OF CONTINUING PROFESSIONAL EDUCATION

In a brochure entitled, "ACEP's First Decade of Achievement," the authors reflect on the importance of the growth and future of continuing medical education for the emergency medicine practitioners and for their patients.

> The founders of the College were determined to provide quality educational experiences for emergency physicians.

> There can be little question that their efforts have been successful. It rests with future meeting planners to assure the continued improvement of this important service to those who practice and those who are recipients of emergency medical care.

The same knowledge explosion, technical advances and public awareness have influenced professional organizations outside the health care area and highlight the importance of quality, focused and expertly designed continuing professional education. This education should be based upon (1) sound principles of adult education, (2) identified needs of the learners, and (3) relevant evaluations which have feedback loops to the decision makers to contribute to improved educational activities in the future.

With this perspective the review of the literature for this study focused on the three major areas of (1) philosophy and methodology of adult education, (2) the state of the art in needs assessment processes, and (3) the purpose and process of evaluation. Especial attention was directed toward the interactive loops among these variables and their relationship to decision making in continuing professional education.

The literature reveals that much energy has been expended in recent years in defining adult education, adult learner characteristics and their unique needs, and appropriate teaching methodologies for adults. A well known author on this topic is Malcolm Knowles, who had a major role in bringing to contemporary America the term and related concepts

of "andragogy." This word is especially intended to stand in juxtaposition to the term "pedagogy," which is derived from the Greek words "pad" (child) and "agogos" (leading) and is traditionally defined as "the art and science of teaching children." Current concepts of adult education emphasize that adults are not children and their education must not be merely the archaic process of transmitting the knowledge of the culture. Therefore the term "andragogy" is more fitting because it is derived from the Greek word "aner" which means man (especially as distinguished from boy) and is defined as "the art and science of helping adults learn." Knowles (1973) points out that this term was used as early as 1833 in Germany and has been used extensively in recent years in Yugoslavia, France and Holland. In fact, this distinction between pedagogy and andragogy was so widely accepted in Europe that in 1970 the University of Amsterdam established a Department of Pedagogical and Andragogical Sciences. Four crucial assumptions about adult learners are the roots of the concept of andragogy. According to Knowles (1970) these assumptions are that as a person matures,

1. his self concept moves from one of being a dependent personality toward being a self-directing human being;
2. he accumulates a growing reservoir of experience that becomes an increasing resource for learning;
3. his readiness to learn becomes oriented increasingly to the developmental tasks of his social roles; and
4. his time perspective changes from one of postponed application of knowledge to immediacy of application,

> and accordingly his orientation toward learning shifts from one of subject-centeredness to one of problem-centeredness.

Bryant (1979) indicates that adult education is an open system in which learners are volunteers. He points out that adult learners must feel the need to learn, perceive the goals of the learning activities to be theirs and have a sense of progress toward their goals.

Adult learners are more independent and self directing than children and Suter et al (1980) indicate that they have some attributes that can "significantly alter their ability to function as effective learners." These attributes include "well-developed personal motivation, values and expectations regarding the learning experiences and assumption of responsibility for learning and its application." Based on these concepts they conclude that in pedagogy the educator teaches the student, but in andragogy the educator helps the learner to learn. Knowles (1973) suggests, "We have finally really begun to absorb into our culture the ancient insight that the heart of education is learning, not teaching, and so our focus has started to shift from what the teacher does to what happens to the learners." Paul Leagans (1972) links andragogical concepts as a fourth dimension of progressive education. He emphasizes that the adult learner's enrollment in a course is usually based on "felt needs." The classes are heterogenous because of diverse student experiential and educational backgrounds and each of these students is in search of

intensely relevant materials. This is clearly descriptive of professionals in emerging specialties who come from a variety of formal educational areas, have diverse experiential backgrounds, and are deeply intent on gaining knowledge and skills which will make the new profession effective and respected by other professionals and by their clients.

These adult education principles are now being accepted by many who are involved in continuing education for professionals. Miller (1967) recommends a "process model" for continuing education which is "built upon solid evidence about the way adults learn."

NEEDS ASSESSMENTS

As these andragogical concepts are gaining acceptance in professional continuing education, they are influencing the direction toward professional needs assessment processes. Milgrom (1979) in discussing continuing education for dentists indicates "that active learners can and should structure their continuing education according to needs they identify. These needs suggest the materials to be learned." He further asserts, "Feedback (even so simple as a letter) is one means of identifying problems."

Milgrom (1979), Stensland (1977) and Miller (1967) all make a strong case for constructing education programs around the needs of the practicing professionals. Groen (1956) makes a special appeal for medical educators to design their programs

according to the expressed needs of the practicing physician in the care of his patients. To do this requires a feedback system from the professional learners to the program planners. However, at this time educators do not have universally accepted definitions or processes for gathering information. Scissons (1978) indicates that although experts in adult education agree that needs are important, there is little agreement as to what needs are or how they should be used. A review of the literature reveals a vast array of types of needs.

The psychologists contribute to the need concept with such well known theories as Maslow's (1954) "Heirarchy of Needs;" Garner's (1958) visceral, activity, sensory and escape needs; and Fromm's (1955) five needs which he asserts "stem from the conditions of (human) existence."

Others identify organizational needs, societal needs, and individual educational needs. Scissons (1978) lists basic needs, felt needs, expressed needs, real needs, normative needs, comparative needs, criterion needs, prescriptive needs and motivational needs, and contends that "the similarities and differences between the different concepts of needs have to do with who defines them and how they are defined."

Needs assessment tools are in the "fledgling stage" according to Kaufman (1972), and he emphasizes the need "for tools and/or techniques to be evolved or invented based on unique circumstances and conditions." Kempfer (1955) proposes

that needs analysis be devised which will break down the population in several components, analyze the needs of each group and develop educational activities to meet the needs of these unique populations. Barbulesco (1976) proposes that one of the major purposes of needs assessment is providing information for educational decision making and that the needs assessment cycle should be a continuous process.

The concept of an ongoing needs assessment process in Continuing Professional Education is also emphasized by Schein (1978) who contends that the continuing process is necessary because both the profession and the professional are "dynamic, evolving systems whose needs change because of changing environments and changing internal factors."

STUDENT PROFILES IN NEEDS ASSESSMENTS

The process of gathering data to identify a student profile is illustrated by Davis (1978) who developed questionnaires to gather data from a target population of principals of urban Title I schools prior to developing inservice programs for them. He contends that program decision makers should gather information from "prospective participants regarding all modifiable aspects of an inservice program" and use this data in the development of continuing professional education activities. Two areas of inquiry in this needs assessment instrument were the experiential and educational backgrounds of the respondents. For the experiential variable, Davis

offered a list of topics for which the respondents were asked to indicate their level of interest on a Likert-type scale and then to categorize their level of experience/familiarity as being:

a. Expertise: practiced in area extensively and could serve as a consultant.

b. Some Experience: worked in area, but not expert.

c. Some Knowledge: familiarity with some concepts, but have not worked in this area.

d. No Knowledge: very slight or no experience or knowledge in area.

Questions regarding the educational background included level of academic attainment and major field of graduate study. This student profile information was incorporated into the planning process as the decision makers determined the breadth and depth with which the topic should be introduced and addressed.

EVALUATION PURPOSE AND PROCESS

Stufflebeam et al (1971) delegate the responsibility for providing needs assessment information to the evaluator. They state,

> The evaluator must identify the specific roles or groups which are clients for information, and to the best of his ability, the levels of information to which they will have access.

They also assert that, "the purpose of evaluation is not to prove, but to improve."

Others agree with this stated purpose. Kempfer (1955) states that the purpose of evaluation is "to stimulate growth and improvement" and Knowles (1970) proposes that one of the objectives in program evaluation is "to obtain information that will promote continuous program improvement."

The principle of evaluation as a process to provide information for decision making is found frequently in the literature. Stufflebeam (1971) defines educational evaluation as "a process of delineating, obtaining, and providing useful information for judging decision alternatives." Pochyly (1978) also refers to this process of feedback to the CME planner. He compares evaluation of educational programs with evaluation of patient care, pointing out that each can best be done in terms of "process" and/or "outcome." After discussing a variety of evaluation processes, he concludes that evaluations will be accepted best if they are presented as a "means for identifying unmet educational needs which can be addressed in future programs." This perspective also gives credence to the concept that education of practicing professionals is "a continuing process rather than a series of unrelated events."

Milgrom (1979) compares some of the educational concepts of Miller (1967) and Stensland (1977) regarding the process of continuing education systems, and concludes that "strategies must insure <u>ongoing</u> rather than episodic evaluations of the learner and the learning goals, content and

method." Knowles (1970) suggests that in an ideal situation an ongoing evaluation process would detect problem areas and make corrections before they reach "crisis proportion," but he contends that currently most programs do not have this "ideal" process so they operate within an evaluation-by-crisis system. The need to have feedback loops from the evaluators to the decision makers is imperative to a meaningful educational process, but the failure to accomplish this step is evident. Stufflebeam et al (1971) point out that even when some organizations provide for an ongoing evaluation process, the information does not always get back to decision makers in time to impact planning for future programs. They purport that one of the major problems in many educational organizations is a lack of "mechanisms for organizing, processing, and reporting evaluative information."

This literature review clearly attests to the need for an evaluation process model for continuing professional education. This process must incorporate the principles of andragogy recognizing the heterogenous student population with diverse experiential and educational backgrounds and the necessity of constructing educational programs around the identified needs of the learners. One aspect of such an educational process is an information gathering evaluation with feedback loops to the program planners.

CHAPTER III

INSTRUMENTATION AND METHODOLOGY

Basic to the instrumentation processes of this study were the principles of andragogy, which recognizes the heterogenous traits of the self-directed learning professionals, and the principle that evaluation research can be a valuable process for improving educational programs by supplying appropriate information to decision makers who are planning future programs. This chapter identifies the components of this latter principle and applies them to the development of the evaluation instrument and processes used in this study.

In Educational Evaluation and Decision Making, Stufflebeam et al (1971) point out the need for evaluation research models that are outside the realm of the classical research model. They suggest that classical research purposes and functions are not always the same as evaluation research purposes and functions. The purpose of classical research is to provide new universally valid knowledge, but the primary purpose of evaluation research is to "delineate, obtain, and provide information for making educational

decisions." This concept implies that evaluation research may be highly particularized and specific to a particular decision or cluster of related decisions rather than generalizable to many or all settings. Only when the decision-making context is highly generalizable and the intent is to generate new knowledge can the purposes and methodologies of classical research and evaluation research be equated.

Part of the argument against identifying evaluation research processes as valid research methodology stems from a general rejection of survey research methodology. Trow (1967), however, strongly supports survey research to provide information about populations as needed. He contends that properly used descriptive research has major potential to contribute "to sound knowledge and fruitful theory about the institutions and processes of education." Smith (1959) points out the need for a pragmatic approach to research models indicating that survey research "should be actuated by a very definite purpose, growing out of some felt need." He contends that such research should originate in the actual needs of the specific organization and result in a practical solution of unsolved problems. Suchman (1967) recommends that survey research focus on program improvement rather than becoming routinized into statistical reports which are "ends in themselves rather than means toward program improvement." He states:

> Our final comment on the state of survey research on problems of program planning, operation, and evaluation would stress the need to orient these surveys more toward policy and less toward "bookkeeping." The collection of data on health services has tended to become routinized into statistical reports which actually have very little utility for determining policy, the data becoming ends in themselves instead of means toward program improvement.

He concludes that when researchers fall into this "bookkeeping" mode, they fail "to fulfill their unique contribution of providing data for policy-making purposes."

The methodology and instrumentation of this study is based on the philosophical concepts that:

1. survey research is an appropriate means to gather data,
2. the data should be provided to organizational decision makers to impact program policy, and
3. the feedback process should become a continuous process to improve educational programs.

The design of this study incorporates Stufflebeam's definition of evaluation emphasizing the three major components of delineating, obtaining and providing information for educational decision makers.

The first system, a delineation of information needs, is subdivided into:

1. a description of antecedents which make this information important to decision makers;
2. a statement of the decision setting which includes clientele for information, timing and specific decision questions;
3. a statement of evaluation policies; and
4. a statement of evaluation assumptions.

The second system, a plan for obtaining information, is subdivided into:

1. data collection process,
2. analysis of data, and
3. organization of data.

The third system, a plan for providing information, is subdivided into:

1. preparation of reports,
2. dissemination of reports, and
3. incorporation of the feedback loop into the ongoing educational decision making for future programs.

This study was undertaken to establish an educational evaluation mechanism which would gather information regarding the experiential and educational background of emergency physicians who attend the annual scientific meeting conducted by the specialty society to be used as one facet of a needs assessment process. The evaluation design is shown in figure 1.

DELINEATION OF INFORMATION NEEDS

As the American College of Emergency Physicians began to emerge as a specialty society it was comprised of many second career physicians who practiced emergency medicine full time and others who practiced it only parttime. As the medical schools expanded studies to focus on emergency medicine as a specific discipline and developed emergency medicine residency programs, a new subgroup of members

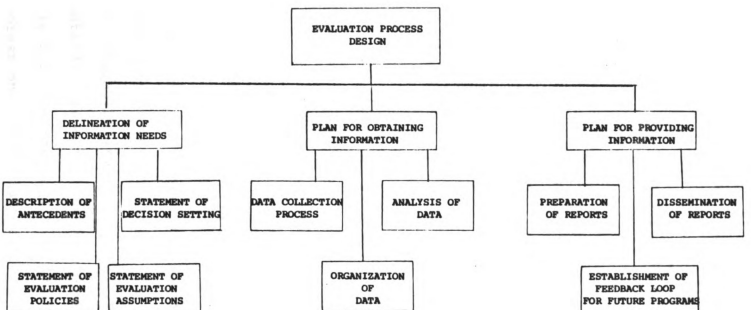

Figure 1

Adapted from Stufflebeam et al (1971)

emerged. They were residency trained physicians who practiced emergency medicine full time.

At the same time that residency programs were developing, a certification board exam in emergency medicine was also being developed by the American Board of Emergency Medicine. To be eligible to take this certification board exam, physicians must either be residency trained in Emergency Medicine or have practiced emergency medicine full time five years or more. This latter group of "practice eligible" physicians comprised a major portion of the ACEP membership.

Although the leaders of the College were well aware of the heterogenous group of physicians for whom they were developing educational programs, they had very limited data on the experiential and educational backgrounds of this professional learner population. The program planners for scientific meetings were asking several important questions about their prospective learner population. The basic question was: "Are we meeting the educational needs of our members who attend our Scientific Assembly?" Accepting the concept that professional learners are able to and do take the major responsibility for identifying and evaluating their continuing education needs, the basic question was refined to be: "Do the physician learners perceive that their professional education needs are being addressed by the CME programs provided by their specialty society?"

To find answers to these questions the following series of research questions about participants in the Scientific Assembly were postulated:

1. What are the major student profiles in terms of longevity (i.e., years of practice/experience in emergency medicine), current involvement in other medical specialty areas, and medical education background?

2. Do the participants perceive that the courses they take are of significant professional value?

3. At what educational level do the participants perceive the courses to be?

4. Do the participants recommend that the courses be offered to others?

5. Do emergency medicine residency trained physicians perceive the professional value and level of the educational offerings they attend to be the same as other participants perceive them?

6. Do physicians who have formal education backgrounds in surgery perceive the professional value and level of individual courses to be the same as other participants perceive them?

7. Do physicians who have practiced emergency medicine full time for five or more years perceive the professional value and level of individual courses to be the same as other participants perceive them?

8. Do physicians practicing emergency medicine part time perceive the professional value and level of individual courses to be the same as other participants perceive them?

9. Are there significant differences among the groups in #5, 6, 7 and 8 above in their overall perceptions of the Scientific Assembly courses on the variables of professional value, level and recommendation?

PLAN FOR OBTAINING INFORMATION -- RESEARCH DESIGN

Within the population of learners from this scientific assembly four groups were identified. The first two groups were physicians with the most divergent experiential backgrounds, those who had practiced emergency medicine full time for five years or more and those who practiced emergency medicine on a part time basis. The other two groups were identified by their formal medical education backgrounds. These were the two largest specialty groups within the population, emergency medicine and surgery.

A standard course evaluation instrument was adapted to incorporate the research questions for this study. The program consisted of fourteen postgraduate courses which were conducted simultaneously. The number of students in the courses varied from 21 to 71, and the subjects included a broad range of emergency topics.

The specific questions which were asked on the evaluation forms were:

> Professional value of this course for you:
> a) significant b) little c) none
>
> At what level would you classify this course as presented: a) Advanced b) Intermediate c) Basic
>
> Would you recommend that this course be offered for others with education and experience similar to yours:
> a) at the same level b) at a more basic level c) at an advanced level d) not at all
>
> How many years have you worked in the Emergency Department:
> Full Time a) 1-2 b) 3-4 c) 5-6 d) 7-8 e) 9 or over
> Part Time a) 1-2 b) 3-4 c) 5-6 d) 7-8 e) 9 or over

If you are a member of a specialty organization other than ACEP, please indicate: a) Family Practice b) Internal Medicine c) Surgery d) Pediatrics e) Other _____

What are your formal specialty training areas: (Mark as many as are applicable) a) Emergency Medicine b) Family Practice c) Internal Medicine d) Surgery e) Pediatrics f) Other _____

These questions were on optical scan forms from which data cards would be machine punched (Appendix A). To encourage compliance in completing the evaluation data forms course monitors were assigned to the classrooms and they handed each physician an evaluation form as he/she entered the room. Course instructors explained the need for accurate and complete information and the monitors collected the forms as the participants left the room at the end of the three hour session. Later the monitors reviewed each answer sheet and marked over any forms that were filled out in ink as well as verifying that erasures were complete and answers were appropriately marked.

To determine the experiential and educational profiles of the physicians attending this scientific program, summative data was gathered from the questions on formal education and on longevity of practice in the emergency department. Correlation analyses were used to determine if any of the four groups differed significantly from others on the perceptions of the professional value and level of the courses.

EVALUATION POLICIES

The primary audience for this information is the Scientific Meetings Committee which has the responsibility for identifying educational needs and planning the educational programs for the organization. Since planning for the next annual Scientific Assembly begins one month after the preceding one, the evaluation information must be available to them within 30 days of the data collection. To facilitate the data analysis to meet this deadline organizational priorities were set such that the evaluation data was hand carried from the meeting site and was the priority project of the continuing education department staff when it arrived. It was further determined that the evaluation instrument responses would be anonymous and only aggregate scores would be available for analysis.

INSTRUMENTATION ASSUMPTIONS

The basic assumptions of this study were that developing the instrument to gather information anonymously would result in more candid answers by the participants; that requesting the experiential and educational information only once during the conference would yield more responses; that requesting profile information during the first full educational session would result in more responses than asking for the information later in the conference; that the

student profile was not generalizable to the entire population of the society; and that the student profile of those attending this scientific meeting would be somewhat similar to the profile of those who would attend future meetings.

Since no logistically feasible and accurate method of selecting random samples of physicians with various educational and experiential backgrounds was available, the decision was made to gather data from the entire population of physicians enrolled in all of the postgraduate courses during the first full educational session.

PLAN FOR PROVIDING INFORMATION

The American College of Emergency Physicians has an eight step continuing education "game plan" for educational programs. The process begins and ends with a focus on patient care because quality patient care is the raison d'etre of CME and one of the major concerns of the medical specialty society. The specific steps of this overall process are:

1. needs assessment
2. definition of specific objectives
3. determination of major content areas
4. identification of resources
5. determination of teaching strategies
6. implementation of program
7. evaluation of program
8. application of learning to patient care practice.

Step 1, the needs assessment process, is the responsibility of both the individual professional and the medical organization. The individual must identify the areas of his/her personal educational needs, and the organization must assist in this process by providing self-assessment instruments and other pertinent data. However, the organizational role extends beyond assisting members in identifying their own continuing education needs. The College must determine the needs of the membership as a group. This can be accomplished by reviews of the literature, mortality and morbidity reports, American Board of Emergency Medicine certification exam data, practice profiles, medical chart audits, health statistics, residency program feedback, program evaluation, and member surveys.

The data from this study will become a vital part of this educational game plan process by making a direct feedback loop between evaluation and needs assessment. The report to the decision makers will include the educational and experiential profiles of the participants, as well as data analysis of each course indicating the participants' perceived professional value, level of material presented, and recommendations for offering the course again.

CHAPTER IV

DATA ANALYSIS

The primary purpose of this study was to develop an evaluation model which would incorporate a method of identifying an educational and experiential profile of professional learners and a feedback process to help continuing professional education decision makers constantly improve the quality and focus of their programs. Accordingly, data was gathered on the educational and experiential background of physicians enrolled in continuing education courses developed by their national medical specialty society. The design of the study called for the identification of physicians with various backgrounds and an analysis of each group's perceptions of the value and level of courses they attended.

GROUP IDENTIFICATION AND DATA ANALYSIS

Data was first compiled to give the overall educational and experiential profile of all the participants in the program. Then four major subgroups were formed. The two groups which constituted the largest population with similar educational backgrounds were emergency medicine

graduates (32.7%) and surgeons (18%). The two groups with the most divergent experiential profile were those who had practiced emergency medicine full time for five or more years and those who only practiced emergency medicine on a part time basis. Data from these groups was analyzed to determine if significant differences existed in the participants' perception of the value and level of courses.

Data was gathered from the entire population of physicians attending the 14 courses offered during the first major session of postgraduate courses at the annual scientific assembly of the American College of Emergency Physicians. The total attendance for these courses was 737. Responses were received from 654 which was an 88.7% return.

RESEARCH QUESTION 1

The first research question was:

> What are the major student profiles in terms of longevity (i.e., years of practice/experience in emergency medicine), current involvement in other medical specialty areas, and medical education background?

The experiential variable was divided into the two areas of (1) those who have practiced full time in the Emergency Department for five or more years and (2) those who practiced part time in the Emergency Department. The data revealed 254 respondents had practiced emergency medicine full time for five years or more and that only 48 were practicing emergency medicine part time. The formal medical

education variable included eight major specialty training areas ranging from 33% to 1% of the total population. These were: Emergency Medicine, 33.2%; Surgery, 18.1%; Family Practice, 16.7%; Internal Medicine, 11.9%; Pediatrics, 2.6%; Obstetrics and Gynecology, 1.5%; Psychiatry, 1.4%; and Anesthesiology, 1.1%.

Table 1 gives the analysis of these eight educational areas and Table 2 gives the analysis by course topics. Nineteen other specialty education areas were also identified but each of them comprised less than 1% of the population. They were: Orthopedics, Pathology, Neurology, Urology, Radiology, General Practice, Rotating Internship, Ophthalmology, Critical Care, Pharmacy, Neurosurgery, Thoracic Surgery, Infectious Diseases, Oncology, Psychosomatic Medicine, Industrial Medicine, Aerospace Medicine and Flight Surgery (USAF).

The profile of participants who currently are members of medical specialty societies other than ACEP identifies four organizations with more than 1% of the population. They are the American Academy of Family Physicians, 11.3%; the American College of Surgeons, 5.0%; the American Society of Internal Medicine, 4.3%; and the American Academy of Pediatrics, 1.7%.

Table 3 gives the analysis of these four specialty societies and Table 4 gives the summary analysis by course topic. Other organizations identified were the American Psychiatric Association, Aerospace Medicine Association, the

TABLE 1

SAMPLE SIZES AND PERCENTAGES FOR THE

EIGHT LARGEST MEDICAL SPECIALTY EDUCATION AREAS

Medical Specialty Education	N	%
Emergency Medicine	217	33.2%
Surgery	118	18.1%
Family Practice	107	16.7%
Internal Medicine	78	11.9%
Pediatrics	17	2.6%
Obstetrics And Gynecology	10	1.5%
Psychiatry	9	1.4%
Anesthesiology	7	1.1%

TABLE 2

SPECIALTY TRAINING

Topics	Respondents*	Emergency Medicine	Family Practice	Internal Medicine	Surgery	Pediatrics	Other	Omit
Radiology of the Chest	21	38.1% (8)	19.0% (4)	9.5% (2)	9.5% (2)	9.5% (2)	14.3% (3)	
Dysrhythmias	71	29.6% (21)	19.7% (14)	7.0% (5)	25.4% (18)	1.4% (1)	12.6% (9)	4.2% (3)
Emergency Medicine Case Presentations	35	25.7% (9)	17.1% (6)	11.4% (4)	20.0% (7)		8.6% (3)	17.1% (6)
Hand Injuries	49	32.7% (16)	10.2% (5)	24.5% (12)	16.3% (8)	4.1% (2)	8.2% (4)	4.0% (2)
Traumatic Ophthalmology	34	38.2% (13)	17.6% (6)	8.8% (3)	26.5% (9)		8.8% (3)	
Tachyarrhythmias and Bradyarrhythmias	70	37.1% (26)	17.1% (12)	7.1% (5)	22.9% (16)	2.9% (2)	11.4% (8)	1.4% (1)
Gynecological Emergencies	70	44.3% (31)	11.4% (8)	17.1% (12)	18.6% (13)	1.4% (1)	4.3% (3)	2.8% (2)
Trauma Management	27	29.6% (8)	14.8% (4)	25.9% (7)	7.4% (2)			22.2% (6)
Initial Evaluation and Resuscitation	66	27.3% (18)	15.2% (10)	12.1% (8)	15.2% (10)	3.0% (2)	12.1% (8)	15.2% (10)
Radiology of the Abdomen	25	40.0% (10)	8.0% (2)	12.0% (3)	16.0% (4)	8.0% (2)	8.0% (2)	8.0% (2)
Pediatric Respiratory Problems	43	27.9% (12)	32.6% (14)	4.7% (2)	18.6% (8)	2.3% (1)	14.0% (6)	
Basic Clinical Procedures	44	20.5% (9)	22.7% (10)	13.6% (6)	2.3% (1)	4.5% (2)	6.8% (3)	29.5% (13)
Toxicology	57	29.8% (17)	12.3% (7)	8.8% (5)	21.1% (12)	8.8% (5)	3.5% (2)	15.7% (9)
Pediatric Trauma	42	38.1% (16)	11.9% (5)	9.5% (4)	19.0% (8)	4.8% (2)	4.8% (2)	11.9% (5)
Totals	*88.7% (654)	32.7% (214)	16.3% (107)	11.9% (78)	18.0% (118)	3.4% (22)	8.6% (56)	9.0% (59)

*Total course attendance was 737.

TABLE 3

SAMPLE SIZES AND PERCENTAGES OF

MEMBERSHIP IN ORGANIZATIONS OTHER THAN ACEP

Medical Specialty Society	N	%
American Academy of Family Physicians	74	11.3%
American College of Surgeons	33	5.0%
American Society of Internal Medicine	28	4.3%
American Academy of Pediatrics	11	1.7%

TABLE 4

MEMBERSHIP IN SPECIALTIES OTHER THAN ACEP

Topics	American Academy of Family Physicians	American Society of Internal Medicine	American College of Surgeons	American Academy of Pediatrics	Other
Radiology of the Chest	19.0% (4)	4.8% (1)			9.5% (2)
Dysrhythmias	12.7% (9)	1.4% (1)	9.9% (7)		5.6% (4)
Emergency Medicine Case Presentations	11.4% (4)	2.9% (1)	14.3% (5)		2.9% (1)
Hand Injuries	6.1% (3)	10.2% (5)	4.1% (2)	6.1% (3)	2.0% (1)
Traumatic Ophthalmology	11.8% (4)	5.9% (2)	5.9% (2)		
Tachyarrhythmias and Bradyarrhythmias	15.7% (11)		7.1% (5)		5.7% (4)
Gynecological Emergencies	5.7% (4)	7.1% (5)	2.9% (2)		2.9% (2)
Trauma Management	3.7% (1)	14.8% (4)			
Initial Evaluation and Resuscitation	10.6% (7)	3.0% (2)	7.6% (5)	3.0% (2)	4.5% (3)
Radiology of the Abdomen	8.0% (2)	4.0% (1)	4.0% (1)	4.0% (1)	4.0% (1)
Pediatric Respiratory Problems	16.3% (7)		2.3% (1)	2.3% (1)	9.3% (4)
Basic Clinical Procedures	18.2% (8)	6.8% (3)	4.5% (2)	2.3% (1)	2.3% (1)
Toxicology	12.3% (7)		1.8% (1)	5.3% (3)	
Pediatric Trauma	7.1% (3)	7.1% (3)			4.8% (2)
Totals	11.3% (74)	4.3% (28)	5.0% (33)	1.7% (11)	3.9% (25)

American College of Obstetricians and Gynecologists, the American Society of Anesthesiologists, and the American College of Preventive Medicine.

RESEARCH QUESTION 2

The second research question was:

> Do the participants perceive that the courses they take are of significant professional value?

The question on the evaluation instrument asked participants to indicate the professional value of the course to them as (a) significant, (b) little, or (c) none.

The overall responses to this question indicate that 92.1% of the physicians who responded perceived the courses to be of significant value and 7.9% indicated that they were of little value, but no one indicated that they were of no value. Table 4 shows the analysis by topic.

RESEARCH QUESTION 3

The third research question was:

> At what educational level do the participants perceive the courses to be?

The item on the evaluation instrument asked participants to classify the level of the course as (a) advanced, (b) intermediate, or (c) basic. The data indicate that 22.4% identified the courses as advanced, 60.6% as intermediate, and 17% as basic. Table 5 shows the analysis by topic.

TABLE 5

PROFESSIONAL VALUE

EMERGENCY MEDICINE TOPICS	SIGNIFICANT	LITTLE	NONE
Radiology of the Chest	100.0% (21)	-0-	-0-
Interpretation of Dysrhythmias	87.0% (62)	8.5% (6)	
Emergency Medicine Case Presentations	88.6% (31)	8.6% (3)	
Hand Injuries	100.0% (49)		
Ophthalmology	88.2% (30)	11.8% (4)	
Arrhythmias	88.6% (62)	10.0% (7)	
Gynecological Emergencies	94.3% (66)	4.3% (3)	
Trauma Management	92.6% (25)	7.4% (2)	
Initital Evaluation and Resuscitation	87.9% (58)	12.1% (8)	
Radiology of the Abdomen	92.0% (23)	8.0% (2)	
Pediatric Respiratory Problems	88.4% (38)	7.0% (3)	
Clinical Procedures	88.6% (39)	9.1% (4)	
Toxicology	94.7% (54)	5.3% (3)	
Pediatric	85.7% (36)	14.3% (6)	
TOTALS	(594)	(51)	
	92.1%	7.9%	

TABLE 6

PARTICIPANT'S IDENTIFICATION OF COURSE LEVEL

EMERGENCY MEDICINE TOPICS	ADVANCED	INTERMED.	BASIC
Radiology of the Chest	28.6% (6)	66.7% (14)	
Interpretation of Dysrhythmias	19.7% (14)	57.7% (41)	15.5% (11)
Emergency Medicine Case Presentations	20.0% (7)	65.7% (23)	14.3% (5)
Hand Injuries	14.3% (7)	65.3% (32)	18.4% (9)
Ophthalmology	11.8% (4)	76.5% (26)	11.8% (4)
Arrhythmias	18.6% (13)	74.3% (52)	7.1% (5)
Gynecological Emergencies	15.7% (11)	74.3% (52)	5.7% (4)
Trauma Management	33.5% (9)	55.6% (15)	7.4% (2)
Initial Evaluation and Resuscitation	10.6% (7)	71.2% (47)	12.1% (8)
Radiology of the Abdomen	12.0% (3)	50.0% (15)	28.0% (7)
Pediatric Respiratory Problems	67.4% (29)	7.0% (3)	16.3% (7)
Clinical Procedures	6.8% (3)	38.2% (17)	50.0% (22)
Toxicology	12.3% (7)	66.7% (38)	19.3% (11)
Pediatric	23.8% (10)	64.3% (27)	7.1% (3)
TOTALS	(130)	(350)	(98)
	22.4%	60.6%	17.0%

RESEARCH QUESTION 4

The fourth research question was:

> Do the participants recommend that the courses be offered to others?

The item on the evaluation instrument asked participants to give their recommendations on whether the course should be offered for others with education and experience similar to theirs (a) at the same level, (b) at a more basic level, (c) at an advanced level, or (d) not at all. The data analysis reveals that 79% recommended that they be offered at the same level, 9% suggested a more basic level and 11% a more advanced level. Only 10% of the respondents recommended that the courses not be given again. The specific analysis by topic is shown in Table 6.

RESEARCH QUESTION 5

The fifth research question was:

> Do emergency medicine residency trained physicians perceive the professional value and level of the educational offerings they attend to be the same as other participants perceive them?

To determine the answer to this question an individual analysis was made for each of the fourteen courses on each of the questions regarding professional value and level. The population was divided into two groups: emergency medicine residency graduates and all others taking the course.

The analyses showed only three items with significant differences at the .05 level. Two of these were on the

TABLE 7

SHOULD IT BE OFFERED

EMERGENCY MEDICINE TOPICS	SAME	MORE BASIC	MORE ADVANCED	NOT AT ALL
Radiology of the Chest	90.5% (19)	4.8% (1)	-0-	-0-
Interpretation of Dysrhythmias	74.6% (53)	4.2% (3)	5.6% (4)	1.4% (1)
Emergency Medicine Case Presentations	65.7% (23)	5.7% (2)	20.0% (7)	
Hand Injuries	85.7% (42)	2.0% (1)	8.2% (4)	
Ophthalmology	67.6% (23)	11.8% (4)	17.6% (6)	
Arrhythmias	71.4% (50)	5.7% (4)	17.1% (12)	
Gynecological Emergencies	85.7% (60)	4.3% (3)	5.7% (4)	1.4% (1)
Trauma Management	81.5% (22)	7.4% (2)	7.4% (2)	
Initial Evaluation and Resuscitation	68.2% (45)	10.6% (7)	15.2% (10)	1.5% (1)
Radiology of the Abdomen	80.0% (20)	12.0% (3)	8.0% (2)	
Pediatric Respiratory Problems	20.9% (9)	16.3% (7)	25.6% (11)	14.0% (6)
Clinical Procedures	77.3% (34)	9.1% (4)	4.5% (2)	2.3% (1)
Toxicology	80.3% (46)	8.8% (5)	5.3% (3)	
Pediatric	64.3% (27)	21.4% (9)	14.3% (6)	
TOTALS	(473)	(55)	(63)	(10)
	79.0%	9.0%	11.0%	1.0%

course level variable for radiology of the chest and the course level variable for gynecological emergencies. Emergency medicine residency graduates ranked both of these at a higher level than did the others in the class. The third statistically significant difference was on the professional value of the course on clinical procedures. Again the emergency medicine residency graduates rated this course higher. Table 8 gives the sample sizes, the T-values, and the statistical probabilities for these items.

RESEARCH QUESTION 6

The sixth research question was:

> Do physicians who have formal education backgrounds in surgery perceive the professional value and level of individual courses to be the same as other participants perceive them?

Again the T-test was employed to identify any significant differences that existed between the surgeons and all others who attended the courses on the variables of professional value and level. The data on surgeons also shows significant differences on these two variables. On the professional value question the surgeons indicated a higher value both in the course on tachy- and bradyarrhythmias and in the course on pediatric trauma. On the course level question the surgeons identified the course on evaluation and resuscitation of the multiply injured patient and the one on trauma management at a lower level than others did. Table 9 identifies the specific data on these variables.

TABLE 8

SAMPLE SIZES, DEGREES OF FREEDOM, T-VALUES, AND STATISTICAL PROBABILITIES FOR SIGNIFICANT T-TEST FOR EMERGENCY MEDICINE GRADUATES

TOPIC	GROUP	VARIABLE	N	DEGREES OF FREEDOM	T-VALUE	P
Radiology-Chest	EM Grads	Level	10	18	2.06	.05
	Others		10			
Gynecology	EM Grads	Level	30	65	2.09	.04
	Others		37			
Clinical Procedures	EM Grads	Value	8	34	2.09	.04
	Others		35			

TABLE 9

SAMPLE SIZES, DEGREES OF FREEDOM, T-VALUES, AND STATISTICAL PROBABILITIES FOR SIGNIFICANT T-TESTS FOR SURGEONS

TOPIC	GROUP	VARIABLE	N	DEGREES OF FREEDOM	T-VALUE	P
Dysrhythmia	Surgeons	Value	18	49	2.58	.013
	Others		50			
Pediatric Trauma	Surgeons	Value	8	34	2.65	.012
	Others		35			
Trauma Management	Surgeons	Level	2	23	-2.29	.032
	Others		24			
Evaluation and Resuscitation	Surgeons	Level	10	60	-2.03	.047
	Others		52			

RESEARCH QUESTION 7

The seventh research question was:

> Do physicians who have practiced emergency medicine full time for five or more years perceive the professional value and level of individual courses to be the same as other participants perceive them?

The subjects in this group were those who had practiced emergency medicine for five or more years. The T-test data on this question revealed a significant difference at the .05 level on the value of the course on emergency ophthalmology and on the level of the course on radiology of the abdomen. The ophthalmology course was perceived by this group to be much less valuable, but the level of the radiology course was perceived to be higher. The specific data for these analyses are shown in Table 10.

RESEARCH QUESTION 8

The eighth research question was:

> Do physicians practicing emergency medicine part time perceive the professional value and level of individual courses to be the same as other participants perceive them?

The number of physicians who practice emergency medicine part time was much smaller than anticipated and in some cases there were not enough subjects in a course to give valid data for correlation analyses. The data did indicate that for the course on pediatric trauma these physicians rated the course lower on the professional value, and for

TABLE 10

SAMPLE SIZES, DEGREES OF FREEDOM, T-VALUES, AND STATISTICAL PROBABILITIES FOR SIGNIFICANT T-TESTS FOR THOSE WITH FIVE YEARS OR MORE EXPERIENCE

TOPIC	GROUP	VARIABLE	N	DEGREES OF FREEDOM	T-VALUE	P
Ophthalmology	5 yrs. +	Value	11	32	-2.00	.054
	Others		23			
Radiology -Abdomen	5 yrs. +	Level	13	22.6	2.13	.044
	Others		12			

TABLE 11

SAMPLE SIZES, DEGREES OF FREEDOM, T-VALUES, AND STATISTICAL PROBABILITIES FOR SIGNIFICANT T-TESTS FOR THOSE WHO PRACTICE PART TIME

TOPIC	GROUP	VARIABLE	N	DEGREES OF FREEDOM	T-VALUE	P
Clinical Procedures	Part time	Value	* 4	29	2.11	.043
	Others		30			
Pediatric Trauma	Part time	Value	* 5	30	-2.10	.044
	Others		27			

*Although these items showed significant difference at the .05 level, the N was too small to trust the validity of these T-tests.

the course on clinical procedures they rated the ccurse higher on the professional value. The data for these two T-tests is shown in Table 11.

RESEARCH QUESTION 9

The ninth research question was:

> Are there significant differences among the groups in #5, 6, 7, and 8 above in their overall perceptions of the Scientific Assembly courses on the variables of professional value, level and recommendation?

Summary data indicated that there were no significant differences in the overall responses of the four groups on any of the three variables. Tables 12 through 15 give the specific summary data on these items; Tables 16 through 18 give the specific data by course topic; and Tables 19 through 26, which can be found in Appendix B, give similar data in graph form.

TABLE 12

SUMMARY OF THE SAMPLE SIZES AND MEANS OF EMERGENCY MEDICINE GRADUATES AND OTHERS TO ALL FOURTEEN COURSES FOR VALUE, LEVEL AND RECOMMENDATION

VARIABLE	GROUP	N	MEANS
Value	Emergency Medicine Graduates	214	1.91
	Others	429	1.92
Level	Emergency Medicine Graduates	212	1.06
	Others	417	.98
Recommendation	Emergency Medicine Graduates	205	2.06
	Others	411	1.99

TABLE 13

SUMMARY OF SAMPLE SIZES AND MEANS OF RESPONSE OF SURGEONS AND OTHERS TO ALL FOURTEEN COURSES FOR VALUE, LEVEL AND RECOMMENDATION

VARIABLE	GROUP	N	MEANS
Value	Surgeons	115	1.90
	Others	530	1.92
Level	Surgeons	112	1.00
	Others	518	1.01
Recommendation	Surgeons	111	2.07
	Others	505	2.00

TABLE 14

SUMMARY OF THE SAMPLE SIZES AND MEANS OF RESPONSES OF THOSE WITH EMERGENCY MEDICINE PRACTICE OF 5 YEARS OR MORE AND OTHERS TO ALL FOURTEEN COURSES FOR VALUE, LEVEL AND RECOMMENDATION

VARIABLE	GROUP	N	MEANS
Value	5 Years Practice	252	1.91
	Others	391	1.92
Level	5 Years Practice	244	1.04
	Others	386	.98
Recommendation	6 Years Practice	248	1.99
	Others	369	2.02

TABLE 15

SUMMARY OF THE SAMPLE SIZES AND MEANS OF RESPONSES OF THOSE WHO PRACTICE EMERGENCY MEDICINE PART TIME AND OTHERS TO ALL FOURTEEN COURSES FOR VALUE, LEVEL AND RECOMMENDATION

VARIABLE	GROUP	N	MEANS
Value	Part-Time	48	1.91
	Others	427	1.92
Level	Part-Time	46	1.00
	Others	417	1.00
Recommendation	Part-Time	43	2.00
	Others	415	2.02

TABLE 16

SAMPLE SIZE AND MEANS FOR EACH GROUP
ON THE VALUE OF INDIVIDUAL COURSES

Course Topic	Group	N	Means
Radiology-Chest	EM Medicine	8	2.00
	Surgeons	2	2.00
	5 Years +	13	2.00
	Part-Time	0	
Dysrhythmias	EM Medicine	21	1.90
	Surgeons	18	2.00
	5 Years +	32	1.87
	Part-Time	7	2.00
EM. Medicine Cases	EM Medicine	9	1.88
	Surgeons	7	1.83
	5 Years +	17	1.94
	Part-Time	2	2.00
Hand Injuries	EM Medicine	16	2.00
	Surgeons	8	2.00
	5 Years +	15	2.00
	Part-Time	5	2.00
Opthalmology	EM Medicine	13	1.92
	Surgeons	9	1.77
	5 Years +	11	1.72
	Part-Time	3	2.00
Arrhythmias	EM Medicine	26	1.88
	Surgeons	16	1.86
	5 Years +	36	1.88
	Part-Time	4	1.75
Gynocology	EM Medicine	31	1.96
	Surgeons	13	1.92
	5 Years +	22	1.95
	Part-Time	3	2.00

TABLE 16 -- Continued

Course Topic	Group	N	Means
Trauma	EM Medicine	8	2.00
	Surgeons	2	2.00
	5 Years +	12	1.91
	Part-Time	3	2.00
Resusitation	EM Medicine	18	1.83
	Surgeons	10	1.70
	5 Years +	15	1.87
	Part-Time	6	1.83
Radiology-Abdomen	EM Medicine	10	1.90
	Surgeons	4	2.00
	5 Years +	13	1.84
	Part-Time	1	2.00
Pediatric Respitatory	EM Medicine	12	1.83
	Surgeons	8	1.85
	5 Years +	19	1.94
	Part-Time	3	2.00
Clinical Procedures	EM Medicine	9	2.00
	Surgeons	1	2.00
	5 Years +	16	1.93
	Part-Time	3	2.00
Toxicology	EM Medicine	17	1.99
	Surgeons	12	1.91
	5 Years +	18	1.94
	Part-Time	2	2.00
Pediatric Trauma	EM Medicine	16	1.81
	Surgeons	8	2.00
	5 Years +	13	1.94
	Part-Time	5	1.60

TABLE 17

SAMPLE SIZE AND MEANS FOR EACH GROUP

ON LEVEL OF INDIVIDUAL COURSES

Course Topic	Group	N	Means
Radiology-Chest	EM Medicine	10	1.50
	Surgeons	2	1.50
	5 Years +	12	1.33
	Part-Time	0	
Dysrhythmias	EM Medicine	20	1.00
	Surgeons	18	.94
	5 Years +	31	1.00
	Part-Time	7	1.28
EM. Medicine Cases	EM Medicine	9	1.22
	Surgeons	7	1.00
	5 Years +	17	1.17
	Part-Time	3	1.00
Hand Injuries	EM Medicine	16	1.12
	Surgeons	8	1.12
	5 Years +	15	1.06
	Part-Time	5	1.00
Ophthalmology	EM Medicine	13	1.00
	Surgeons	9	.88
	5 Years +	11	.90
	Part-Time	3	1.00
Arrhythmias	EM Medicine	26	1.15
	Surgeons	16	1.06
	5 Years +	37	1.16
	Part-Time	4	1.25
Gynecology	EM Medicine	30	1.23
	Surgeons	12	1.08
	5 Years +	21	1.14
	Part-Time	2	1.00

TABLE 17 -- Continued

Course Topic	Group	N	Means
Trauma	EM Medicine	7	1.14
	Surgeons	2	1.00
	5 Years +	11	1.27
	Part-Time	3	.66
Resusitation	EM Medicine	17	1.05
	Surgeons	10	.70
	5 Years +	16	1.87
	Part-Time	4	1.00
Radiology-Abdomen	EM Medicine	10	.80
	Surgeons	4	.50
	5 Years +	13	1.07
	Part-Time	1	1.00
Pediatric Respitatory	EM Medicine	12	.83
	Surgeons	7	1.28
	5 Years +	18	.94
	Part-Time	3	1.33
Clinical Procedures	EM Medicine	9	.55
	Surgeons	0	
	5 Years +	16	.68
	Part-Time	3	.66
Toxicology	EM Medicine	17	.82
	Surgeons	11	1.09
	5 Years +	17	.82
	Part-Time	2	1.00
Pediatric Trauma	EM Medicine	16	1.18
	Surgeons	6	1.00
	5 Years +	11	1.09
	Part-Time	5	.80

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TABLE 18

SAMPLE SIZE AND MEANS FOR EACH GROUP

ON RECOMMENDATION FOR OFFERING COURSES IN THE FUTURE

Course Topic	Group	N	Means
Radiology-Chest	EM Medicine	10	1.90
	Surgeons	2	2.00
	5 Years +	13	1.92
	Part-Time	0	--
Dysrhythmias	EM Medicine	17	2.11
	Surgeons	16	2.12
	5 Years +	31	1.93
	Part-Time	5	2.00
EM. Medicine Cases	EM Medicine	9	2.33
	Surgeons	7	2.42
	5 Years +	16	2.12
	Part-Time	2	2.50
Hand Injuries	EM Medicine	14	2.00
	Surgeons	8	1.87
	5 Years +	15	2.06
	Part-Time	5	2.00
Opthalmology	EM Medicine	13	2.15
	Surgeons	9	2.11
	5 Years +	10	2.00
	Part-Time	3	1.66
Arrhythmias	EM Medicine	25	2.20
	Surgeons	15	2.13
	5 Years +	36	2.02
	Part-Time	4	2.00
Gynocology	EM Medicine	30	2.06
	Surgeons	12	2.00
	5 Years +	22	2.04
	Part-Time	3	2.33

TABLE 18 -- Continued

Course Topic	Group	N	Means
Trauma	EM Medicine	8	2.12
	Surgeons	2	2.00
	5 Years +	12	2.00
	Part-Time	3	1.66
Resusitation	EM Medicine	17	2.05
	Surgeons	9	2.33
	5 Years +	15	2.06
	Part-Time	5	2.00
Radiology-Abdomen	EM Medicine	10	2.00
	Surgeons	4	2.00
	5 Years +	13	2.00
	Part-Time	1	2.00
Pediatric Respitatory	EM Medicine	12	2.16
	Surgeons	6	1.83
	5 Years +	18	2.11
	Part-Time	2	2.00
Clinical Procedures	EM Medicine	8	2.00
	Surgeons	1	2.00
	5 Years +	15	1.73
	Part-Time	4	2.00
Toxicology	EM Medicine	16	1.93
	Surgeons	12	2.00
	5 Years +	18	1.94
	Part-Time	1	2.00
Pediatric Trauma	EM Medicine	16	1.81
	Surgeons	8	1.87
	5 Years +	13	1.92
	Part-Time	5	2.00

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

> Professionals are not new to the world. But in the past, professionals have formed unprogressive castes. The point is that professionalism has now been mated with progress. The world is now faced with a self-evolving system, which it cannot stop . . . If mankind can rise to the occasion, there lies in front a golden age of beneficient creativeness.
>
> A. N. Whitehead (1926)

This prophetic utterance clearly describes the modern professional who is engaged in evolving systems which have been greatly accelerated in recent years by scientific and technological knowledge explosions. Medicine is one of these professions which is constantly bombarded with so much new information that no one person can keep abreast of it all. This has resulted in a rapid growth in specialization as physicians focus on narrower specific areas for indepth knowledge and skills. This study focused on the newest medical specialty, Emergency Medicine, and its unique continuing professional education milieu. This chapter will summarize the purpose of this study, discuss conclusions about the data results and make recommendations for further research.

PURPOSES

The major purposes of this study were:

1. to develop a process evaluation system for identifying the educational and experiential variables of participants who attend the scientific assembly of the specialty society, and
2. to provide an information feedback loop to the program planners to assist them in improving the quality and focus of future programs.

Basic to this study were two major philosophical concepts. One was that the principles of adult education are relevant to continuing professional education. Within this concept especial focus is placed on the principle that professionals themselves ultimately determine their own continuing education needs, and their perception of a program's relevance to their professional practice is very important in their evaluation of continuing education courses.

The other philosophical concept was that the primary purpose of evaluation in continuing professional education is to improve the educational process.

DISCUSSION OF RESULTS

This section will summarize and discuss the profile findings and the students' overall perceptions of the professional value, level, and recommendations for future offerings of the courses.

STUDENT PROFILE

The relevant variables for the student profile were (1) the formal medical education background and (2) the amount of experience in the practice of emergency medicine. To give some indication of the physicians' current involvement in other specialty societies, the respondents were asked to indicate current membership in medical specialty organizations other than ACEP.

Emergency medicine was identified as the major area of medical educational background, representing 32.7% of the total population. The other three major areas were: Surgery, 18.0%; Family Practice, 16.3%; and Internal Medicine, 11.9%. Current membership in these other medical societies did not correlate with educational background figures. The largest membership organization was the American Academy of Family Physicians (AAFP) with 11.3%, the American College of Surgeons was 5.0% and the American Society of Internal Medicine was 4.3%.

From this analysis, the most important data for the decision makers was the large number of physicians who were members of AAFP, because this membership is contingent on the physicians completing at least 150 hours in each three year period of documented CME specifically in family practice. Membership in ACEP is also contingent on completion of 150 hours of continuing medical education and it

specifically must be in emergency medicine. This dual educational requirement could be very burdensome to the physicians.

To alleviate this situation both organizations must be cognizant of the problem and cooperate in giving dual approval for courses which are relevant to both family practice and emergency medicine. Based on the data gathered for this dissertation, this cooperative effort was initiated and appropriate courses within subsequent scientific assembly meetings have been approved for both ACEP Category I and for AAFP Prescribed Hours.

In the experiential data findings the most surprising information was the small percentage of physicians who practice emergency medicine part time. Whereas 29% of the total membership of the College consists of those who practice part time, only 11.2% were identified in the Scientific Assembly data.

The other experiential data revealed that 65% of the total scientific assembly population were physicians who had practiced emergency medicine for five or more years compared to 50% of the total College membership. Since one of the eligibility requirements to take the certification examination in emergency medicine is either a two year residency in emergency medicine or five years of experience in an emergency department, many of these "practice eligible" physicians may be needing board review courses to prepare for these examinations in the future.

CONCLUSIONS

In the overall analysis, the data indicate that no significant differences exist between the four groups and others on any of the three variables of value, level, and recommendation. However, in the analysis of specific courses some items did appear with significant differences.

The emergency medicine graduates indicated a higher professional value to them for the course on clinical procedures. This may be a reflection of the fact that since residency programs have only been in existence for a few years emergency medicine graduates have had limited practice in emergency departments. The course was based on actual clinical encounters with typical multiplicity of variables faced in actual practice. This group also identified the level of the courses in radiology of the chest and gynecology higher than the others. There is no apparent explanation for this phenomenon.

The general response of participants indicates that physicians in all groups were fairly well satisfied with the courses for which they registered and recommended that they be offered again for others of similar experience and backgrounds. However, the study gives no indication of whether the satisfaction is the result of wise self-selection on the part of the registrants, a well developed program by the planners, exceptional faculty, or a myriad of other possible factors.

WEAKNESSES AND LIMITATIONS OF THIS STUDY

The primary purpose of this study was to establish a system for gathering and analyzing experiential and educational background information to be incorporated into the overall program planning for scientific meetings as a segment of the needs assessment process. To be of significant value this data must be gathered on a continuing basis to determine trends and changes and make appropriate programming adjustments.

The evaluation instrument in this study did not allow a broad enough range of choices on the professional value of the courses. The only responses were significant, little or none. It is recommended that in future research this be expanded to at least five choices. The concept of the course value could also be expanded to allow more explicit feedback regarding ways the courses may impact the physician's practice. Responses for a question of this nature might include valuable as a general review; as new knowledge, attitude or skill; as confirmation of recently acquired information; as preparation for specialty board examination; or other responses specific to individual course content.

Another weakness of the evaluation instrument was that it did not gather enough data from the respondents regarding specific continuing education needs they wish to identify. This could be improved by listing core content

areas and having responses computer tabulated and/or by giving open ended questions and having respondents write in their requests for new courses.

RECOMMENDATIONS FOR A PLANNING AND EVALUATION SYSTEM

According to the information in the literature review, one major need in professional continuing education is a process which links needs assessment and evaluation systems to program decision makers. This study focuses on provision of information to the decision makers who plan educational programs; however, there are several other major groups of decision makers who could gain from such profile and evaluation information. One of these groups is composed of the individual self-directed professionals who develop their own education game plans.

The rationale for identifying the individual professionals as decision makers is based on adult education theories and the nature of professions.

As mentioned in chapter two of this study, Knowles (1970) distinguishes between pedagogy (the art and science of teaching children) and andragogy (the art and science of helping adults learn). Andragogical principles include the following concepts:

> As a person matures he becomes more self-directing; his growing reservoir of experience becomes an increasing resourse for learning; and his time perspective changes from one of postponed application of knowledge to immediacy of application, and accordingly his

> orientation toward learning shifts from one of subject-centeredness to one of problem-centeredness.

A major distinction between pedagogy and (adult) continuing professional education is the difference between an educational experience which is institutionally dominated and one which is self-directed. This is clearly delineated by Suter, et al (1980):

> In preparatory education the institution defines the goals and objectives and determines the programs of instruction to attain them.

The institution determines entrance qualifications and governs degree or certification requirements. By contrast:

> In continuing education, professionals choose programs to fit their needs, move in and out of programs at their discretion, and select institutions that suit their objectives and learning styles. Any application of acquired knowledge, skills or attitudes is very often the professional's own decision and initiative.

This transition from preparatory to continuing professional education has major implications for the planning and evaluation of continuing professional education.

Since the professional still accepts the responsibility for maintaining his or her own knowledge, skills and competency, he/she is a crucial decision maker in the planning and evaluation system. For these individual planners a profile of aggregate scores on professional assessment instruments for others with similar educational and experiential backgrounds could help identify potential areas of educational needs. This profile would be especially valuable to professionals in emerging specialties because they

have much more variation in educational and experiential backgrounds than do the traditional specialties.

In Emergency Medicine the profile could be established from data gathered from the certification examination administered by the American Board of Emergency Medicine, continuing medical education questions from the Study Guide in Emergency Medicine and from the self-assessment exam, the "Physician's Evaluation and Educational Review of Emergency Medicine" (PEER II). This data base could be established by asking the same profile questions from respondents who engage in these evaluative activities. Questions in each of these three activities must also be identified by one of the 22 Core Content areas of Emergency Medicine so that aggregate scores from these respondents can be grouped. These two data bases can then be combined to identify strengths and weaknesses within the various content areas for physicians within specific educational and experiential profiles. As individual physicians planned their educational activities, they could request this normative data regarding physicians with profiles similar to theirs and this could serve as one aspect of an individual needs assessment process.

The other major group of decision makers who should be served by the planning and evaluation system is the specialty society's decision makers. The experiential and educational profile of members would be valuable for policy

making bodies to determine the current composite of membership, and as an ongoing data gathering process it could identify changing patterns within the membership. The aggregate scores and the profiles could also furnish information to the decision makers who deal with member competency and to those who plan continuing education programs.

For the program planners the specific profile information and the aggregate scores in each of the 22 Core Content areas would be very valuable in decisions regarding the major areas of program emphasis. In an ongoing evaluation system this emphasis would shift as educational needs changed.

Another important aspect of the planning and evaluation system for program planners would be the feedback from individual members who identify their perceptions of professional needs both in content and in depth of topics.

In addition, new information is constantly being generated by research, and the planning and evaluation system must provide decision makers with the state-of-the-art in the multiple content areas of the profession. For the program planners, information can be most readily derived from the faculty and others who are directly involved with research. This information should be relayed to the individual professional through the specific programs which are developed.

To help the individual decision maker determine which educational activity will give him/her the most practice-relevant information, program brochures must clearly state the level and content of each offering. This can be accomplished by clearly stated, specific learning objectives for each course. To help the individual determine whether or not he/she has a clear understanding of the new information, each course should have a content post-test which correlates with the stated objectives. In addition, the syllabus should contain literature references and justifications for the questions and for future study.

The original problem statement for this study was:

> Often traditional continuing education programs are, in the best procrustean tradition, designed to fit the needs of the students to the interest or expertise of the faculty. Even when programs are planned specifically for an intended audience, program planners do not have clear indications of the unique needs of the practitioner/learner and must base decisions regarding content and level of courses on the planner's perception of participants' needs.

The proposed planning and evaluation system could be an important step toward alleviating the problem because within this system both the individual and the organizational decision makers would have important data from which to develop efficient, practical and accurately focused educational game plans.

APPENDIX A

SIXTH ANNUAL ACEP/EDNA SCIENTIFIC ASSEMBLY
COURSE EVALUATION FORM

SIXTH ANNUAL ACEP/EDNA SCIENTIFIC ASSEMBLY

Course Evaluation Form

USE PENCIL ONLY. ERASE COMPLETELY WHEN NECESSARY. MAKE YOUR MARKS FIRM AND CLEAR.

USING YOUR NUMBER TWO PENCIL, DARKEN YOUR FEED BACK NUMBER AND COURSE NUMBER IN THE BOXES BELOW.

FEEDBACK NUMBER

COURSE NUMBER

Course Title: _____

Instructor: _____

Content Evaluation

Questions 1-10 will be provided by your instructor (optional)

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.

Instructional Methods Evaluation

11. Professional value of this course for you: a) significant b) little c) none
12. The course organization was: a) excellent b) good c) fair d) poor
13. Practical value of syllabus materials: a) excellent b) good c) fair d) poor
14. At what level would you classify this course as presented: a) Advanced b) Intermediate c) Basic
15. Would you recommend that this course be offered for others with education and experience similar to yours? a) at the same level b) at a more basic level c) at an advanced level d) not at all

PLEASE MARK YOUR FEEDBACK NUMBER IN THE UPPER RIGHT CORNER; OMIT QUESTIONS 16-20 IF YOU HAVE ALREADY GIVEN THIS INFORMATION IN ANOTHER COURSE.

How many years have you worked in the Emergency Department?

16. Full Time: a) 1-2 yrs b) 3-4 yrs c) 5-6 yrs d) 7-8 yrs e) 9 yrs or over
17. Part Time: a) 1-2 yrs b) 3-4 yrs c) 5-6 yrs d) 7-8 yrs e) 9 yrs or over
18. **For Nurses Only:** What is your present academic level: a) LPN b) Diploma c) Associate d) Baccalaureate e) Masters or above
19. **For Nurses Only:** If you are a Nurse Practitioner, what is your specialty area? a) Adult b) Family c) Pediatric d) Emergency Nurse e) Other _____ (Please specify)
20. **For Physicians Only:** If you are a member of a specialty organization other than ACEP, please indicate. a) Family Practice b) Internal Medicine c) Surgery d) Pediatrics e) Other _____ (Please specify)

For Physicians Only: What are your formal specialty training areas? (mark as many as are applicable)

21. Emergency Medicine
22. Family Practice
23. Internal Medicine
24. Surgery
25. Pediatrics
26. Other _____ (Please specify)

	A	B	C	D	E
1.	A	B	C	D	E
2.	A	B	C	D	E
3.	A	B	C	D	E
4.	A	B	C	D	E
5.	A	B	C	D	E
6.	A	B	C	D	E
7.	A	B	C	D	E
8.	A	B	C	D	E
9.	A	B	C	D	E
10.	A	B	C	D	E
11.	A	B	C		
12.	A	B	C	D	
13.	A	B	C	D	
14.	A	B	C		
15.	A	B	C	D	
16.	A	B	C	D	E
17.	A	B	C	D	E
18.	A	B	C	D	E
19.	A	B	C	D	E
20.	A	B	C	D	E
21.	A				
22.	A				
23.	A				
24.	A				
25.	A				
26.	A				

COMMENTS:

Write Additional Comments On Reverse Side

Thank you for your feedback, it will be used.

APPENDIX B

GRAPH SUMMARIES OF PROFESSIONAL VALUE AND LEVEL OF INDIVIDUAL COURSES, TABLES 19 THROUGH 26

TABLE 19

PROFESSIONAL VALUE OF COURSES

Emergency Medicine Grads - Others

TABLE 20

PROFESSIONAL VALUE OF COURSES

5 Years Or More Practice - Others

TABLE 21

PROFESSIONAL VALUE OF COURSES

Part-Time Practice - Others

TABLE 22

PROFESSIONAL VALUE OF COURSES

Surgeons - Others

TABLE 23

LEVEL OF COURSES

Emergency Medicine Graduates - Others

TABLE 24

LEVEL OF COURSES

Surgeons - Others

TABLE 25

LEVEL OF COURSES

5 Years Or More Practice - Others

TABLE 26

LEVEL OF COURSES

Part-Time Practice - Others

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