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ABSTRACT

The purpose of this applied research project at the College of Osteopathic Medicine of the Pacific (California) was to develop a new curriculum for the Master of Science in Education for Health Professionals program. Seven areas were explored in this study: (1) the learning needs of educators of health professionals; (2) proposed curriculum components; (3) barriers to pursuit of a graduate degree in education; (4) instructional alternatives; (5) available delivery systems to increase program accessibility; (6) an implementation plan; and (7) an evaluation plan. A review of the literature provided a foundation for the study. Methodology included telephone interviews, focus groups, reviews of course offerings and degree requirements, and use of external and internal expert information. The final product, a model curriculum for the Master of Science in Education, was developed following the validation process. Included in the appendixes are the criteria for the study and the model curriculum. (Contains approximately 150 references.) (CH)

A MODEL MASTER OF SCIENCE CURRICULUM FOR EDUCATORS OF HEALTH PROFESSIONALS: INSTRUCTIONAL ALTERNATIVES, IMPLEMENTATION AND EVALUATION PLAN

Ellen Saxe Clymer

A major applied research project presented to Programs for Higher Education in partial fulfillment of the requirements for the degree of Doctor of Education

Nova Southeastern University

June, 1996

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Abstract of a major applied research project presented to Nova Southeastern University in partial fulfillment of the requirements for the degree of Doctor of Education

A MODEL MASTER OF SCIENCE CURRICULUM FOR EDUCATORS OF HEALTH PROFESSIONALS: INSTRUCTIONAL ALTERNATIVES, IMPLEMENTATION AND EVALUATION PLAN

by

Ellen Saxe Clymer

June, 1996

The Master of Science in Health Professions Education (MSHPE) program at the College of Osteopathic Medicine of the Pacific (COMP) was started in 1986 in response to an identified need to improve the quality of classroom and clinical instruction. Although curriculum revision occurred over the intervening years, a program evaluation process, accomplished in the spring semester of 1995, revealed outdated course content, lack of consistent course presentations, and in some cases, courses in the program not being taught at all. The faculty determined there was a need for a new curriculum to meet the learning needs of educators of health professionals more adequately.

The purpose of this development study was to develop a curriculum for a Master of Science in Education for Health Professionals that included course content, instructional alternatives, an implementation plan, and an evaluation plan.

There were seven research questions answered by this development study. First, What are the learning needs of educators of health professionals? Second, What content should be included in a Master of Science in Education for Health Professionals curriculum? Third, What are the barriers that interfere with an educator of health professionals' pursuit of a graduate degree in education? Fourth, What instructional alternatives are appropriate for use in a Master of Science in Education for Health Professionals program? Fifth, What educational delivery systems are available that will make the program accessible to educators of health professionals? Sixth, What is a feasible implementation plan for the Master of Science in Education for Health Professionals curriculum at COMP? Seventh, What evaluation plan (students, faculty, and program) would best accommodate a graduate program for educators of health professionals?

A review of the literature was completed to provide a foundation of information for the study. Telephone interviews were conducted with hospital staff development personnel and allied health program instructors to establish learning needs and existing barriers to participation in graduate education for educators of health professionals. Focus groups of practicing health professionals who do not participate in advanced education and students in the existing MSHPE program were asked for their perspectives on learning needs and barriers to participation in educational programs. Existing adult education graduate programs and graduate programs for health professionals were surveyed for

course content and degree requirements. Regional health professions education programs were contacted to determine curriculum development models currently in use in those programs. The collected data were compiled and analyzed using descriptive statistics when needed. Criteria to guide the curriculum development process were designed. A formative committee of experts in curriculum development, instructional design, educational delivery systems, and evaluation was mobilized to act as consultants throughout the curriculum development process. The completed curriculum was submitted to a summative committee of national experts who are knowledgeable in principles of adult learning and education for health professionals. From this face validation process, the final product, a model Master of Science in Education curriculum for health professionals evolved.

As a result of the procedures carried out during this development study, it was concluded that the new curriculum would meet the unique needs of educators of health professionals. Therefore, it was recommended it be implemented as soon as possible. In addition, it was recommended that funding be sought to develop a distance education program so the curriculum could be made available to more students. And it was recommended that the programs be vigorously marketed so that more educators of health professionals would be aware of the program.

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Chapter 1

INTRODUCTION

The College of Osteopathic Medicine of the Pacific (COMP) is an independent, free-standing, nonprofit institution of higher education, incorporated in 1977 in the state of California. The college currently conducts four degree/certificate programs: the Doctor of Osteopathy (DO), a Master of Science in Health Professions Education (MSHPE), a Master of Physical Therapy (MPT), and a primary care Physician Assistant (PA) certificate program. A Doctor of Pharmacy program will accept its first class of students in 1996.

The central mission of the college is to educate fully qualified health professionals to meet primary care health manpower needs in the western United States. From an initial class of 7 students accepted into the DO program in 1977, COMP now accepts 176 students each year into its undergraduate medical education program.

To meet its stated mission of producing primary care health professionals, the college employs 20 full-time basic science faculty to administer the first 2 years of the DO curriculum. The clinical teaching curriculum occurs during the 3rd and 4th years and is chiefly administered by the Department of Family Medicine. The Department of Family Medicine employs 10 full-time and 43 part-time faculty to teach in the college classrooms and clinics. In addition, over 400 preceptors in ambulatory care, in hospitals and in private practice, are contracted by the college.

In 1986, COMP recognized a need to provide the faculty with a means to improve their teaching skills in the classroom and the clinical areas. A Master of Science in Health Professions Education program was started through the use of federal faculty development grant funds. The program has remained small with 15 to 20 students enrolled at any given time. There have been 34 graduates from the MSHPE program, most of whom are currently on the faculty at COMP. The number of faculty assigned to teach in the program has varied over the years. For the most part, teaching has been done by faculty who have a part-time teaching assignment in the MSHPE program. For the past four years there has been a full-time chairperson who acted as administrator and was a member of the faculty. In the current academic year there are a part-time chairperson and four part-time faculty teaching in the program.

Meantime, in 1990, a PA certificate program was initiated. The PA program currently accepts 50 to 60 students each year. There are five full-time and six part-time faculty teaching in the program. In 1992, a Master of Physical Therapy program opened on campus. Each year 55 to 60 students are accepted into the program. Eight full-time and 11 part-time faculty teach in the MPT program. Both the MPT and the PA program have a fluctuating number of over 200 clinical faculty and preceptors working with students in the clinical setting.

A School of Pharmacy, offering a doctoral degree, will accept its first class of students in 1996. Plans call for 60

students to be accepted into the first class, with the number to reach 100 in the subsequent year.

A feasibility study has been completed and approved to open a satellite campus in northern California. The campus will open in 1996. Programs that will start at the new campus include physician assistant, nurse practitioner, and occupational therapy, with other programs to follow in subsequent years. In addition, negotiations are underway to formalize relationships with several major teaching hospitals in the area. It is COMP's intent, according to the president's annual report, to become a University of Health Sciences in 1997. This rapid expansion of programs, and planned institutional growth, has made it necessary to look for ways to further develop faculty to teach in these programs.

Nature of the Problem

When COMP applied for and received funding from the federal government to initiate the MSHPE program in 1986, it was an acknowledgement of the need to improve the quality of classroom and clinical instruction (O. T. Wendel, personal communication, 1991). The curriculum that was developed was based on a traditional model, having 3-unit courses with a total of 30 units required for completion of the program. In the past 10 years the curriculum has been adjusted several times to accommodate changing needs of students.

Although COMP acknowledged the need to improve the quality of classroom and clinical teaching skills 10 years ago by initiating the MSHPE program, there continued to be a lack of

formal teaching preparation among the faculty at COMP. Of the 43 full-time faculty members employed at COMP, only six had graduate degrees in teaching. Five of these individuals obtained their master's degree from the MSHPE program at COMP. The 29 additional graduates of the MSHPE program currently teach part time at COMP act as preceptors in the field, or were not employees of COMP. Nine individuals are in the latter category.

Conversations with educators of health professionals who currently teach at COMP but who have no formal teaching preparation, revealed a resistance to any change in traditional methods of teaching. Many individuals expressed concerns relative to the amount of material that must be covered within a specified time frame. Often voiced was the belief that the only teaching method that can adequately cover the voluminous amounts of required information is the lecture format. Closely related comments referred to the rigidity of a system that does not permit teachers to experiment with new teaching methods. A few individuals expressed a willingness to try different methods of teaching but expressed concern about where to begin or having the time to do it.

Informal discussions with potential students revealed obstacles that prevent them from enrolling in the MSHPE program. First, many of the potential students are medical residents whose schedules change frequently. They cannot commit to attending classes on a prescheduled basis. Second, many potential students are located in hospitals and clinics many miles from the COMP campus. Although they freely travel freeways to their place of

employment, the additional distance to attend class seems a barrier.

The literature on educators of health professionals has found that most educators of health professionals carry a heavy workload. At COMP, most faculty members, especially those in the School of Allied Health Professions, not only work as full-time teachers, but also work as part-time practitioners. Those individuals teaching part time are full-time practitioners. When queried about advanced education plans, most expressed a willingness to seek additional academic preparation but chose to delay enrollment in an advanced degree program until later. Frequently mentioned reasons for the delay included financial issues, family responsibilities, and a feeling that their current faculty position does not require additional education.

National health care reform issues have focused attention on how health professionals are educated. Recent dialogue between faculty and administrators at COMP reflect an awareness of the need for change in the way education is delivered in all of the programs. Most frequently discussed issues include curriculum revision, faculty and practitioner development, scholarly activities, and research. Implicit in these discussions are issues of promotion and tenure for faculty members.

As the impact of health care reform issues continues to drive changes in health professions education, the need for graduate preparation in education for faculty members seems evident. Although faculty in health professions education programs must have knowledge and skill in the subject matter,

they also need classroom and clinical-teaching skill. A Master of Science for Health Professions Education program is one way to address the acknowledged need to improve the quality of classroom and clinical education.

In the spring semester of 1995, the MSHPE faculty conducted a program evaluation which included, among other things, a review of course offerings and the manner in which the program was being delivered. Although course titles implied subject matter appropriate for a master's program in education, in fact, the course content was either not up-to-date, not being taught at all, or not being taught as designed.

In reaction to the diverse calls for change in the way health professionals are educated and to the need for revision of the existing curriculum, the faculty of the MSHPE program decided to develop a new, more responsive curriculum to be implemented as soon as possible.

Purpose of the Project

The purpose of this development study was to develop a curriculum for a Master of Science in Education for Health Professionals that included course content, instructional alternatives, an implementation plan, and an evaluation plan.

Background and Significance of the Problem

A need for change in health professions education has been advocated over the past several decades. However, little has been done, overall, to initiate program changes called for by a rapidly changing society (Schön, 1987; Curry & Wergin, 1993). Teaching is viewed as "a process of delivering information to

passive students and evaluating them for knowledge retention" while the students remain relatively disconnected from the world of professional practice (Jensen & Saylor, 1994, p. 345). The central task of health professions education, according to the Pew-Fetzer Task Force Report (Tresolini & the Pew-Fetzer Task Force, 1994) "must be to help students, faculty, and practitioners learn how to form caring, healing relationships with patients, and their communities, with each other, and with themselves" (p. 39). The report goes on to say that the formal curriculum should reflect required knowledge, skills, and values and, also, must pay attention to the learning environment and the process of teaching. While recent advances in the understanding of adult learning principles has seemed to address issues of the student-teacher relationships, health professions education has yet to include, to any extent, these principles. Cervero (1988) asserts that professional education programs can effectively facilitate learning to the extent they consistently use a model of learning that is based on adult learning principles.

Background

Issues of health care reform are driving the need for change in the way health professionals are educated. The Robert Wood Johnson Foundation Commission Report (as cited in Bloom, 1992) recommends significant changes in the way medical education is delivered. The report recommends an emphasis on active, student-centered, independent learning that would support the integration of basic science and medical science. The report suggests that medical education is fragmented to such an extent that there is

"discordance between what must be taught and what is being taught" (as cited in Bloom, 1992, p. 7). The report stresses that medical informatics are necessary for students to be able to understand and use computer-based information systems when studying biomedical problems. The Robert Wood Johnson Foundation Commission Report urges medical schools to examine their entire educational program. From this process it is hoped that basic science and clinical science can be integrated and that new methods of teaching and evaluation can be explored. Throughout the report, the common threads are the need to emphasize independent student learning and the need for medical students to receive a more thorough understanding of medical informatics.

The 1994 Pew Health Professions Commission Report offers recommendations for reforming health professions education. The recommendations range from building a foundation of values to focusing on the health needs of the community. The report suggests that academic health centers use appropriate systems to collect, analyze, and use information. Faculty development in relevant areas is advocated and the strengthening of organizational leadership for faculty and administrators is urged. As described in the Pew-Fetzer Task Force Report (1994), the central task of health professions education is to "help students, faculty, and practitioners learn how to form caring, healing relationships with patients and their communities . . . ." (Tresolini & The Pew-Fetzer Task Force, 1994, p. 39). Health professions educators, according to the report, must help students mature into reflective practitioners. The report

provides strategies for implementation and principles to guide programs that wish to make the suggested changes.

Holcomb and Smith (1993, p. 325) reviewed the history of Allied Health Instructional Personnel Centers established in 1968 by the W. K. Kellogg Foundation. At that time, the Kellogg Foundation recognized the need to improve the educational preparation of allied health educators and funded the centers as one way to bring about change in the level of academic preparation of educators and health professionals. In more recent times, Holcomb and Smith point out that many prestigious universities (University of Pennsylvania, the University of Michigan, Emory University, and Stanford University) have closed their allied health schools and programs. Holcomb and Smith attribute the closings as a response to tightened budgets. When research-focused schools look at ways to cut budgets, one of the yardsticks for measuring faculty effectiveness is to review productivity of faculty in the area of scholarly activity. Holcomb and Smith submit that allied health faculty are often found lacking, and they believe one reason for the lack of allied health faculty scholarly activity is the sparsity of graduate programs in the allied health disciplines. In a related article, Broski (1994, p. 19) sees schools of allied health as being vulnerable when universities look for ways to cut the budget. Broski concludes that there is a shortage of qualified faculty, especially at the doctoral level. Therefore, schools of allied health often "fall short of congruence with the parent

institution's mission as it relates to research activity" (p. 20).

Within the field of postsecondary education there is growing concern regarding the disparity in titles and degree requirements for a master's degree in education. Osguthorpe and Wong (1991, p. 3) report on a study of 664 institutions offering various master's degree titles in education. They describe 17 different titles in programs located in the general discipline of teaching. When subspecialty titles are included, the list grows to nearly 100 master's degree titles, all located in schools or departments of education. Osguthorpe and Wong identify Master of Science, Master of Arts in Education, and Master of Science in Education as those degree titles having increased over 50% in the last 10 years. Program requirements are equally confusing. No longer do degree titles imply program content. Osguthorpe and Wong (p. 13) find differing degree requirements throughout the field of education. Overall, the most common requirement for a master's degree in education is a written comprehensive examination. A master's project is almost as common. A significantly smaller number of institutions with a master's degree program require a thesis. Osguthorpe and Wong (p. 10) find that only 42% of the programs require students to complete an oral defense. Cameron and Witucke (1984, p. 6), in a survey of over 100 master's degrees in adult education, find little agreement concerning program requirements or core courses.

In another study of graduate adult education, Harrison (1995, p. 197) profiles 24 programs that offer a master's degree

only. Harrison (p. 201) identifies that a significant number of institutions have phased out or discontinued their programs in adult education. In a similar study of program and curriculum characteristics of allied health master's programs that prepare health professionals for educational roles, Jennings (1995, p. 18) finds that, of the 31 Association of Schools of Allied Health (ASAHP) member schools surveyed, only nine offer a dedicated degree or a major in education for health professionals. The more common finding, according to Jennings, is a minor track or "other" option in education.

The Pew Health Professions Commission Executive Summary (1991) suggests that academic disciplines need to be willing to experiment with alternatives in the realm of education, research, and patient care. Further, the report submits that the teaching-learning process needs to be strengthened to promote inquiry skills and to assist students to manage large volumes of information. Curricular assessment, according to the Pew Health Professions Executive Summary (1991), should be commonplace so as to improve process and outcome evaluations. The report also suggests that educational programs should allow for greater flexibility in access and multicompetency training (p. 17).

A related discussion of medical education in the 1990s points out that education currently being provided to students is "dated, arcane, and not in tune with societal needs" (Petersdorf & Turner, 1995, p. 41). Petersdorf and Turner urge trying alternative curricula and teaching methodologies as one way to

respond to the current call for change in the education of health professionals.

A common thread in recent studies of medical and allied health education emphasizes making education more student centered rather than teacher centered. Adult learning principles that suggest the teacher's role to be one of facilitating students' "learning how to learn" skills is espoused by adult educators (Brookfield, 1986; Cross, 1981; Darkenwald & Merriam, 1982; Knowles, 1980; Merriam & Caffarella, 1991; Peters & Jarvis, 1991; Smith, 1982). The call for change in medical and allied health education stresses the need to develop students as adult learners who are self-starters, problem solvers, and critical thinkers (Cervero, 1988; Houle, 1980; Irby, 1994; Mann, 1994; Petersdorf & Turner, 1995; Schön, 1987; Wlodkowski, 1993). Recommendations from the various health commissions and the cited literature seems to suggest a need for programs to strengthen the skills of health professions educators in the areas of adult learning theory. Curriculum-reform issues, and issues of research and scholarly activities, identified in the literature as problems in both medical and allied health education, suggest areas of need for educators of health professionals. Ornstein and Hunkins (1993, p. 458) laud the new interest in curriculum development. They believe that forces for change are being driven by advances in medicine and medical practice, alterations in public expectations, and trends in education. While public interest in health issues has increased, to date not much change has been reflected in the curriculum. Ornstein and Hunkins

believe that educational theory and practice relative to concepts such as integration and problem-based learning must receive more attention in curriculum development.

Significance

While the literature of adult education is replete with strategies for teaching teachers how to facilitate adult learning, little is found in medical and allied health literature about how to teach educators of health professionals how to promote self-directed learning in health professional students (Brockett, 1994; Candy, 1991; Chi, Lewis, Reimann, & Glaser, 1989; Curry & Wergin, 1993; Daloz, 1986). Although there are many recommendations in the literature on what changes are needed in medical and allied health education, there are few recommendations on how faculty should or could be assisted to make curricular changes and to use alternative instructional methods. This project is significant in that the theory and practice experiences of adult education was used to develop a graduate program for educators of health professionals. The program provides instructional alternatives commonly advanced by adult educators but frequently not found in health professions education classrooms.

A comprehensive model of curriculum development provides the structure needed to make the project useful to educators of health professionals. Davis (1993) has constructed a model that includes subject, setting, student, and teacher. The model appears to blend well with a related model offered by Irby (1994). Irby suggests that domains of knowledge for teachers of

health professionals might be "(1) knowledge of subject matter, (2) knowledge of general principles of teaching and learning, and (3) knowledge of content-specific teaching" (p. 333). Irby submits that teachers need to know their content well enough to "make connections within the subject, across disciplines, and within their learners" (p. 336). While Irby feels that teachers have a general sense of the principles of teaching, he acknowledges that these skills have developed from apprenticeships and from the reflective experience of teaching.

A recurring finding in the literature is that nontraditional students find distance from educational institutions to be a barrier (Cross, 1981; Garrison, 1989; Rose, 1995). Health professionals who work as full-time faculty or full-time health professionals who teach part time may be considered nontraditional students (Curry & Wergin, 1993). Ways to deliver education to these nontraditional students at a distance is almost endless. An issue of importance in the totality of this project related to the variety of ways education can be delivered in this era of computer technology. Many references are available relative to electronic technologies for education. The National Distance Learning Center (NDLC) is one of many centralized clearing houses for information on the programming available on distance-learning media. A caution is offered by Burnham and Seamons (1987) regarding the emphasis on technology rather than on learning. Burnham and Seamons point out that electronic distance education is not just computers but, rather, a method of learning intended to bring about changes in the

learner. Learning outcomes must be the focus. An important question to ask is what type of electronic configuration is best for what type of learning outcome, and for whom is the given system best (Clymer, 1993). The literature suggests that the electronic classroom is only one way of delivering education and that other methods should not be excluded because of the current focus on computer-mediated instruction.

Measuring or evaluating the impact of educational interventions is a challenging process for educators. There are many parallels to be drawn between evaluation plans designed for adult education and for health professions education. For instance, Kemp, Morrison, and Ross (1994, p. 278) mention an eight-step approach to formative evaluation first suggested by Gooler (1980). Details are provided on how to develop each step so that final results can be used to improve instruction. Kemp et al. also provide insight into the use of summative evaluation and furnish details on how to use summative evaluation information to improve the quality of programs. Similarly, Thomassy and Poskus (1995, p. 10) present a quality performance improvement (QPI) plan that addresses education processes and outcomes that can validate the value or worth of the educational program. In both approaches, Kemp et al. and Thomassy and Poskus give educators a model that provides measurement of educational outcomes. However, neither model addresses the issue of faculty evaluation. Both models are flexible enough to accommodate issues related to faculty evaluation. Many institutions have faculty evaluation plans that are negotiated. Therefore, for

this project, faculty evaluation was incorporated, insofar as was possible, into the overall evaluation plan.

The significance of this project to the institution, and to graduate education for allied health educators in general, is the blending of adult education theory with the need for changes in the way health professions students are educated. Although there are many recommendations in the literature on what changes are needed in medical and allied health education, there is little on how to help faculty implement the recommended changes. A curriculum, based on adult education principles, was developed and includes instructional alternatives that recognize health professions students as adults. An implementation plan and an evaluation plan was designed to complete the process.

The MSHPE faculty committed to making changes in the existing program. The faculty was involved throughout the development of the project as members of the formative committee. Barring unforeseen problems, the new curriculum will be implemented in the fall semester of 1996.

Research Questions

There were seven research questions answered by this development study:

1. What are the learning needs of educators of health professionals?

2. What content should be included in a Master of Science in Education for Health Professionals curriculum?

3. What are the barriers that interfere with an educator of health professionals' pursuit of a graduate degree in education?

4. What instructional alternatives are appropriate for use in a Master of Science in Education for Health Professionals program?

5. What educational delivery systems are available that will make the program accessible to educators of health professionals?

6. What is a feasible implementation plan for the Master of Science in Education for Health Professionals curriculum at COMP?

7. What evaluation plan (students, faculty, and program) would best accommodate a graduate program for educators of health professionals?

Definition of Terms

For purposes of this study the following terms are defined:

Adult education. Adult education refers to those activities an adult participates in to gain desired knowledge, skills, and values needed for occupational, vocational, and professional competence and to function in personal and family relationships, as well as for social and civil preparedness.

Adult learners. Adult learners are individuals who have an enriched background of knowledge and experience that should be used in the teaching-learning process.

Advanced education. Advanced education refers to any academic level of education beyond the individual's current level of educational preparation.

Distance education. Distance education refers to any form of teaching and learning in which the teacher and student(s) are

not in the same place at the same time and their connection is usually information technology.

Educator of health professionals. This faculty member has knowledge and skill specific to the profession in which he or she teaches.

Health professions education. A type of education that encompasses a body of knowledge included in a curriculum that prepares students to be health care practitioners.

Health professions educator. This faculty member teaches in an academic health professions setting.

Health program instructor. This faculty member teaches in vocation programs for health care providers.

Hospital staff development personnel. These individuals most often are employed by long-term care facilities.

Instructional alternatives. Such alternatives are decisions made by faculty about how subject matter is presented to students in a specific learning environment.

Instructional design. Instructional design is the systematic planning of instruction which includes consideration of the audience and the setting; sequencing instruction; selecting objectives and the strategies to meet the objectives; and evaluation of learning and instructional effectiveness.

Master of Science in Education for Health Professions. This degree indicates a graduate program for educators of health professionals that includes principles of adult learning and teaching methodologies specific to health professionals.

Medical informatics. Medical informatics is medical information that is obtained from any source falls into this category.

Nontraditional graduate education programs. This term refers to a graduate education program that indicates in the college catalogue that the program has special features, usually flexibility, in class schedules.

Nontraditional students. These students are health professional practitioners who teach part time or health professions educators who teach full time and work as practitioners part time.

Traditional graduate education programs. This term refers to a graduate education program that does not indicate in the college catalogue that the program has any flexibility features.

Chapter 2

REVIEW OF LITERATURE

Introduction

A literature review was conducted to provide a foundation for the development, implementation, and evaluation of a curriculum for the Master of Science in Education for Health Professionals program. The literature review provided one source of reference for the framework that guided the development of the project. Topics identified for the literature review included adult learning principles, learning needs of educators of health professionals, existing barriers to participation, curriculum development models, instructional alternatives, educational delivery systems, implementation strategies, and an evaluation plan.

Adult Learning Principles

An understanding of adult learning principles calls for a definition of adult education. Lindeman (1960, p. 5) refers to the whole of life as education. He points out that, in adult education, the curriculum is built around student needs. In another sense, Knowles (1980, p. 25) asserts that the term "adult education" has different meanings. He offers three alternatives: (a) the process of acquiring new knowledge, skills, attitudes, and values; (b) a set of activities to accomplish adult educational objectives; and (c) a combination of processes and activities concerned with the education of adults.

Darkenwald and Merriam introduce the concept of lifelong learning and describe it as "a process that continues in one form

or another throughout life" (1982, p. 2). They go on to say that education for adults must be adapted to the needs of individuals at different stages in their development. Cross (1981, p. 63) submits that adults educate themselves much more than is recognized. This phenomena has come to be known as self-directed learning and, according to Cross, refers to those activities that adults engage in to gain specific knowledge and skill (p. 187). Cross further suggests that we need to know more about how adults go about planning activities to help meet learning needs, how well they do it, and how satisfied they are with the results (p. 189). Adult education, then, appears to refer, in part to those lifelong, self-directed activities in which an adult participates to gain desired knowledge and skill.

As adult education started to be organized systematically, it became clear that traditional assumptions of education needed rethinking. Knowles (1980, p. 44) offers assumptions about adult learners that continue to impact how adult education is conducted. These assumptions are that as individuals mature: (a) their self-concept moves from one of being a dependent personality towards being a self-directed human being; (b) they accumulate a growing reservoir of experience that becomes an increasingly rich resource for learning; (c) their readiness to learn becomes oriented increasingly to the developmental tasks of their social roles; and (d) their time perspective changes from one of postponed application of knowledge to immediacy of application, and accordingly, their orientation toward learning shifts from one of subject centeredness to one of performance

centeredness. Further, Knowles provides conditions of learning and principles of teaching that have been adapted and used by adult educators over the years.

Adult education assumes that students are functioning in society as adults. Darkenwald and Merriam (1982, p. 77) believe this assumption leads to recognizing adult students as being capable of participating in the planning and implementation of their own learning. They further contend that adult students are "the ones who can most accurately judge the value of a learning activity and its relevance to their own lives" (p. 77). Darkenwald and Merriam see the teachers' role in adult education as one of being a resource person who cooperates with students in designing and implementing learning experiences.

Cross (1981, p. 67) studied participants in adult education programs and found that, among those who were seeking an academic degree, most came from working-class backgrounds, were first generation college students, and tended to be educated better than their counterparts in the general population. Many of these adult students came to be referred to as nontraditional and, according to Cross, were part-time students, registered in external degree programs, or participated in free-standing nontraditional colleges especially designed for older students. Merriam and Caffarella (1991, p. 68) report on studies that focus on adult learners' opportunities, competence, and where applicable, performance. Their studies found that more adult students are better educated and employed full or part time. Smith (1991, p. 11) describes the characteristics of the ideal

adult learner to be active, confident, and self-aware. Smith credits adult learners as being able to transfer learning from one situation to another.

But how does understanding of adult education and adult learners help to identify principles of adult learning? Sweeney (1988, p. 9) feels that adults bring to the learning process a variety of knowledge and experience. It is Sweeney's conviction that using this knowledge and experience can lead to a set of principles that will help an educator design course content that potentiates adult learning. A fundamental purpose of higher education is to help students become lifelong, self-directed learners (Chickering 1994, p. 3). How teachers help students take charge of their own learning is a central issue in adult education. Chickering distinguishes between learning that is important for career success and learning important for a good life. Learning, important for career success, calls for well-developed cognitive skills, interpersonal competence, and motivation. Learning for a good life implies managing one's emotions, moving from dependence to autonomy, and maintaining relationships of mutual respect and integrity. Chickering believes teachers play a key role in helping students move through these learning agendas.

In summary, principles of adult learning apply to individuals in a variety of educational settings from formalized classrooms to self-initiated learning events. Most frequently mentioned principles of adult learning are (a) having a self-concept that moves from dependence to autonomy, (b) accumulating

an increasingly rich reservoir of experiences, (c) having a readiness to learn, and (d) seeing an immediacy of knowledge application. Application of these principles of adult learning appears to provide an environment in which the processes and activities that are concerned with education of adults can be practiced.

Learning Needs of Educators of Health Professionals

How learning needs of health professionals are viewed by educators is based on the specific learning model used by the educator. The model chosen by the educator depends on what is believed "about how professionals know, how professionals incorporate knowledge into practice, under what conditions professionals learn best, and what role prior learning experience plays in learning" (Cervero, 1988, p. 38). Cervero believes selecting a model of learning that best suits the professional learner is very difficult if you believe that "professionals learn in many ways and that forms of learning differ according to the desired ends" (p. 39). Cervero maintains that whatever model is selected is based on a value judgment, but he insists that when a model is chosen it should be the center point of decision making for all learning events. Houle (1980, p. 45) supports this contention and suggests that practice and reflection on practice are the most productive sources of professional learning.

Schön (1987, p. 9) describes a hierarchy of knowledge commonly held in medical schools. Basic science, applied (clinical) science, and technical skills of day-to-day practice

make up this hierarchical list. The closer to basic science, the higher the academic status. Schön suggests that this hierarchical model is coming under fire as it becomes evident that researchers in academic medicine have "less and less to say that practitioners find useful" (p. 10). As educators view this problem from within the university setting, Schön finds increasing concern about the gap between professional knowledge and the actual competencies required of professionals in the field. Harris (1993, p. 1) suggests that only a part of the knowledge required for successful practice can be clearly defined. "Practice knowledge, know-how, artistry, insight, judgment, and connoisseurship are expressed only in practice and learned only through experience with practice" (p. 2).

Bland and Holloway (1995, p. 32) believe that faculty roles and rewards are changing based on pressure from issues related to health care reform. They suggest that changes in the way medical schools manage faculty roles will lead to curriculum revision and will enhance teaching. To encourage the needed reforms, Bland and Holloway recommend changes in tenure and promotion policies to recognize teaching and clinical service (p. 33).

In a related study of physical therapy faculty, Holcomb, Selker, and Roush (1990, p. 118) find that many faculty members do not participate in any type of scholarly activities. Holcomb et al. find that faculty prepared at the doctoral level are more likely to participate in research and other scholarly activities than are their colleagues prepared at the master's level. In a study of other allied health faculty members, Holcomb et al.

report that respondents to their questionnaire stated they spent very little time on research activities. The faculty members stated that they lacked "adequate skills in the areas of research funding, statistical analysis, publishing a paper, developing a research design, and writing protocols and proposals" (p. 119).

In another study, Holcomb and Smith (1993, p. 326) pointed out the need for qualified faculty and administrative leadership during the 1960s and 1970s. The W. K. Kellogg Foundation responded to this need by funding seven regional Allied Health Instructional Personnel Centers to prepare allied health professionals for faculty and administrative roles in academic settings. The centers had varying success and, in the 1980s, the National Commission on Allied Health concluded that lack of qualified faculty and administrative leadership "remained a primary problem for the allied health professions" (p. 327). Holcomb and Smith further found that "allied health faculty were heavily engaged in teaching and service activities, and generally did not perceive the importance of research and scholarship to their academic careers" (p. 327). Broski (1994, p. 19) agrees that these are the challenges facing allied health faculties in the 1990s. Broski believes that schools of allied health are vulnerable as universities look for ways to trim budgets. He finds that there continues to be a shortage of allied health faculty prepared at the doctoral level. Therefore, the allied health programs suffer a low prestige within the universities and have a hard time competing for scarce resources.

The Pew Health Professions Commission (1991) maintains that health professional schools are in an excellent position for coordinating changes needed in the education of health professionals. The report submits that health professions educators should be prepared to provide the skills, knowledge, values, and practice orientations students need to meet the challenges of health care reform.

In summary, although there have been attempts to relieve the shortage of academically prepared allied health faculty, the problem continues to exist. Little has been accomplished to convince faculty of the need to develop skill in the areas of research and scholarly activity. For over 20 years, attempts have been made to increase the number of allied health faculty prepared to compete for promotion and tenure with their university colleagues. They continue to be found lacking in research and administrative leadership skills. Additionally, the literature suggests that they need to be prepared to promote, within their students, skills, knowledge, values, and practice orientations needed by the health provider of the future.

Existing Barriers to Participation

Issues of why adults do not participate in adult education programs and why health professions educators do not participate in graduate degree programs have similarities. Merriam and Caffarella (1991, p. 87) state that the two most often cited reasons for nonparticipation in adult education programs are lack of time and lack of money. Holcomb and Smith (1993, p. 32) find that teaching and service activities dominate health professions

educators' time so that concern for scholarly activities, implied in graduate education, are not given high priority. Dowd (1995, p. 111) finds significant institutional barriers to be red tape, work schedules, and availability of quality programs.

Cross (1981, p. 97) takes the position that it is as important to know why adults do not participate in adult education as it is to know why they do. To make understanding of barriers to participation more comprehensible, Cross classifies them under three headings: situational barriers, institutional barriers, and dispositional barriers. Situational barriers refer to those barriers that arise in an individual's life at any given time. Lack of time and lack of money fall into this category. Institutional barriers consist of practices within an institution that discourage working adults from participation in educational programs. Work schedules and inappropriate or poor quality programs fit into this category. Dispositional barriers deal with attitudes and self-perceptions about oneself as a learner. Failure to recognize the importance of research and other scholarly activity as having significance in the academic setting may fall into this classification.

Bulger (1994, p. 304) offers another view of institutional barriers that needs to be overcome. First, he believes that the sense of community among university faculty has been lost over the last decades. Second, he finds "professional turfism and professional role models" as hindering changes needed to meet the challenge of health care reform. A third obstacle, referred to by Bulger, is the inflexibility of academic institutions so that

needed reform cannot occur. Foreman, Kerr, Mullins, Rabkin, Rice, and Waller (1995, p. 510) reported to Congress that targeted program cuts in medical schools and allied health programs will limit any chance for change in academic medicine, although the need has been amply demonstrated.

Reasons why individuals do not or cannot participate in educational programs appear to be similar for educators of allied health professionals and for the population in general. Situational, institutional, and dispositional barriers are commonly seen as reasons why adults, specifically educators of health professionals, do not participate in educational programs.

Instructional Alternatives

Instructional alternatives are decision issues that must be made in a curriculum development process. As the planning activities unfold, a curriculum development model must be agreed upon and desirable teaching strategies must be selected. Dependency on available human and material resources and a system for delivering the curriculum to students, must be developed.

In recent years, Claxton and Murrell (1987) have found interest to be focused on the differences between groups, including differences in sex, race, and social class. They point out that, as a result of this focus, students' learning preferences are being recognized. Educators are beginning to ask questions about how people can be helped to know their habitual learning style (Brookfield, 1987). He suggests that when students are aware of their typical learning style, they can select from a number of strategies those they know will be most

effective. They can then select teachers whose personal and pedagogic styles match their own (p. 84). Emanual and Potter (1992) go further to state that student preferences for teaching styles are related to their overall satisfaction with a course. They also indicate there is evidence that preference for certain styles is positively related to some forms of learning (p. 395). Armstrong (1987) insists, "The role of the professional educator is to be familiar with those factors affecting learning and to design educational experiences that maximize the learning that occurs" (p. 157).

In a look at who students are today, Schroeder (1993) states that "an understanding of how students learn and where they are in the process can help us meet the needs of the new students who sit in our classrooms" (p. 26). However, Klaasens (1988) argues that certain cognitive abilities that we have always assumed college-age students to possess, such as formal reasoning, are not demonstrated by as many as 70% of the student population. She finds that most research shows that students today function at concrete levels and that it is, therefore, important that cognitive levels be identified when designing curriculum and determining teaching strategies (p. 16). Other research has found that learning style preferences, and how they are taken into account when designing instruction, are closely related to learner achievement and satisfaction (Price, 1983).

A number of significant relationships have been identified between learning style and other characteristics such as teaching style, age, and student gender (Thompson & O'Brien, 1991). Check

(1984) finds many of the psychological principles currently employed with adult learners have evolved from research and practice with grade and high school pupils, or with the traditional college student. He feels more research is needed with adult learners before reliable conclusions can be made. Smith (1983) adds that, although much of the past research does not involve adults, the usefulness of learning style diagnosis for higher education has been clearly demonstrated.

Allen, O'Mara, and Long (1987) studied the effects of communication avoidance, learning styles, and gender on classroom achievement. They found that male students show a preference for more independent and avoidant learning styles, while female students prefer collaborative and participative learning styles. In their study, although females experience more communication apprehension in the classroom, they experience more affective and cognitive learning than male students. Allen et al. conclude that communication variables are better predictors of learning than the so-called learning style variables (p. 14). Zelazek (1986, p. 35) finds similar results in that, in his study, female adult students are more participatory the greater their life cycle stage. Males are more avoidant than females the younger they are. Margolda (1988) points out that research into differences in intellectual development are inclusive. She suggests that research in this area has been too broad to be considered significant.

Belenky, Clinchy, Goldberger, and Tarule (1986) discuss five perspectives of knowing. In the first perspective, women do not

perceive their ability to learn from their own voices. The ability to learn from others emerges in the second perspective and the ability to learn from their own voices becomes legitimate in the third perspective. The recognition of uncertainty diminishes the importance of authority's voice. Reliance on intuition of personal experience increases in this stage although it is not expressed. The fourth perspective represents a transition of thinking about knowledge, either through a logical impersonal process (separate knowing) or a subjective, empathetic process (connected knowing). Critical judgment occurs in the fifth perspective in that knowledge is constructed in a context (p. 4). Hayes (1992) states that classroom behavior and interaction has focused on elementary and secondary school-age children. Although studies of adult learners are sparse, Hayes believes that male and female behavior does differ in the classroom but suggests the differences vary across classes and appear to be affected partly by certain aspects of the classroom situation (p. 379). Wlodkowski (1993) reports on recent brain research that indicates the necessity of emotional engagement during learning to maintain motivation to learn. He suggests that, because of their age and experience, adults have more emotional associations with what they encounter, but because of their ability to control their emotions, others are less likely to perceive them (p. 73). According to Wlodkowski, a partial outcome of brain research has been the recognition of cognitive or learning styles. Messick (1976) feels that learning style may help to regulate the direction, duration, intensity, range, and

speed of the learning performance. Wlodkowski (1993) concludes that it is quite possible that learners who are involved in learning processes that match their learning style can more successfully perform their task requirements.

Chi, Lewis, Reimann, and Glaser (1989, p. 335) state that how students differ in the way they learn new material may also help in the understanding of how skills are acquired. McCutcheon, Apperson, Hanson, and Wynn (1992, p. 635) suggest that intellectual ability, as indicated by good grades and good critical thinking skills, is a poor substitute for learning the underlying information. Melichar (1994) studied the difference in instructor's attitudes toward their students based on age. She finds that instructors are favorably impressed with the older, more nontraditional student. Rogers (1992, p. 70) suggests that teachers of adults must look for changes in behavior in order to know that any learning is taking place. Edwards (1993) finds that the relationship between practice and theory is derived from practice and applied back to it in order to improve future practice. He feels this to be an important aspect of adult learning in the professions. And Corrallo (1993, p. 5) affirms that the identification of skills, and the assessment of these skills, can be thought of as an invitation to the faculty, the students, the educational and the work community, and the government, to find better ways to work together to prepare for the responsibilities of citizenship in the next century (p. 8).

In a discussion of how and what adults want to learn, Cross (1981, p. 84) submits that learning style may be the reason why some people prefer personal interaction in thinking through a problem, while others prefer a more solitary approach. Heimstra and Sisco (1990, p. 48) feel that knowledge and application of learning styles impact teaching practice and will highlight issues of faculty roles and even the culture of the institution itself. Merriam and Caffarella (1991, p. 177) assert that knowledge of learning styles can prove useful in helping both learners and instructors alike become aware of their personal learning styles and their strengths and weaknesses as learners and teachers.

According to Sieminski (1993, p. 10), factors such as the character of the classroom organization, teaching approaches, and the students' motivation for learning, plays an important part in how adults learn. Challis (1994, p. 5), in his study, questions the belief that learning groups are fundamentally healthy and self-directed. His study finds that the open learning model is more effective in promoting a student-centered classroom. Cherrington and Ments (1994a, p. 93) believe that drawing on the vast experiences of mature learners is a major tenet of adult education. Edwards and Thorpe (1993, p. 89) find lifelong learning to be central to practitioners working in the field of education. In discussing cognitive approaches to learning, Edwards and Thorpe recognize that the learner's use of existing knowledge, and the conceptual understanding of knowledge, plays an important role in how students learn. They state that

research into adult learning suggests that being aware of the outcomes of learning helps students to make the most of their learning. Research also supports that students are more comfortable with familiar types of presentations and are wary of any new approaches to education (Cherrington & Ments, 1994b, p. 175). Ennis (1989, p. 5), in an essay on the ambiguities of teaching critical thinking skills, suggests that background knowledge is essential for any thinking and he feels that it is unlikely that any general critical thinking instruction will be effective.

Brookfield (1987) states ". . . people cannot reach adulthood without bringing with them frameworks of understanding and a set of assumptions that undergird their decisions, judgments, and actions" (p. 83). Sweeney (1988, p. 28) believes it is the role of the teacher to help students become aware of how learning preferences are developed in order to help them explore and examine learning options. Houle (1992) argues that it is important for adult learners to strengthen their personal learning styles. He suggests that insight is an important aspect of learning style knowledge, both to the teacher and the learner. Conti (1989, p. 5) confirms that teaching style is related to student achievement but he cautions that one teaching style cannot be generically prescribed for all teachers, students, situations, and content. He concludes that instructors need to learn more about how their students learn and, to learn more effectively, students need to understand how teaching influences their learning.

Curriculum Development Models

Planning educational programs for adults can be both organized and haphazard (Caffarella, 1994, p. 1). Caffarella writes that educational programs for adults are conducted for five primary purposes: (a) to encourage continuous growth and development of individuals, (b) to assist people in responding to practical problems and issues of adult life, (c) to prepare people for current and future work opportunities, (d) to assist organizations in achieving desired results and adapting to change, and (e) to provide opportunities to examine community and societal issues (p. 2). Caffarella feels that programs often have more than one purpose. Therefore, she has designated an interactive model of program planning that is built upon foundations laid by Knowles (1980), Cervero (1988), and Harris (1993). Wilkerson (1994, p. 716) defines curriculum as "a series of events, materials, and evaluation activities undertaken by learners for the purpose of acquiring particular knowledge, skills, or attitudes." These models all focus on the learner's needs and on an organization's needs as issues that are central to program planning.

Cranton (1989, p. 3) presents an instructional design model which is based on behavioral psychology. In Cranton's model, learning is broken down into "small, observable, sequential steps with immediate reinforcement provided" (p. 2). Cranton finds this model objectionable to many educators because it sounds too technical, but she believes it is a useful procedure for planning. Kemp, Morrison, and Ross (1994, p. 8) present a

nine-element instructional design model which considers, as fundamental to the planning process, learners, objectives, methods, and evaluation. Kemp et al. believe that applying the instructional design model will more likely increase the probability of goal attainment (p. 4).

In arranging the elements, or components, of a curriculum, Ornstein and Hunkins (1993, p. 232) identify aims, goals, objectives, subject matter, learning experiences, and evaluation as critical to the planning process. Ornstein and Hunkins point out that all designs do not need all four components, but that any curriculum design model does need "to provide a consistent framework of values and priorities for dealing with operational decisions" (p. 233).

In another approach which focuses on the teacher's style, Heimlich and Norland (1994, p. 49) have defined five primary elements of the instructional process to be (a) content, (b) environment, (c) learning community, (d) teacher, and (e) individual learner. Heimlich and Norland provide a summary of the elements of instructional design proposed by Apps (1989). They believe the teaching-learning exchange can be structured around these elements and that "all that happens before, during, and after the exchange is represented by the elements" (p. 50).

Instructional design systems occur at many different levels. Gagné, Briggs, and Wager (1988) define instructional systems design as a "systematic process of planning instructional systems, and instructional development is the process of implementing the plans" (p. 20). They refer to these two

functions as instructional technology. Gagné et al. (1988) prefer a model designed by Dick and Carey (1985). This nine-stage model falls under the umbrella of three functions: (a) identification of the outcomes of instruction, (b) development of the instruction, and (c) evaluation of the effectiveness of the instruction.

In a synthesis of several trends in curriculum development, Glatthorn (1994, p. 1) emphasizes the importance of quality of both the process and the product. Glatthorn feels there is no best way to develop a new curriculum, but he urges that whatever approach or model is used it should be made available to all those involved in the process so that everyone is following the same map (p. 32). Fogarty (1991, p. 61) provides a list of 10 models to help faculty integrate curriculum, but she suggests that, although these models are helpful, they are just the beginning. She feels that teachers should go on to design their own models for designing curriculum.

Although there are many models of curriculum development to choose as a guide for designing a new curriculum, Glatthorn (1994) adds a piece of advice. He suggests anyone "should also feel free to develop their own approach, since the best process will be sensitive to local needs, talents, and resources" (p. 32).

Models of Teaching

Instructional alternatives include decisions made by faculty about how subject matter is presented to students in a learning environment. How a teacher selects instructional alternatives

may depend on how the teacher views his or her role as a teacher. Angelo (1994) urges "a shift from placing faculty's teaching interests first to considering students' learning needs first" (p. 6).

An underlying concept of adult education seems to be that educators should assist students in thinking about ways to make desired changes in their personal and professional worlds. Brookfield (1986, p. 234) encourages educators to realize the nature of their own values, morals, and beliefs. From this exercise, Brookfield believes that educators will come to challenge the institutional model that determines, ahead of time, the who, what, where, when, and how of instruction. Heimlich and Norland (1994, p. 23) challenge teachers to reflect on their own philosophy about teaching and learning so as to develop a set of beliefs, attitudes, and values to use in their instructional planning.

But what is teaching? Why do teachers need to know something about their own beliefs, attitudes, and values? Reinsmith (1994) states that "teaching is a way of being present to students which establishes, should they be receptive, a specific engagement" (p. 131). He goes on to say that out of such an engagement "arises learning or what is known as educational growth" (p. 131). Ongoing research from the National Center on Postsecondary Teaching, Learning, and Assessment (NCTLA) (1995, p. 5) has found that students' perceptions of how an instructor organizes or prepares for teaching leads to greater learning for students. Lowman (1994, p. 137) and others have

found that students prefer instructors who have positive attitudes and a democratic leadership style. Grasha (1994, p. 137) classifies teachers as expert, formal authority, personal models, facilitators, and delegators. He believes that teachers present themselves in one or all of these ways in the classroom and that how students perceive the teacher's role does impact learning.

There are a variety of suggestions in the literature about how to teach adults effectively (Brookfield, 1986; Davis, 1993; Gagné et al., 1988; Knowles, 1980). Supporting these suggestions, Cantor (1992, p. 2) advises that the instructor is often the first person a student meets when he or she enters the institution. First impressions are often lasting impressions. Therefore, the role model a teacher presents will influence the student's behavior and attitudes in the classroom and perhaps will become a part of the student's personal behavior. Cantor also believes the teacher has change agent responsibilities. As an instructor of adults, teachers have the responsibility to instill a desired set of behaviors in their learners "by providing guidance, support, directions, and suggestions" (p. 2). Cantor believes that a teacher, acting as a change agent, will use discussion, demonstration, critique, and, sometimes, lecture to foster the development of those desired behaviors.

A comparable model of teaching offered by Davis (1993, p. 5) has four components: (a) subject, (b) setting, (c) teacher, and (d) student. In this model, teaching involves a teacher trying

to teach something to someone somewhere. The nature of the communication between the teacher and the learner often determines the amount of learning that takes place (p. 6).

The nature of the teacher's personal values and attitudes appears to impact the kinds of instructional alternatives that will be selected to present subject matter in any learning environment. Many authors have provided alternative ways to deliver subject matter (Caffarella, 1994; Cantor, 1992; Gagné et al., 1988; Heimlich & Norland, 1994; Kemp et al., 1994; McKeachie, 1986; Ornstein & Hunkins, 1993). The concepts offered by these authors, and others, have relevance for educators of health professionals to consider when selecting instructional alternatives. Stubblefield, Houston, and Haire-Joshu (1994, p. 239) describe an interactive model used to promote interdisciplinary collaboration among five health care professional groups. The program provided students an opportunity to interact across disciplines "in order to increase their understanding of one anothers' roles and abilities." Stubblefield et al. conclude from the results of the study that health care professionals may not initially possess the abilities necessary for effective interdisciplinary collaboration, these abilities can be developed. Davis (1995, p. 5) defines interdisciplinary as "the work scholars do together that brings about mutual integration or organization of concepts and methodologies." Davis (p. 24) goes on to discuss the use of interdisciplinary team teaching as a way to organize research and instruction. In related professional literature, many authors

emphasize the role the teacher plays in developing, not only knowledge and skill, but values and attitudes desirable for health care providers (Cervero, 1988; Houle, 1980; Irby, 1994; Mann, 1994; Petersdorf & Turner, 1995; Schön, 1987; Wlodkowski, 1993). Implicit in the various health commission reports is a call for educators of health professionals to develop additional skill in designing instructional alternatives that will assure that health care providers of the future will have the necessary knowledge, skills, and values. The term, teacher of adults, seems to refer to educators of health professionals as well as to educators of the general population.

Educational Delivery Systems

Educational delivery systems are often influenced by the instructional alternatives selected (Gagné et al., 1988). Gagné et al. discuss learning in groups. Large groups and small groups require differing strategies. For instance, small groups of two or three make it possible for the tutoring mode of instruction. Groups of three to eight members are best for group discussions. Some forms of group discussion may fall into what Gagné et al. refer to as interactive recitation in which group members correct each other (p. 267). Johnson, Johnson, and Smith (1992) advocate cooperative learning formats. The use of cases to provide active learning experiences has been used successfully by Silverman and Welty (1995). And Gillespie (1995) reports on the success of using narrative to deliver education. A third kind of group, according to Gagné et al. (1988) is the large group of 15 or more. The most common mode of delivering instruction to large

groups is the lecture. According to Gagné et al., large groups often use individual recitation as a mode of instructional delivery.

In another approach to delivering learning, Daloz (1986) writes that "ideas . . . only come to life when they root in the mind of a learner" (p. 236). Daloz urges educators to look at the concept of mentors. As Daloz defines a mentor, it means a "guide." He credits Sheehy (1976) for popularizing the concept of mentoring and suggests that mentoring is a bridge for adults returning to school after years of absence. The fear of the unknown can be assuaged when students are involved in a mentoring process (p. 17).

Traditional educational delivery systems are most often found in the customary classroom (Cross, 1981, p. 57). This type of delivery system may not meet the needs of all students who wish to return to a school. Kember, Lai, Murphy, Slau, and Yuen (1994) describe an adult student population as "studying part-time while maintaining work, family, and social commitment" (p. 287). For these students, alternate delivery systems seem needed, and Kember et al. submit that distance education may meet these needs. They describe students enrolled in distance education as ones who "often never visit the main campus . . . contact with faculty can be limited to indirect contact via mail, telephone, or video link" (p. 287). Further, Kember et al. describe the traditional mode of distance education to be a pre-prepared study package with learning resource support provided at a distance through various communication channels.

Kember et al. acknowledge that computer and telecommunication links are being used increasingly. Blackwood and White (1991, p. 135) quote Knowles (1983) as predicting that by the end of the twentieth century, most educational services would be delivered electronically. Blackwood and White state that delivery systems include "teleconferencing, cable and satellite television, computer networks, and other means yet to be discovered" (p. 138). They believe the success of educational technology will depend on whether educators of adults "learn how to use the technology in congruence with principles of adult learning" (p. 138). They submit that learners and educators must "implement the use of educational technology creatively and imaginatively to ensure that the learner is central to the process" (p. 144). Cantu (1994) cautions not to prepare students only "to function in the new high-tech environment and neglect the human side" (p. 13).

Technology that permits an educational institution to respond to the learning needs of its students is now available to remove the many barriers to adult participation (Edwards, Weber, & Hilyard, 1994, p. 29). Teachers are urged to develop more flexible schedules and assignments to accommodate the nontraditional student (McDaniel, 1994, p. 29). McDaniel suggests that teachers should be using computers, videotape, and other techniques for distance learning. Wagner (1992) provides 20 quick tips for the distance educator and Cyrs and Smith (1992) list ways to create interactive learning activities. Willis (1994) and MacDonald (1991) create ways for distance educators to

use interaction effectively in the distance learning classroom. Rogers (1995, p. 4) shares the experiences of the Educational Technology Center at the Rochester Institute of Technology. Rogers believes that distance learning today, using the varied and interactive media available, makes educational opportunities and resources available to many more people.

Kaha (1995, p. 24) describes the traditional classroom as one that relies on the printed media to guide the teacher and student through the learning process. He depicts the classroom of tomorrow as one that not only has books, but also computers, videos, and telecommunication. Kaha maintains that knowledge can be learned or acquired in many ways and he believes that, in addition to being able to read and think critically, "students will increasingly be required to deal effectively with large amounts of information, make connections between subjects, and apply knowledge to diverse real-world contexts" (Kaha 1995, p. 26).

Technology will continue to have a tremendous influence on education in the next 10 years. Castor (1994, p. 10) describes the rapid growth in technology, the use of computers, CD-ROM, video, videodiscs, networking, and satellite technology. Castor urges teachers to become facilitators of the learning process and to train students to identify sources of information to support their own learning. Castor feels that obstacles must be addressed if institutions are to achieve "a new vision of learning through technology" (p. 10). She lists those obstacles to be overcome as being a need for collaborative planning

efforts, increased and improved training, and facility renovation. Castor cautions that front-line advisors must be listened to in order to be certain distance-learning programs and materials reflect the adult students they are intended to reach.

Several authors address the challenges of starting down the education superhighway (Baer, 1994; Connolly, 1994; Ehrman, 1994; Rose, 1995; Thompson, 1994; Van Dusen & Worthen, 1995). Each suggests that the effectiveness of distance education continues to need research. Effects of distance education on learning styles and on actual thinking and processing of information is not yet clear. Many of the authors point out that training of faculty to use technology, and the skill of faculty in developing related materials, remains a problem. The issues of learner isolation continue to plague distance-learning programs.

In summary, there are traditional classrooms where printed materials are the media of choice. And there are a variety of ways technology has provided education at a distance. Advocates insist the classroom of the future will be without walls, and information will be delivered electronically. More cautious individuals are reminded of the many challenges that must be overcome before technology can meet its potential. Careful and inclusive planning must occur at any institution wanting to establish a distance-learning program.

Implementation Plan

Ornstein and Hunkins (1993) state, "It makes little difference how appropriate or valued a school curriculum is if it does not get delivered to students" (p. 297). Although

implementation is a separate component of curriculum development, it is an essential part of the total process. Ornstein and Hunkins believe it involves "an interaction process between those who have created the program and those who are to deliver it" (p. 297). Implementation of a new curriculum requires a change in behavior on the part of all those involved. Teachers and administrators must be clear about the purpose and the benefits of the changes (Cranton, 1989; Caffarella, 1994; Gagné et al., 1988; Kemp et al., 1994). Those who are responsible for implementing a new curriculum must be sensitive to resistance to change and be prepared to use change strategies to overcome these obstacles. People need to be involved in the overall planning and design of a new curriculum. According to Ornstein and Hunkins, "to win people over, we need to assure them that there is recognition or reward in making the effort to change, to implement the new curriculum" (p. 298). Ornstein and Hunkins offer five guidelines to implementing a new curriculum successfully: (a) innovations designed to improve student achievement must be technically sound; (b) successful innovation requires change in the structure of a traditional school; (c) innovation must be manageable and feasible for the average teacher; (d) implementation of successful change efforts must be organic rather than bureaucratic; and (e) avoid the "do something, do anything" syndrome (p. 303).

A model presented by Dixon (1995, p. 1) acknowledges that learning is more than the acquisition of existing knowledge. Dixon believes that learning is the process that creates

knowledge so that one can responsibly make sense of the world we live in. The process of learning, according to Dixon, includes generating, integrating, interpreting, and acting on information.

Another component of successful implementation of a new curriculum is the selection and preparation of appropriate instructional resources. Kemp et al. (1994) feel that careful planning of instructional resources can fulfill one or more of the following instructional purposes: (a) motivate learners by capturing their attention and stimulating interest in the subject, (b) involve learners vicariously but meaningfully in learning experiences, (c) implement an individualized form of instruction for each individual, (d) contribute to the formation of attitudes and the development of appreciations, and (e) provide opportunities for self-analysis of individual performance and behavior (p. 215). The selection and preparation of instructional resources is an essential part of the overall planning process and makes implementation possible.

In summary, implementation, although a separate component of curriculum development, must be a part of the planning process. Resistance to change is often a challenge to implementation. However, involvement from the beginning, of all those who will be involved in the new curriculum, will more likely result in success of the endeavor. Careful planning will also involve selecting and preparing the resources necessary for implementation.

Evaluation Plan

Evaluation is the final component of the program planning process. To understand the purpose of evaluation, it seems important to distinguish between educational evaluation and educational research. Isaac and Michael (1981) describe research as having an orientation toward theories in which hypotheses are tested under controlled conditions. Evaluation, on the other hand, focuses on product delivery or mission accomplishments (p. 2). Isaac and Michael say that the purpose of evaluation is to improve, not prove.

Many models for performing evaluation studies have been proposed (Madaus, Scriven, & Stufflebeam, 1983; Borg & Gall, 1983; Tuckman, 1985; Best & Kahn, 1989; Popham, 1993). Most frequently mentioned are goal-oriented evaluation, decision-oriented evaluation, transactional evaluation, evaluation research, and adversary evaluation. Each of the models is designed to meet a specific purpose. Isaac and Michael (1981, p. 6) describe the decision-oriented model, originally, designed by Stufflebeam and colleagues, and provide steps on how to use it. Kemp et al. (1994, p. 158) contribute to the understanding of the Stufflebeam model by giving a detailed description of the purposes of evaluation. Kemp et al. suggest that, in the process of evaluation, there are two functions which must be kept in mind. These two functions are related to how the evaluation results will be used and are referred to as formative and summative evaluation.

Formative evaluation, according to Kemp et al. (1994) is important during development and early implementation. Formative testing and revision is a continuous process and is important to the success of any instructional design plan. Kemp et al. suggest formative evaluation for determining the suitability of objectives, subject content, learning methods, and materials. They also recommend use of formative evaluation for assessing personnel duties, use of facilities and equipment, creating schedules, and any other activities that may impact the implementation of the program. Summative evaluation, on the other hand, measures the degree to which the objectives, or outcomes, have been accomplished. Slavin (1984, p. 17) describes formative evaluation as asking how things are doing, while summative evaluation asks, How did we do? Formative evaluation is involved with process while summative evaluation focuses on product (Kemp et al., 1994, p. 160).

A further look at formative and summative evaluation was done by Finne, Levin, and Nilssen (1995, p. 12). Formative evaluation for Finne et al. typically aims at improving program performance and takes place while the program is in operation to redirect the ongoing activities. Summative evaluation aims at assessing outcomes and takes place toward the end of a program or after its conclusion. Finne et al. believe that in order for evaluation findings "to become accepted as valid knowledge about a program, they need to have been produced according to accepted norms of scientific rigor (validity criteria)" (p. 13). Zacharakis-Jutz and Gajenayake (1994, p. 11) summarize program

evaluation as involving measurement and appraisal "in order to facilitate decision making." When program evaluation is conducted by an outside evaluator, Zacharakis-Jutz and Gajenayake believe it does not create a sense of ownership within the organization and, thus, often the recommendations are not implemented.

Ornstein and Hunkins (1993) contrast program and student evaluation. Program evaluation looks at whether instructional outcomes have been reached and "holds those who deliver the program accountable." Conversely, student evaluation gathers data relative to student performance and "shifts responsibility to the individual student" (p. 344). Ornstein and Hunkins believe that evaluators determine methods of evaluation based on their philosophical and political view of schools and society (p. 345). Ornstein and Hunkins review the Scriven (1988) approach to evaluation that advocates a goal-free look at outcomes. Using quantitative and qualitative measures to view the program in action, the goal-free approach looks at what happens to students as a result of experiencing the program. Ornstein and Hunkins believe the goal-free approach to evaluation may give a more accurate picture of how the curriculum functions (p. 345). The need for training in research methods so that quantitative and qualitative research can be used to support performance outcomes serves to strengthen the evaluation process (Fitz-Gibbon, 1996, p. 105). Stake (1995, p. 101) believes a reason for dissatisfaction with teaching today is that little or no data have actually been collected to support or disprove what

goes on in the classroom. Stake suggests that change in academic performance takes a long time and evaluation methods should be used to monitor what changes are taking place. State level quality incentives and performance indicators have mandated institutions to demonstrate effectiveness and efficiency on accomplishing higher performance levels (Gaither, Nedwek, & Neal, 1994, p. 1).

Whether information can be recalled in a meaningful context offers another way to assess learning outcomes. Gagné et al. (1988) suggest this transfer of learning can best be done by requiring students to apply what has been learned in "situations substantially different from those used for the learning itself" (p. 190). Transfer of learning is defined by Nolan (1994) as the "ability of learners to use in the real world that which they should have learned in the classroom" (p. 26). Nolan offers practical teaching methods he has found to facilitate transfer of learning to the work force. Transfer of learning is a complex concept that must be defined within the context of the intended outcomes of a particular program (Ford, 1994, p. 22). Ford believes the adult educator must define the learning outcomes prior to instruction. Fox (1994, p. 24) recommends including learners in the educational planning process to ensure that learning outcomes are consistent with the learner's work environment or lifestyle. Sleezer (1994, p. 25) suggests doing an analysis of need which she believes will influence how effectively the learning outcomes are actually met. And finally, Friedman, Krams, and Mattern (1991, p. 257) recommend replacing

episodic sweeping evaluation of the curriculum with ongoing incremental change.

Evaluation of postsecondary classroom teaching poses many problems. Arreola and Aleamoni (1993, p. 37) have combined years of experience to provide a model of faculty evaluation that addresses many of the practical decisions that must be made to accomplish a fully functioning faculty evaluation system. They believe that, ideally, a faculty development system should be an integral part of a larger evaluation and development program. McKnight (1994, p. 57) adds that knowing the nature of the problems inherent in faculty evaluation will help institutions to develop equitable and acceptable procedures. Since institutions of higher education place great value on honor systems for students, Ory (1994, p. 63) suggests that similar systems should exist for students, faculty and administrators.

In summary, evaluation is a continuous process requiring a clear understanding of the purpose(s) of the process. The model used for the evaluation of the instructional program will be determined by the institution's intention. Several models are available depending on the identified purposes of the evaluation. Most frequently mentioned models include the decision-making model and the goal-oriented model. Whatever model is selected, formative and summative evaluation are key components.

Summary of the Literature

According to the literature, adults prefer learning experiences that are useful and relevant to their chosen goals. Adults' reasons for entering an educational institution may be

based on career or personal life goals. Either way, adult learners enter the educational setting with unique characteristics of age, gender, and life experiences. The educator of adults, in order to facilitate learning, must take these factors into consideration when developing learning experiences that will allow the learner to apply the new knowledge as quickly as possible. Modification in the curriculum, and in instructional alternatives, may be required to accommodate for the unique characteristics of the adult learner.

The literature has identified a shortage of educators of health professionals for several decades. Many attempts have been made to relieve the shortage with minimal success. Allied health programs continue to have a shortage of qualified faculty. Medical school faculty have traditionally been academically prepared in their disciplines but rarely have any formal preparation to teach. Universities housing these professional programs have traditionally held to the research model to encourage academic scholarly activity. The literature suggests that this model is no longer providing educators who have the skills to produce health care providers of the future. A common thread throughout the literature suggests encouragement of active student participation in their own learning, self-directed learning strategies, and relevance of what is being taught in the classroom. Seemingly, emphasis on developing educators who can use principles of adult learning in the classroom and clinical setting is needed.

The literature appears to substantiate that the general adult population and educators of health professionals have similar barriers to participation in educational programs. Both groups have identified situational, institutional, and dispositional barriers to be reasons they do not return to school. Time, money, work schedules, failure to see the value of additional education, and distance to travel are just a few of the barriers identified as common to all adult learners.

Curriculum development models are useful for anyone planning a new curriculum. The literature emphasizes a comprehensive planning process in which all participants are involved. Instructional alternatives must be selected based on local needs and available resources. Thus, the entire process requires change strategies to overcome any resistance to the new and evolving curriculum.

Although a curriculum may be expertly constructed, unless it reaches the intended students, it has failed in its purpose. Therefore, appropriate delivery systems are needed. Delivery systems range from the traditional classroom setting to the newest technology. What is decided upon will be dependent on the available human and material resources.

The evaluation process selected for any program plan will be dependent on the purpose of the evaluation. Several models are available in the literature. The most frequently mentioned model was the decision-making model in which the entire program can be assessed using formative and summative techniques to collect the data to support decision making.

Chapter 3

METHODOLOGY AND PROCEDURES

Methodology

The purpose of this development study was to develop a curriculum for a Master of Science in Education for Health Professionals that would include course content, instructional alternatives, an implementation plan, and an evaluation plan. The development research methodology was used to guide the curriculum development process. The process was divided into four phases: (a) The initial phase, (b) the planning phase, (c) the developmental phase, and (d) the final phase. The initial phase included a comprehensive review of the literature and data-gathering activities. Data analysis and curriculum planning activities made up the planning phase. Development of course content, instructional alternatives, an implementation plan, and an evaluation plan were included in the development phase. The final phase included activities to validate the products.

Procedures

Literature Review

In the initial phase of the study, a comprehensive review of the literature was carried out. Principles of adult learning were identified for use in guiding the curriculum development process. Learning needs of health professions educators and the existing barriers to participation in graduate education programs were determined by a review of the literature germane to adult learning principles, learning needs of educators of health

professionals, and existing barriers to participation. Further review of the literature included a survey of instructional alternatives related to curriculum development models, models of teaching and learning, and educational delivery systems. Finally, the review of the literature examined implementation and evaluation plans.

Adult Learning Principles

The philosophical foundations of adult education were reviewed to provide a conceptual framework for the study. Principles that have been found to promote adult learning were surveyed in the literature of adult education and in the professional literature (Lindeman, 1961; Knowles, 1980; Houle, 1980; Cross, 1981; Darkenwald & Merriam, 1982; Smith, 1983; Check, 1984; Sweeney, 1988; Lawler, 1991; Blackwood & White, 1991; Merriam & Caffarella, 1991; Schön, 1987; Curry & Wergin, 1993; and Cervero & Wilson, 1994). Although other authors were reviewed, and consideration was given to the content of the review, the literature on adult learning, provided by the above authors, was used for the foundation of this study.

Learning Needs of Health Professions Educators

The medical and allied health literature was reviewed to identify the learning needs of health professions educators. Possible differences in learning needs between medical and allied health educators were considered. Adult education literature was reviewed to provide the guidelines from which the learning needs of health professions educators could be studied.

Barriers to Participation in Graduate Education

The literature of adult education and the literature of health professions education were reviewed to determine the barriers that interfere with an individual's participation in graduate education. Barriers common to all adult learners were used to examine the barriers that are specific to health professions educators.

Instructional Alternatives

The literature was reviewed to investigate curriculum development models, teaching models, and educational delivery systems. Models that enhance the classroom environment through a focus on student learning and the teaching style of instructors were emphasized.

Curriculum development models. Models of curriculum development that had specificity to this study were selected from the literature. Student-centered models in which the teacher acts as a facilitator of learning rather than a purveyor of information were chosen. The curriculum development models are found in Appendix A.

Teaching models. Models of teaching that include the subject matter, the student's learning preferences, and the teacher's style seemed suited to a graduate program for health professions educators (Irby, Ramsey, Gillmore, & Schaad, 1991; Irby, 1994). A model of teaching questions is found in Appendix B.

Educational delivery systems. The review of the literature on educational delivery systems ranged from the traditional

classroom to the electronic information superhighway. Alternate ways to deliver educational programs were examined.

Implementation Plans

The literature review included an examination of implementation strategies that have been appraised as being feasible in institutions of higher education. The relationships of the key players and the strategies for change were considered. Implementation models selected for the study are found in Appendix C.

Evaluation Plans

Evaluation plans were identified through the review of the literature. The use of evaluation and the method of implementation of a plan according to the intended purposes of evaluation were investigated. Evaluation plans reviewed for this study are found in Appendix D.

Telephone Interviews

During the initial phase of the study, additional data-gathering activities included telephone interviews with staff development personnel and health program instructors. The purpose of the telephone interview was to elicit information relative to learning needs and barriers to participation in graduate education as perceived by these two groups of health professionals.

Staff Development Personnel

The staff development personnel selected for the interviews were members of the California Association of Health Facilities. The Association represents staff development personnel who work

in long-term care institutions in the state of California. Thirteen individuals were contacted by telephone over a period of seven days. Questions, developed from the literature and identified in Appendix E, were asked of each participant, and the answers were tabulated according to the similarity of the response to the questions. The answers were then ordered from the most frequent response to the lease frequent response.

Health Program Instructors

The health program instructors selected for the interviews were individuals who teach in vocational health programs, either in community colleges, regional occupational programs, or health departments. Over a 2-week period, 10 individuals were contacted by telephone and questions, developed from the literature and found in Appendix F, were asked of each person. The responses were ordered from the most frequent response to the least frequent response.

Focus Groups

Another data-gathering activity carried out during the initial phase of the study included two focus group efforts. The focus group method is thought to provide a way to obtain perceptions of the participants in a nonthreatening way (Krueger, 1994, p. 7). Open-ended questions were used to allow individuals to respond, comment, or otherwise explain their experiences and attitudes. The purpose of the focus group activities was to further elicit the learning needs and the barriers to participation in graduate education as perceived by health professions educators.

Practicing Health Professions Educators

The first focus group was made up of five practicing health professions educators who do not participate in graduate education. Questions asked of the group were developed from the literature and can be found in Appendix G. The group was convened and each question was asked of and responded to by each individual. All five participants were able to express their perceptions about their learning needs and the issues that interfere with their obtaining any further education freely. After the session was concluded, the interviewer compiled the responses and returned them to the focus group members to assure accuracy of the data. This technique is referred to as the analysis continuum (Krueger, 1994, p. 131). Components of this method are (a) compilation of raw data collected from the participants, (b) descriptive or summary statements made by the interviewer, and (c) interpretation of the first two components. Interpretation is the most complex of the three steps and aims at understanding. Results of the analysis continuum were clarified by asking the participants to provide feedback relative to the accuracy of the data. The finalized data were used in the planning and development phases of the study.

Current Master of Science in Health Professions Education Students

The second focus group consisted of six Master of Science in Health Professions Education students who are currently enrolled in the program. It was believed that involving students who were currently involved in the master's program would enhance their

motivation to participate in the learning process. Van Rosendal, Lockyear, and Sutherland (1994, p. 269) believe it may also result in changes in clinical practice. Questions asked of the focus group members were developed from the literature review and can be found in Appendix H. The same method was used to elicit information from this focus group. The members were asked the questions and each member responded to the questions. The collected data were subjected to the analysis continuum procedures described in the first focus group. The data were used in the planning and development phase of the study.

Course Offerings and Degree Requirements

Existing course offerings and degree requirements were obtained by mail from graduate programs in adult education and from schools of allied health professions (SAHP). SAHP that are members of the Association of Schools of Allied Health professions (ASAHP) were also contacted. Catalogue surveys of traditional and nontraditional graduate education programs were done to determine course offerings and degree requirements.

Adult Education Programs

There were 58 graduate programs in adult education, offering a master's level degree, listed in Peterson's Guides to Graduate Programs in Business, Education, Health, and Law: 1995. The 58 programs were contacted by mail for course offerings and degree requirements. Forty-two responded. Course offerings were sorted according to similarity of course descriptions. Degree requirements were sorted according to semester or quarter units and the number of units required to complete the program.

Schools of Allied Health Listed in Peterson's Guide

There were 19 Schools of Allied Health Professions having a master's degree, listed in Peterson's Guides (1995), that were contacted by mail. Fifteen of the schools responded. Ten of the schools had a master's degree in a health professions program. Five programs had a master's degree in education. Three of the five schools had an education option in their professional program. Course offerings were sorted according to similarities in the course descriptions. Degree requirements were sorted into semester or quarter units and listed according to the number of units required for completion of the program.

Schools of Allied Health who are ASAHP Members

There were 35 graduate programs for educators of health professionals who are members of ASAHP identified as having a master's degree in education. All 35 schools were contacted by mail for course offerings and degree requirements. There were 23 respondents. Course offerings were sorted according to similarities in course descriptions. Degree requirements were sorted by semester or quarter units and listed according to the number of units required for completion of the program.

Catalogues From Traditional Graduate Education Programs

Catalogues from 34 traditional graduate education programs were surveyed to determine course offerings and degree requirements. The course offerings were sorted according to similarities in the course descriptions. Degree requirements were sorted by semester or quarter units and were listed according to the number of units needed to complete the program.

Catalogues From Nontraditional Graduate Education Programs

Catalogues from 10 nontraditional graduate education programs were surveyed to determine course offerings and degree requirements. Course offerings of the nontraditional schools were sorted according to similarities in course descriptions. Degree requirements were sorted by semester or quarter units and were listed according to the number needed to complete the program.

Internal and External Expert Information

Information on instructional alternatives, implementation plans, and evaluation plans was sought from internal and external sources. The input was added to the previously collected data to be used in the planning and development phases of the study.

Regional Institutions

Four regional institutions having existing graduate programs to educate health professions educators were contacted by telephone to determine curriculum development models currently in use at the institution. Unique features of their programs relative to teaching models and educational delivery systems were solicited and were obtained by mail from the institutions.

A nationally recognized expert on curriculum development and instructional design was contacted for input into the curriculum development process. The data collected from the regional institutions and the national expert were added to the materials to be used in the planning and development phases of the study.

Internal Experts

Instructional alternatives. Two internal experts in instructional design were asked for input into possible instructional alternatives. An internal expert on educational delivery systems was asked for guidance in developing a feasible delivery system for the study.

Implementation plans. Faculty and administrators at the College of Osteopathic Medicine of Pacific (COMP) were asked for input into the design of implementation strategies that would be appropriate for the institution. Students were involved through discussions of issues important to them.

Evaluation plans. An internal evaluation expert was asked for guidance in developing an evaluation plan for the study.

The data, collected during the initial phase of the study, was used for the planning and development of a model Master of Science in Education for Health Professionals curriculum. The literature review provided the conceptual framework for the study. The additional data were prepared for the planning phase of the study.

In the planning phase the collected data were sorted and analyzed so as to initiate the criteria to be used to guide the development of this model curriculum. A formative committee was formed. The committee was made up of internal experts in curriculum development, instructional design, educational delivery systems, and evaluation. The committee members were knowledgeable in principles of adult education and education for

health professionals. A list of members of the formative committee is found in Appendix I.

Learning needs were ranked separately according to the number of times the learning need was identified by the interviewees and the focus group members. A summary of the learning needs of both groups was compiled. Existing barriers to participation in graduate education programs were classified according to situational, dispositional, and institutional barriers.

Existing course offerings and degree requirements in graduate programs in adult education were contrasted with graduate programs for educators of allied health professionals. Results were viewed for commonality and appropriateness to this study. The data were added to the emerging criteria.

Models of curriculum development were chosen from the literature review. Models of curriculum development obtained by mail from regional institutions were added to the list. Input of the national expert on curriculum development was interjected into the identified models.

Instructional alternatives and educational delivery systems, identified in the literature and obtained from the experts, were ranked according to the number of times each was mentioned. The data were assembled for availability during the development phase of the study.

A similar process was used to assemble the data on implementation strategies and evaluation plans, collected from the literature review, faculty and administrators from COMP, and

from the expert on evaluation. The data were assembled for availability during the development phase of the study.

When the data analysis was completed, criteria for guiding the curriculum development process were designed using the following measures. First, previously identified adult learning principles were contrasted with the assembled data to assist in validating the criteria. Also, standards for adult graduate education programs, developed by the Commission of Professors of Adult Education (CPAE), were adhered to as the criteria were developed. Standards provided by the Western Association of Schools and Colleges (WASC) for graduate education were reviewed. The criteria complied with WASC standards. Likewise the criteria met standards set forth by health professional accrediting bodies for faculty positions. Throughout the planning phase, the formative committee members were consulted regarding the evolving criteria.

Thus, the criteria to be used in developing the model curriculum were constructed by using previously identified adult learning principles, standards developed by CPAE and WASC, and health professions accrediting bodies. The criteria are found in Appendix J.

The formative committee reviewed the criteria for completeness and appropriateness. Revisions were made in the criteria based on suggestions from formative committee members. When the criteria were finalized, the curriculum development activities started.

In the development phase a curriculum development model was adapted from the data assembled during the planning phase of the study. The formative committee members were consulted throughout the design process. Their counsel served to insure completeness and appropriateness of the curriculum development model used for this study.

When the curriculum development model for this study had been decided upon, the curriculum development process began. Previously developed criteria guided the process. Selection of course content was based on identified learning needs of educators of health professionals and recognized principles of adult learning. Data assembled during the planning phase contributed to subject matter decisions. Barriers to participation in graduate education, amassed during the initial phase of this study, were minimized to the degree possible. Standards produced by the accrediting agencies were used to improve quantity and quality issues relative to course content and subject matter.

As each section of the curriculum development process was completed, it was cycled through the formative committee for review. The cycle was continuous and provided a quality and quantity check on the course content and subject matter.

Instructional alternatives that represent adult learning principles and presented the course content and subject matter appropriately were selected from the data assembled during the planning phase of this study. During the selection process, advice from the expert on instructional design serving on the

formative committee, was solicited. The instructional alternatives chosen became a part of the final product of this study.

The formative committee member, who is an expert in educational delivery systems, was consulted throughout the curriculum development process. Consideration was given to material resources and faculty training issues. Delivery systems appropriate to each course were identified and included in the final product. The implementation plan considered the stakeholders who would be impacted by the new curriculum. The plan selected for this study involved the stakeholders and incorporated change strategies to offset any resistance to the new curriculum.

Evaluation was a part of the total curriculum development process. As such, evaluation planning began as soon as the curriculum development model was identified. The formative committee member, who is an expert in evaluation, was consulted continuously. A comprehensive evaluation plan, inclusive of student, faculty, and program evaluation became a part of the final product of this study.

In the final phase of the study, the Master of Science in Education for Health Professionals curriculum, developed according to predetermined criteria, consultation with formative committee members, and in compliance with professional standards, received further face validation by being submitted to five national experts for review. This summative committee was made up of national experts who have been involved in education for

health professionals and who have knowledge of adult learning principles. A listing of the members of the summative committee is found in Appendix K. Criteria used to guide the curriculum development process were made available to the national experts, along with the proposed curriculum. Suggestions from the national experts were considered, appropriate revisions were made, and the final product of this study was completed.

Assumptions

For this study it was assumed that faculty input into the development process would be available. Also, it was assumed the literature review was complete and accurate. Further, it was assumed that the administration of the college would support the new curriculum by supplying material and human resources. It was also assumed that the formative committee had the necessary expertise to guide the development of the study product. And finally, it was assumed that the summative committee would provide an objective validation of the product.

Limitations

The product of this development study may be limited to a single institution due to demographic and geographic considerations. It may also be limited to educators of specific health professions.

Chapter 4

RESULTS

Introduction

The purpose of the study was to develop a model Master of Science curriculum for educators of health professionals. The planning phase, according to Chapter 3, resulted in the development of a curriculum that included course content, instructional alternatives, an implementation plan, and an evaluation plan. For organization purposes the procedures were categorized into four phases: (a) The initial phase, (b) the planning phase, (c) the developmental phase, and (d) the final phase.

In the initial phase, relevant literature was reviewed for principles of adult learning germane to the study. Telephone interviews were conducted with local hospital staff development personnel and local health program instructors. The focus group technique was used to interview practicing health professions educators and current Master of Science in Health Professions Education (MSHPE) students. Information on course offerings and degree requirements was obtained from universities that had graduate adult education programs, from Schools of Allied Health that are members of the Association of Schools of Allied Health Professions (ASAHP), and from universities having allied health programs but that are not members of ASAHP. A catalogue survey of traditional and nontraditional graduate programs in education was completed to identify course content and degree requirements. Local institutions and experts were contacted to obtain data on

curriculum models, instructional alternatives, delivery systems, implementation models, and evaluation models.

In the planning phase, the collected data were used to develop criteria to guide the curriculum development process. Once the criteria were selected, the development phase began. Course content, instructional alternatives, an implementation plan, and an evaluation plan were developed. In the final phase, the model curriculum was submitted to five national experts for review. One of the original six summative committee members was not available. Results of the procedures detailed in Chapter 3 produced a model Master of Science for Educators of Health Professionals curriculum that includes course content, instructional alternatives, an implementation plan, and an evaluation plan.

Literature Review Results

The literature review provided a conceptual framework for the criteria that guided the development of the curriculum. Topics that were reviewed include adult learning principles, learning needs of health professionals, existing barriers to participation in graduate education, curriculum development models, models of teaching, educational delivery systems, implementation plans, and evaluation plans. The data were organized according to the seven research questions posed and were assembled for use during the development phase of the study.

Adult Learning Principles

For this project, three relevant philosophical perspectives

of adult education were identified from the literature. First, adult education should promote cognitive, affective, and behavioral changes in individuals consistent with workplace needs. Second, adult education should encourage development of independent, self-directed learning skills that result in lifelong learning behaviors. And third, adult education should provide an environment in which mutual respect and dignity among and between all participants (teachers, students, and colleagues) are the norm.

There were eight characteristics about adults as learners that were relevant to this study. First, adults can and do want to learn regardless of age. Second, adults have an enriched background of knowledge and experience that should be used in the learning process. Third, adults are pragmatic in their approach to learning. They want to apply their learning to the present situation. Fourth, adults are capable of taking responsibility for their own learning. Fifth, adults learn best when they can actively participate in the learning process. Sixth, adults learn when they feel supported while experimenting with new ideas and skills. Seventh, adults filter their learning through their own value systems. And eighth, adults learn best when they have a sense of progress toward their goals (Knowles, 1980; Sweeney, 1988).

The learning process, as depicted in the literature, included three additional features relevant to this study. First, participants learn best when new information or skills build on past knowledge and experience. Second, participants are

more motivated to learn when alternative instructional methods are available. And third, participants learn both in independent, self-reliant modes and in interdependent and collaborative ways.

These principles of adult learning provided the conceptual framework that was the foundation for the criteria that guided the curriculum development process.

Learning Needs of Health Professions Educators

The literature review revealed the most frequently mentioned learning need of health professionals to be skills and knowledge in the use of research and other scholarly activities followed closely by the need to have improved administrative leadership ability. Knowledge and skill in the profession were identified as an important learning need. Principles of teaching and learning were identified as being critical content for health professions educators to know. The topic of values was frequently raised in two contexts: (a) Ethical behavior as it relates to the individual as a person in society, and (b) ethical behavior as a professional person. Less frequently mentioned, but discussed throughout the literature, was the issue of clinical teaching. It was mentioned under the rubric of professional practice and referred to the knowledge and skill specific to teaching in the clinical environment.

Learning needs of health professionals, as identified in the literature, were assembled and added to the collected data used to form the criteria to guide the curriculum development process.

Barriers to Participation

The literature of adult education and the literature of health professions education concur on the barriers that interfere with an individuals' participation in graduate education. Lack of time was the most frequently mentioned barrier. The second most frequently mentioned barrier was the lack of money. Work schedules were often mentioned as a reason not to seek additional education. The literature is replete with instances of rapid and unexpected changes in work schedules. Closely related to work schedules is the issue of red tape. Obtaining permission to attend class is frequently difficult and is, therefore, considered a barrier. Availability of programs and the issue of accessibility were closely related in the literature. In both cases the issue appeared to be the distance the individual must travel to get to the educational institution. A final barrier, found in the literature, was the failure of the health professions educator to recognize the importance of a graduate degree to professional advancement in an institution of higher education.

Instructional Alternatives

The literature on instructional alternatives provided guideposts for decision making as the collection of data proceeded. A focus on the different way students learn, and the impact of the classroom environment on learning, furnished examples of ways teachers can enhance the learning process. Davis (1993) summed up the impact of the teaching and learning interaction in the following paragraph:

> Before teaching proceeds, while it is being anticipated and planned for, we need to think carefully about the individual characteristics of the students to be taught. It is important to ask the right questions, and to formulate tentative answers, about student cultures and subcultures; about the social and emotional development of the students; about the level of cognitive development; about their intelligence, aptitude, and motivation; about their learning styles and sensory modalities; and about their ethnic background, social class, and gender. Effective teachers know whom they are trying to teach. (p. 89)

This summation by Davis reflects an approach prevalent throughout the literature. Classroom environment, teaching styles, and the students' approach to learning were factors added to the data being collected to use during the development phase of the study.

Curriculum Development Models

The review of the literature related to curriculum development models revealed similarities and differences in approaches to the curriculum development process. Models were selected that had specificity to this study and are listed in Appendix A. All models approach curriculum development using a systematic method of assessing needs, doing a task analysis, determining parameters for course content, considering scope and sequence issues, ascertaining available and needed resources, and creating an evaluation plan. The degree of focus on the student as the center of the learning process was more evident in some approaches than in others.

Models of Teaching

The review of the literature on models of teaching disclosed a commonality between adult education and education of health professionals to be the focus on student learning and away from

the teacher. The model created by Davis (1993, p. 5) includes components that provide a framework from which such a model of teaching can derive. The model by Davis has four components: (a) subject, (b) setting, (c) teacher, and (d) student. These components are operationalized through a series of questions found in Appendix B.

Educational Delivery Systems

The review of the literature on educational delivery systems disclosed a range of systems from the traditional classroom setting to an electronic superhighway. The traditional classroom was described as one that uses printed materials to guide the teacher and student through the learning process. This type of delivery may not meet the needs of all students who wish to return to school. Alternative delivery systems for some students may include indirect contact by mail, telephone conferencing, one-way video conferencing, two-way video conferencing, desktop group and video conferencing, and computer conferencing.

The literature suggests that students need to have alternate ways of obtaining education and that distance education may be the way that education can be brought to many students. Information on educational delivery systems was added to the data being assembled for the development phase of the study.

Implementation Plans

From the review of the literature, four models were selected for this study. The models include assumptions, key players, and the relationship of change strategies. The models are found in Appendix C.

Evaluation Plans

The review of the literature on evaluation plans provided models for program evaluation, faculty evaluation, and student evaluation or assessment. Seven models were selected to add to the data being collected for the development phase and are listed in Appendix D.

Interview Results

Telephone interviews were performed with 13 local hospital staff development personnel and 10 health program instructors to determine learning needs and barriers to participation in graduate education.

Hospital Staff Development Personnel

The learning needs expressed by hospital staff development personnel included subject matter, infectious disease updates, legal issues, state and federal regulations, OSHA requirements, teaching techniques, and total quality management skills.

The barriers to participation in graduate education for hospital staff development personnel included lack of programs that provide recognition of prior learning, lack of time, heavy workload, and a lack of a baccalaureate degree. All respondents were licensed vocational nurses, all expressed a desire for additional education, and all stated their jobs required a credential to function as a staff developer but did not require a graduate degree or further academic education.

Health Program Instructors

The learning needs expressed by health program instructors included research skills, leadership skills, management and

administration, patient teaching, ethics, legal issues for patients and professionals, and trends in health care. All indicated a need for a teaching practicum.

The barriers to participation in graduate education for health program instructors were lack of time, lack of money, a heavy workload, family responsibilities, unclear advisement, need for an academic support person, rigid class schedules, poor quality programs, accessibility of programs, and a lack of a baccalaureate degree. Two individuals indicated a lack of confidence in their ability to be successful in a graduate degree program. All respondents indicated satisfaction with their present position. Three indicated additional education in the future was possible.

Focus Group Results

The focus group technique was used to elicit responses from five health professions educators who do not participate in graduate education and six current Master of Science in Health Professions Education (MSHPE) students relative to their learning needs and barriers to participation in graduation. The initial responses were reviewed by the respondents to assure accuracy of the data and the corrected responses were ranked according to the number of times each response was mentioned.

Health Professions Educators

The learning needs expressed by the health professions educators included administration and management, human resource development, education law, computer skills, statistics, research methods and design, and creating instructional media. All

expressed a preference for a customized program. All respondents had a baccalaureate degree except one who stated she did not intend to obtain further education because her job did not require it.

Barriers to participation in graduate education included accessibility (distance to a program), expense of the program, time, need for a flexible schedule, rigid admission requirements, and the lack of energy to take on additional responsibilities. All expressed concern regarding the accreditation status of the program.

Current MSHPE Students

The learning needs expressed by current MSHPE students included instructional design in classroom and clinical teaching, teaching-learning theory, evaluation methods, computer-assisted learning, instructional media, ethics, legal issues in health care and teaching, cultural diversity, and communication skills.

Barriers to participation in graduate education experienced by the MSHPE students included lack of time, accessibility (distance to the program), financial constraints, transfer of credits, and a need for a flexible schedule. All expressed interest in a customized program.

Course Offerings and Degree Requirements

Adult Education Graduate Programs Listed in Peterson's Guide

There were 58 graduate programs in adult education, offering a master's level degree, listed in Peterson's Guides to Graduate Programs in Business, Education, Health and Law: 1995. The 58

programs were contacted by mail for course offerings and degree requirements. Forty-two programs responded. Course offerings were sorted according to similarity of course descriptions. Degree requirements ranged from 30 to 48 semester units or 44 to 52 quarter units. A thesis or special project was required by 15 schools and a comprehensive examination was required by 22 schools. The most frequent degree requirement was an option permitting students to select either a thesis or a special project with a comprehensive examination required for either option.

Schools of Allied Health Listed in Peterson's Guide

There were 19 Schools of Allied Health listed in Peterson's Guides (1995) having a master's degree that were contacted by mail. Fifteen of the schools responded. Ten of the schools had a master's degree in a health professions program. Five programs had a master's degree in education. Three of the five programs had an education option in their professional program. Course offerings were sorted according to similarities in the course descriptions. Degree requirements ranged from 30 to 36 semester units or 44 to 55 quarter units. A thesis or special project was required by all programs, and a comprehensive examination was required by three of the schools.

Schools of Allied Health That are ASAHP Members

There were 35 graduate programs for educators of health professionals who are members of ASAHP identified as having a master's degree in education. Although other schools that were members of ASAHP have graduate programs for the health

professions, the programs were for specific health professions rather than programs for educators. All 35 schools were contacted by mail for course offerings and degree requirements. There were 23 respondents. Course offerings were sorted according to similarities in course descriptions. Degree requirements ranged from 30 to 36 semester units or 44 to 60 units. All programs required a thesis or special project with 13 requiring a comprehensive examination.

Catalogues from Traditional Graduate Education Programs

Catalogues from 34 traditional graduate education programs were surveyed to determine course offerings and degree requirements. Course offerings of the traditional schools were sorted according to similarities in course descriptions. Degree requirements for traditional schools range from 30 to 32 semester units or 40 to 72 quarter units. Eleven schools required a thesis, five schools required a special project, and two schools required a comprehensive examination. The remaining schools provided an option of one or the other of the three activities.

Catalogues from Nontraditional Graduate Education Programs

Catalogues from 10 nontraditional graduate education programs were surveyed to determine course offerings and degree requirements. Course offerings of the nontraditional schools were sorted according to similarities in course descriptions. Degree requirements for the nontraditional schools ranged from 28 to 36 semester units or 45 to 60 quarter units. Five of the schools required a thesis or special project. One school offered

a graduate seminar in place of the thesis and four schools offered a comprehensive examination option.

Internal and External Expert Information

Regional Institutions

Experts in the curriculum development process at four institutions were consulted regarding the curriculum development model used at their institutions. The University of San Francisco has a traditional curriculum with classes held during the week and on the weekend. The University of Redlands has traditional course offerings. They schedule classes in the evening and on weekends. In addition, they have an advisement routine that permits the student to plan his or her program when admitted to the program so that plans can be made in advance for the time needed to complete the program. The same advisor works with the students throughout the program. Occidental College was contacted because their catalogue describes the graduate education program as having a "uniquely systematic" model. The course offerings were traditional and, again, classes were scheduled in the weekend and evening mode. The University of California at Irvine was the fourth institution contacted. Although the medical school has a large medical education program, they do not offer degrees in education at the medical school. There was consensus from the external experts that learner needs and having teachers that want to do better are key to a good curriculum.

A nationally recognized expert in curriculum development was consulted relative to curriculum development models. She

recommended caution regarding resource needs and urged a focus on quality of life and integrity of program issues when designing a new program.

Internal Experts

The data on curriculum development models obtained through the review of the literature, interview and focus group responses, and surveys of schools having graduate education programs and guidance from external experts were shared with internal experts on instructional alternatives, implementation plans, and evaluation plans.

Instructional Alternatives

Two internal experts on instructional alternatives were consulted to assist in the refining of the collected data. Suggestions on instructional alternatives included input into the educational outcomes, sequencing of course offerings, and roles and responsibilities of the teachers.

Implementation Plans

Implementation strategies, found in the literature, were discussed with the internal expert and college administrators. Their suggestions consisted of urging caution relative to financial resources that would be available to implement a new curriculum and urged implementation over time. They recommended consideration of an intensive summer program as a strategy to make the program more available to health professions educators.

Evaluation Plans

The internal expert on evaluation reviewed the evaluation models in the literature and recommended a two-phase evaluation

plan. The first recommendation was to design a comprehensive program monitoring process to be implemented and operated continuously. The second recommendation was to design a program evaluation process, to be implemented at 5-year intervals, that would evaluate the educational outcomes of the program.

The initial phase of the project included a review of the literature on adult learning, learning needs of health professions educators, existing barriers to participation in graduate education, instructional alternatives, implementation models, and evaluation models. Local staff development personnel, and health program instructors were interviewed by telephone to determine learning needs and barriers to participation in graduate education. The focus group technique was used to elicit data on learning needs and barriers to participation in graduate education from health professions educators, and current MSHPE students. Regional institutions, and external and internal experts on instructional alternatives, implementation strategies, and evaluation plans were consulted to complete the data collection process of the initial phase of the study.

Data Analysis

The planning phase of the study consisted of preparing the collected data so as to construct the criteria to present to the formative committee for review. The data were collated and analyzed, and presented so as to answer the research questions posed for this study.

The first research question for the study was "What are the learning needs of educators of health professionals?" The learning needs of hospital staff development personnel and health program instructors, obtained through telephone interviews, were compared to the learning needs of health professionals identified from the literature and are reflected in Table 1. The learning needs are rank ordered according to the number of times each learning need was identified by the interviewees.

Table 1

Learning Needs of Staff Development Personnel and Health Program Instructors Compared With the Literature

Literature	Staff Development Personnel[a]	Health Program Instructors[b]
Research scholarship	Subject matter	Research skills
Administrative leadership	Infectious diseases	Leadership skills
Knowledge and skill of the profession	Legal issues	Management & administration
Principles of teaching and learning	Regulations	Practicum in teaching
Values	OSHA requirements	Patient teaching
Clinical teaching	Title 22	Ethics
	Teaching techniques	Legal issues (both patient and professionals' rights)
	Total quality management	Trends in healthcare

Note. [a]n = 13. [b]n = 10.

The learning needs of health professions educators and current MSHPE students were obtained by use of the focus group technique. The results of the focus groups were compared to the learning needs identified in the literature and are presented in Table 2. The learning needs were rank ordered according to the number of times each learning need was identified in the focus group.

Table 2

Learning Needs of Health Professions Educators and Current MSHPE Students Compared to the Literature

Literature	Practicing Health Professions Educator[a]	MSHPE Students[b]
Research, scholarship	Customized program Administration	Instructional design in classroom and
Knowledge and skills of the profession	Human resource development	clinical teaching Teaching learning
Principles of teaching and learning	Education law Computer skills	theory Cognitive psychology
Values	Statistics	Evaluation methods
Clinical teaching	Research methods and design	Computer-assisted learning research
	Creating instructional media	Instructional media Ethics
		Legal issues (in health care and

(table continues)

Literature	Practicing Health Professions Educator[a]	MSHPE Students[b]
		teaching
		Cultural diversity
		Communication skills

Note. [a]n = 5. [b]n = 6.

The second research question for this study was "What content should be included in a Master of Science in Education for Health Professionals curriculum?" Information was obtained from adult education graduate programs listed in Peterson's Guides (1995), schools of allied health who are members of ASAHP, and schools of allied health graduate programs listed in Peterson's Guides (1995). Course offerings were sorted according to similarities in the course descriptions and are presented in Table 3.

Table 3

Graduate Course Offerings From Schools of Allied Health and Adult Graduate Education Programs

Allied Health (ASAHP Members)[a]	Adult Education (Peterson's)[b]	Allied Health (Peterson's)[c]
Teaching strategies	Research in education	Curriculum theory
Educational administration	Leadership in education	Learning theory for adult education

(table continues)

Allied Health (ASAHP Members)	Adult Education (Peterson's)	Allied Health (Peterson's)
Research methods	Curriculum development and instructional design	Teaching methods and media
Teaching-learning theory	Theories of adult learning	Principles of measurement and evaluation
Evaluation methods	Educational administration	Research methods
Practicum or internship	Instructional technology & the use of computers in education	Statistics
Curriculum and instructional planning	Practicum/field experience	Practicum
Instructional technology	Historical, philosophical & social foundations of education	Administration in the health professions
Leadership	Evaluation methods	Thesis in applied project
Communication/ group dynamics	Teaching methodologies & strategies	
Clinical education and performance evaluation	Community & patient education	
Thesis or special project comprehensives		

(table continues)

Allied Health (ASAHP Members)	Adult Education (Peterson's)	Allied Health (Peterson's)
	Educational psychology	
	Human resource development	
	Principles of adult & higher education	
	Law in education	
	Statistics	
	Ethics	
	Multicultural concepts	
	Trends and current issues	

Note. [a]n = 23. [b]n = 42. [c]n = 5.

Degree requirements from the three sources were reviewed and are included in Table 4.

Table 4

Degree Requirements for Schools of Allied Health and Adult Education Graduate Programs

Program	Semester	Quarter
SAHP (ASAHP Members)[a]	30-36 units	44-60 units
Adult education graduate programs[b]	30-48 units	44-52 units
Allied health[c]	30-36 units	44-55 units

Note. [a]n = 23. [b]n = 42. [c]n = 5.

Course offerings from traditional and nontraditional graduate education programs, determined from catalogue surveys, were sorted into courses that are presented in Table 5. The course offerings were rank ordered according to the number of times the courses appeared in each catalogue.

Table 5

Course Offerings for Traditional and Nontraditional Graduate Programs in Education

Traditional[a]	Nontraditional[b]
Research methods	Historical philosophical and
Curriculum development design	and psychological foundations
Computer applications	Introduction to research and
Historical, philosophical,	evaluation
social foundations	Principles of curriculum and
Educational assessment and	instruction for culturally
evaluation	diverse settings
Practicum	Introduction to computer-
Instructional design	based education
Teaching and learning process	Instructional media
Instructional theory	Educational statistics
Models of teaching	Field experience
Diversity issues	Educational psychology
Leadership	
Educational leadership	
Law and finance	

(table continues)

Traditional[a]	Nontraditional[b]
Current issues and trends	
Educational psychology	
Personnel management	

Note. [a]n = 34. [b]n = 10.

Degree requirements for traditional and nontraditional graduate programs for educators, determined from catalogue surveys, were compiled and are offered in Table 6.

Table 6

Degree Requirements for Traditional and Nontraditional Graduate Programs in Education

Programs	Semester	Quarters
Traditional	30-32 units	40-72 units
Nontraditional	28-36 units	45-60 units

The third research question for the study was "What are the barriers that interfere with an educator of health professionals' pursuit of a graduate degree in education?" Hospital staff development personnel and health program instructors were interviewed by telephone to identify barriers they experience in obtaining additional education. Barriers were rank ordered according to the number of times each barrier was mentioned by the interviewees and are presented in Table 7.

Table 7

Barriers to Graduate Education for Staff Development Personnel and Health Program Instructors Compared to the Literature

Literature	Staff Development Personnel[a]	Health Programs Literature
Lack of time	Institutional	Situational
Lack of money	Lack of a program	Lack of time
Rigid work schedules	that provides recognition of	Lack of money
Red tape	prior learning	Workload
Availability of programs	Situational	Lack of baccalaureate degree
Accessibility	Time	Family responsibilities
Failure to recognize need for an advanced degree	Workload	Institutional
	Lack of baccalaureate degree	Unclear advisement
		Lack of contact person
		Rigid class schedules
		Poor quality programs
		Accessibility (distance)

(table continues)

Literature	Staff Development Personnel[a]	Health Programs Instructors[b]
		Dispositional
		Failure to recognize need for advanced degree
		Lack of confidence to enroll in graduate program

Note. [a]n = 13. [b]n = 10.

The focus group technique was used to obtain data on barriers to additional education experienced by health professions educators and current MSHPE students. Barriers were rank ordered according to the number of times each barrier was identified by the focus group members and are presented in Table 8.

Table 8

Barriers to Graduate Education for Health Professions Educators and Current MSHPE Students

Literature	Health Professions Educators[a]	MSHPE Students[b]
Lack of time	Situational	Situational
Lack of money	Expense/lack of money	Time
Rigid work schedules	Time	Accessibility

(table continues)

Literature	Health Professions Educators[a]	MSHPE Students[b]
tape	Institutional	Financial
Availability of programs	Need flexible schedule	Institutional
Accessibility	Rigid admission requirements	Transfer of credits
Failure to recognize need for advanced degree	Accreditation status of the program	Need flexible schedule
	Dispositional	Customize
	Energy	

Note. [a]n = 5. [b]n = 6.

The fourth research question for this study was "What instructional alternatives are appropriate for use in a Master of Science in Education for Health Professionals program?" The curriculum development models, identified from the literature, and recommendations from external experts, were shared with internal experts. Suggestions from the experts were incorporated into the model shown in Figure 1. The basis of the model was taken from a model presented by Davis (1993) that has four components: (a) subject, (b) setting, (c) students, and (d) teacher. A focus on the importance of a student's learning preference and a recognition of the impact on the classroom environment of a teacher's style of teaching was added to the model. Educational outcomes, and the assessment component,

complete the model of curriculum development to be presented to the formative committee for review.

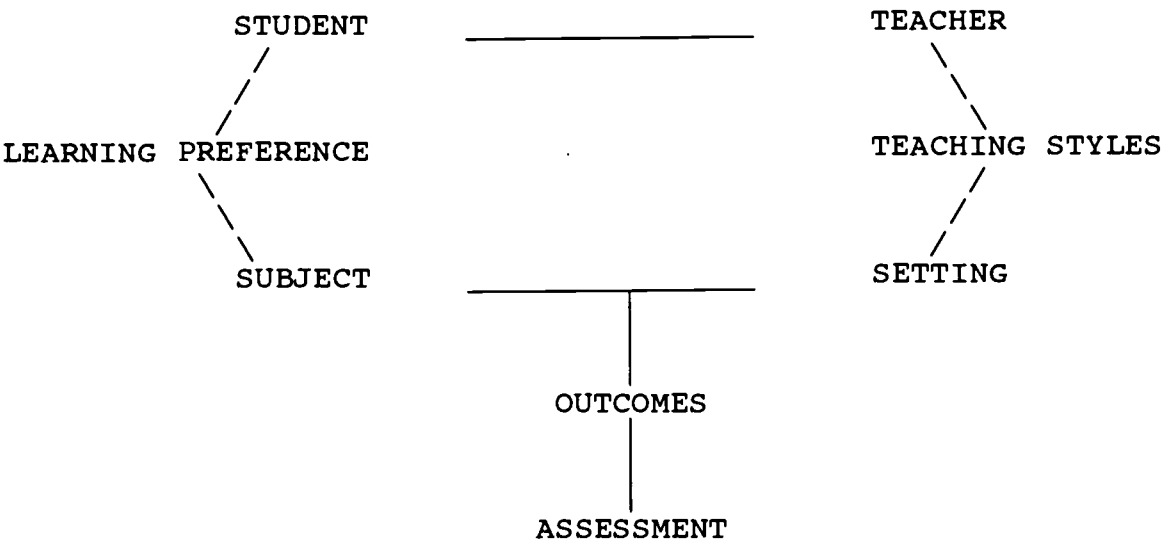

Figure 1. A curriculum development model for a Master of Science in Education for Health Professionals program.

A model of teaching that centers on students and learning rather than on teachers and teaching, was developed by using questions identified by Davis (1993) and included in Appendix B. Data collected from external experts relative to qualify of life issues, learner needs, and having teachers who want to do better were included. The model was prepared for presentation to the formative committee for review.

The fifth research question for this study was "What educational delivery systems are available that will make the program accessible to educators of health professionals?" The literature review identified a broad spectrum of educational delivery systems. The systems range from the traditional

classroom to a complex information superhighway. The systems and comments from the external and internal experts were prepared for presentation to the formative committee.

The sixth research question for the study was "What is a feasible implementation plan for the Master of Science in Education for Health Professionals curriculum at COMP?" Implementation models listed in Appendix C, input from external and internal experts, and input from COMP administrators were prepared for presentation to the formative committee.

The seventh research question for this study was "What evaluation plan (students, faculty, and program) would best accommodate a graduate program for educators of health professionals?" The internal expert reviewed the evaluation models identified from the literature and suggested an eclectic two phase model be designed for this study.

Upon completion of the analysis of the data collected in response to the seven research questions posed for this study, criteria were prepared to guide the curriculum development process. The criteria were contrasted with adult learning principles, previously identified in the literature, for face validation. In addition, standards for adult education programs, relative to curriculum content and faculty preparation, developed by the Commission of Professors of Adult Education (CPAE), were followed. The criteria reflected the Western Association of Schools and Colleges (WASC) standards for graduate education. Professional accrediting standards from the American Osteopathic

Association (AOA), the Association of Physician Assistants Programs, the Association of Occupational Therapy, and the American Physical Therapy Association completed the review of standards from the accrediting bodies.

The criteria were presented for review to the formative committee. The list of previously identified members of the formative committee is found in Appendix I. The committee asked that the criteria emphasize the enriched experiences that the health professions educator students bring to the classroom. They believed that biological age was not a good indicator of a student's readiness to learn in an environment that promotes adult learning experiences. The recommendation made in response to this belief was for the criteria to support the assessment of a student's readiness to learn in an independent, self-directed mode. Additionally, the suggestion was made that the student's learning style or preference be determined early in the program. These suggestions were added to the criteria.

Program Development

Discussions on the courses to offer, the content of the courses, and the degree requirements spanned several encounters with the formative committee. The results of the discussions led to having criteria broad enough to allow flexibility but narrow enough to be able to identify specific course content in the final curriculum. The criteria are found in Appendix J.

During the development phase, the criteria, that had been validated by the formative committee, were used to guide the curriculum development process. First, a mission statement and

educational philosophy were developed that reflected principles of adult learning. Course offerings and course content were organized around the identified learning needs of health professions educators. Consideration was given to the learning needs identified in the literature, and also to course offerings of adult graduate education programs and other allied health programs. Formative committee members with expertise in curriculum development and instructional design were consulted continuously.

As the curriculum development process proceeded, careful attention was paid to the barriers to participation in graduate education identified by the educators of health professionals. Flexible scheduling, multiple ways to meet course requirements, and consistent faculty advisement were emphasized throughout the curriculum development process. Consideration was given to how the curriculum could accommodate the work schedules of potential students. Formative committee members were in consensus that funding was needed to allow further flexibility in the way the program was delivered to those individuals unable to attend class regularly because of work schedule constraints.

The teaching model was built on the Davis (1993) model which includes subject matter, setting, student, and teacher. In addition, the model for this study directed attention to learner preference and teaching style. Learning outcomes and assessment completed the components of the model.

Educational delivery systems were discussed with the formative committee member who had expertise in that area. A

delivery system built on the roles and responsibilities of teachers and students was clarified using the established criteria, by the formative committee member.

The implementation plan was clarified by the formative committee using the established criteria. The plan includes short- and long-term goals for implementation of a new curriculum. It also acknowledges the complexities of implementation.

The evaluation plan was designed in two phases. First, the plan has a monitoring phase with elements of formative and summative evaluation. Second, the plan has a program outcome phase. The evaluation plan was clarified by the evaluation expert on the formative committee using the established criteria.

In the development phase of this study, course offerings and course content were finished and were based on the learning needs identified by educators of health professionals. Also incorporated into the course offerings and course content were data collected from adult graduate education programs, schools of allied health, and traditional and nontraditional schools having graduate education programs. Input from internal and external experts in curriculum development was considered. The curriculum development model included a teaching model and an educational delivery system. An implementation plan and an evaluation plan were added to the completed product. The completed product was appraised for compliance with accreditation standards and is found in Appendix L.

The model Master of Science in Education for Health Professionals curriculum that was developed according to predetermined criteria, and in consultation with formative committee members, was prepared for mailing to the national experts for further face validation.

Summative Committee Results

In the final phase of the study, the model Master of Science in Education for Health Professionals curriculum was mailed to the summative committee experts in curriculum development for face validation of the product. The criteria that had been used in the development process were included with the curriculum (see Appendix J). Responses from the national experts were positive and included suggestions that were incorporated into the final product.

The first criterion developed for the study dealt with educational philosophy and curriculum design related to principles of adult education. All summative committee members found this criterion to be well covered in the curriculum.

The second criterion was concerned with educational outcomes that reflect the learning needs of health professionals. One committee member suggested more emphasis be placed on learning outcomes specific to the learning needs of health professionals. Examples that were offered were patient and community education, interdisciplinary education and teamwork, and clinical teaching strategies.

The third criterion addressed barriers to student participation in graduate education. One suggestion was to

include more emphasis on societal barriers that prevent many students from participating in graduate education. This issue was related to cultural diversity and to the many societal barriers faced by minority and disadvantaged health professions educators.

The fourth criterion pertained to providing educational theory that would assist students to integrate theory into practice. A comment that was made related to whether the curriculum would produce persons with special skills needed by health professionals. Strengthening the educational theory module was suggested.

The fifth criterion was related to teaching methods that recognize learner preferences and individual teaching styles. A suggestion was made to include content on educational philosophies in the teaching styles module.

The sixth criterion pertained to educational delivery systems that ensure the student is central to the teaching-learning process by providing alternate teaching methods that acknowledge learning preferences and teaching styles. The curriculum, as presented, appears to have met the requirements of the sixth criterion. Comments relative to this area were all positive.

The seventh criterion recognized the complexities of implementing a new curriculum, acknowledged the need for change agent strategies, and allowed for resource development. There were no suggestions or comments related to the seventh criterion.

The eighth criterion was related to the evaluation plan and the need for design features that reflect principles of adult learning and a monitoring system with a focus on educational outcome assessment. There were no suggestions or comments related to the eighth criterion.

There were other suggestions from the summative committee members that were considered when the curriculum revision activities were accomplished. Content felt to be helpful to health professions educators included information systems, grant-writing and professional technical writing for publication, faculty roles in academe, and the historical development of higher education. Another suggestion was related to the complexity of scheduling the curriculum, as formatted, within a traditional 2-year period.

Suggestions and comments from the summative committee members were considered, the appropriate revisions were made, and the final product was completed.

In summary, the procedures followed in this study resulted in the development of a model Master of Science in Education for Health Professionals curriculum that included instructional alternatives, an implementation plan, and an evaluation plan. In the initial phase of the study, data-gathering activities included a comprehensive review of the literature related to adult education, learning needs of health professions educators, and the barriers to participation in graduate education faced by health professions educators. Instructional alternatives, implementation plans, and evaluation plans were part of the

review of the literature. Telephone interviews with staff development personnel and health program instructors and focus groups made up of practicing health professions educators and current MSHPE students elicited data on the learning needs and the barriers to participation in graduate education specific to health professions educators. Course offering and degree requirements were obtained from adult education graduate programs listed in Peterson's Guides (1995), allied health programs listed in Peterson's Guides (1995) that have a graduate degree program in education, and allied health graduate programs that were members of ASAHP. Additional data on course offering and degree requirements were collected by surveying catalogues from traditional and nontraditional university programs. Data on instructional alternatives, implementation plans, and evaluation plans were obtained from internal and external experts on curriculum development. Regional institutions were contacted to determine the curriculum development model used at that institution. External experts provided input into the curriculum development process. Advise from internal experts was continuously sought.

The formative committee was formed early in the planning phase of the study and was involved in the evolution of the criteria that guided the development of the final product.

Curriculum development activities, instructional alternatives, an implementation plan, and an evaluation plan were completed during the development phase of the study.

During the final phase of the study, the summative committee reviewed the curriculum for face validation. The summative committee's suggestions were considered, revisions were made in the curriculum, and the final product was completed.

Chapter 5

DISCUSSION, CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

Discussion of Results

As presented in Chapter 4, this study developed a model Master of Science curriculum for educators of health professionals. The completed study includes course content, instructional alternatives, an implementation plan, and an evaluation plan. A comprehensive needs assessment and data analysis were completed to determine the learning needs and the existing barriers to participation in graduate education expressed by health professions educators. After the literature review was completed, staff development personnel, health professions instructors, practicing health professions educators, and current MSHPE students were asked to share their experiences relative to participation in graduate education. There were similarities among the groups but there were also differences.

Staff development personnel appear to have learning needs specific to subject matter in infectious disease processes. This may occur as a result of the basic educational preparation required for staff development personnel. The 13 individuals interviewed for the study were licensed vocational nurses. They are required to have a credential to perform their duties but are not required to have education beyond the license to work as a vocational nurse. Health professions instructors, practicing health professions educators, and the current MSHPE students had learning needs more directed toward their teaching functions. There was an emphasis on the need to improve their research

skills. The three groups expressed a need to improve their administrative and leadership skills. Teaching and learning theory along with classroom and clinical teaching skills were closely related. Issues of cultural diversity and computer skills to be used in developing instructional media were emphasized. There was a suggestion throughout the data that practice teaching was needed.

The expressed need for research skills may not reflect a need to do scientific research. Rather, it may mean that the three groups of health professions educators recognize a need to collect and use data more effectively. Although the literature points to a lack of research skills as a major problem for educators of health professionals, specifically allied health educators, there is also evidence in the literature that indicates that research without a purpose in improving health care delivery may be in direct contrast to health care reform (Bland & Holloway, 1995; Cervero, 1988; Holcomb, Selker, & Roush, 1990; Houle, 1980; Schön, 1987). Therefore, caution in the way research skill needs are interpreted seems important. Strengthening the teaching and learning knowledge base of health professions educators is supported in the literature. The Pew Health Professions Commission annual reports (Tresolini & the Pew-Fetzer Task Force, 1994) have stressed that health professions educators should be prepared to provide the skills, knowledge, values, and practice orientations that students need to have to meet the challenges of health care reform. A curriculum model that focuses on the student as an adult learner

and that recognizes the value of independent and interdependent learning experiences appears to address these issues (Caffarella, 1994; Cranton, 1989; Davis, 1993; Heimlich & Norland, 1994; Kemp, Morrison, & Ross, 1994).

Barriers to participation in graduate education have similar roots in health professions education and in the literature of adult education. The most often expressed barrier to participation in graduate education by all the groups interviewed for this study was a lack of time. Time seems to be a universal barrier to additional education. A closely related issue to time is the issue of work schedules. Health professions educators frequently work as part-time health care providers. Some reported having two full-time jobs. This situation is important in the development of a curriculum that addresses the barriers common to health professions educators. However, it is not a situation that can be completely resolved by an educational program but a curriculum design that provides flexibility and access to working adults can be helpful. A barrier that can be addressed more easily in the design of a curriculum is the expressed problem of unclear or inadequate advisement. A closely related issue is the lack of a contact person at the institution so that students can obtain help, or even support, as they proceed through the program. A curriculum design model that places students at the center of the learning environment can address this issue most of the time. Faculty acting as advisors, mentors, or simply as concerned teachers, may be all that is needed. The teaching model designed for this study has included

this concept into the roles and responsibilities of the teacher. Daloz (1986), Grasha (1994) and others support these roles for teachers. Classes can be scheduled to meet the time constraints of students more adequately without compromising the integrity of the program. It seems the institutional issues identified by Cross (1981) are as important as ever for today's health professions educator.

The lack of money and the family responsibilities, identified in the literature and by the respondents, are important to be aware of but cannot always be addressed by an educational program. Institutions can assist students to identify and apply for financial assistance. Each individual student brings a different set of issues to the financial counselor. Issues must be addressed individually in collaboration with the student.

The literature of health professions education identified the failure of health professions educators to recognize the need for an advanced degree. There was evidence in the collected data that at least health professions instructors may not be completely aware of the need for graduate education. It may be that these instructors work in an environment that does not require academic progress for recognition and promotion. A graduate program that is sensitive to the issue, and that is accessible to the instructors may, over time, correct the impression. The issue is addressed in the model curriculum administratively by providing a degree option or a nondegree option. This will allow health professions instructors not

classroom to a complex information superhighway. The systems and comments from the external and internal experts were prepared for presentation to the formative committee.

The sixth research question for the study was "What is a feasible implementation plan for the Master of Science in Education for Health Professionals curriculum at COMP?" Implementation models listed in Appendix C, input from external and internal experts, and input from COMP administrators were prepared for presentation to the formative committee.

The seventh research question for this study was "What evaluation plan (students, faculty, and program) would best accommodate a graduate program for educators of health professionals?" The internal expert reviewed the evaluation models identified from the literature and suggested an eclectic two phase model be designed for this study.

Upon completion of the analysis of the data collected in response to the seven research questions posed for this study, criteria were prepared to guide the curriculum development process. The criteria were contrasted with adult learning principles, previously identified in the literature, for face validation. In addition, standards for adult education programs, relative to curriculum content and faculty preparation, developed by the Commission of Professors of Adult Education (CPAE), were followed. The criteria reflected the Western Association of Schools and Colleges (WASC) standards for graduate education. Professional accrediting standards from the American Osteopathic

inclined to obtain a degree to take those classes needed to improve their knowledge and skill base. It will also put them in contact with students who are taking the degree option. Brookfield (1986) and Davis (1993) support the notion that students are influenced by peer pressure. Thus students may be encouraged to complete the degree option. This strategy may also help those individuals who expressed a lack of confidence in their ability to return to an academic program.

The use of curriculum models utilized by other institutions gave the model for this study more depth and comprehensiveness. Course content and course requirements from other schools having adult education programs, and allied health programs having a graduate program for educators, provided a frame from which many different approaches could be devised. The model chosen for this study is based on the concept that there is no one best way to develop a new curriculum (Glatthorn, 1994). Glatthorn feels that a new curriculum should be sensitive to local needs, talents, and resources. This concept seems consistent with the data on learning needs and the barriers to participation in graduate education voiced by the respondents and helped in developing the procedures used for the study.

Once the data collection and analysis phases of the study were completed, criteria were developed to guide in the curriculum development process. The criteria were presented to the formative committee for review. After several revisions were made, the criteria were used to develop the new curriculum. Throughout the curriculum development process, assistance was

available from the formative committee, faculty members, administrators, and internal and external experts. Thus the completed curriculum had input from all the stakeholders and was more likely to be implemented (Kemp et al., 1994; Ornstein & Hunkins, 1993).

The model of teaching used for this study was adapted from a teaching-learning model presented by Davis (1993). In his model, Davis describes four components: (a) content, (b) setting, (c) student, and (d) teacher. To define the teaching model for this study further, the additional components of learner preference, teaching style, learning outcomes, and assessment were included. The intent of this inclusion is to recognize the interaction between the student and the teacher as being crucial to the learning environment. Teachers have many ways of being present for students (Reinsmith, 1994). Students have many ways of knowing (Brookfield, 1986). Designing educational outcomes that allow both teacher and student to know program expectations may help to create a positive classroom environment. To capture this phenomena is the intent of the teaching model designed for the study.

The model is also based on the assumption that educators of health professionals have a subject matter knowledge base. Therefore, the importance of content or subject matter is acknowledged but is not central to the teaching model selected for this study (Bland & Holloway, 1995; Irby, 1994; Schön, 1987).

The importance of having a teacher who will act as a change agent in the classroom, model behaviors thought important for

educators of health professionals to have, and the provision of alternate ways for students to learn the same material is stressed in the new curriculum and is supported in the literature by Cantor (1992), Davis (1993), and Grasha (1994). Other authors have emphasized the role teachers play, not only in developing knowledge and skills, but in stressing the values and attitudes desirable for health care providers (Cervero, 1988; Houle, 1980; Irby, 1994; Mann, 1994; Petersdorf & Turner, 1995; Schön, 1987; Wlodkowski, 1993). The new curriculum incorporates concepts presented by these authors, and others, into the instructional alternatives, the implementation plan, the evaluation plan.

Traditionally, graduate education for educators of health professionals has been delivered in a classroom setting, using teaching methods and materials common to the traditional classroom. Lectures, discussions, class presentations, and demonstrations are the most common methods of teaching. The new curriculum has been designed so that students can demonstrate their mastery of the learning outcomes in a variety of ways. The student and the teacher work collaboratively to design activities that will allow the student to learn new knowledge, skill, and values according to his or her own learning preference and to demonstrate, through application, the acquisition of the new information.

Although the literature suggests consideration of distance education as a means of addressing accessibility issues common to adult students, the new curriculum did not include distance education in the design (Blackwood & White, 1991; Cantu, 1994;

Edwards, Weber, & Hilyard, 1994; Kember, Lai, Murphy, Slau, & Yen, 1994). The College of Osteopathic Medicine of the Pacific does not have the technology at present to provide distance education. However, the institution is involved in developing a plan that will include telecommunication capabilities. The curriculum is designed so that adjustments can easily be made to accommodate distance education methodologies. The literature cautions that, irrespective of how the program is delivered, materials must be developed that ensure that the student is central to the teaching-learning process (Castor, 1994). The development of the appropriate outreach materials will be necessary prior to consideration of distance education activities.

An implementation plan can be the most complex part of a new curriculum. Ornstein and Hunkin (1993) point out that having a good curriculum does not get the job done if it is not delivered to the students who need it. A change is hard to implement in any setting so it is important to be sensitive to the natural resistance to change and be prepared to overcome the resistance. Change strategies that include all the stakeholders are important. The plan that was designed for this study was built on input from the faculty, students, institutional administrators, and from individuals in the workplace. It is based on accreditation compliance issues important to the institution. To accommodate input from the many stakeholders, the plan is divided in short- and long-term goals. It is felt that implementing the new curriculum in this way will allow for

selection and preparation of the appropriate resources. Kemp et al. (1994) feel that teachers and administrators must be clear about the purpose and benefits of the proposed change. A feasible implementation plan allows time for a change in behaviors and attitudes that can cause a delay in implementation in the long term.

Evaluation is most often placed at the end of a course or a curriculum. In accordance with the recommendations of Ornstein and Hunkins (1993), formative evaluation is central to the overall evaluation plan for the new curriculum. Each module has a learning outcome that must be met according to decisions made by the teacher and the student at the beginning of the module. It is felt that this will present a consistent sense of the student's progress and will, as suggested by Isaac and Michael (1981), help the student to improve. Cross (1981), Darkenwald and Merriam (1982), Knowles (1982), and Merriam and Caffarella (1991) and others repeatedly suggest that adult students need to have a sense of progress toward their goals.

The overall plan also provides the formative evaluation in the traditional manner. Applicants are assessed relative to established prerequisites. Course and instructor evaluations are regularly performed. Human and material resources needed to conduct the program are routinely monitored. The data are used to make recommendations to the administration during the budget process. Thus there are procedures in place to monitor student and program progress continuously.

The summative evaluation plan includes a five-year cycle for graduates of the program. The intent is to determine how well the program has prepared the graduates to function as educators in the workplace. In addition, every five years employers of the graduates will be asked to assess how well they believe the graduates are prepared to perform as educators. The five-year cycle was selected to accommodate the postgraduate education most health care students are required to complete before they become fully employed. A five-year interval gives the individual graduate the opportunity to become established in the workplace and to demonstrate knowledge, skill, and behaviors learned in the master's program.

The model Master of Science in Education for Health Professionals curriculum was developed by using data obtained from educators of health professionals and from the recommendations of experts who are currently providing adult graduate education. Criteria, designed from the literature review and from the obtained data, were designed and presented to the formative and summative committees to assure an appropriate and complete program. Recommendations from the formative committee were incorporated into the completed document. The document was then sent to the summative committee for face validation. The final document represents the cumulative efforts of all participants.

Conclusions

As a result of the procedures followed in this study, the seven research questions were answered. Principles of adult

learning were used to create course content, instructional alternatives, an implementation plan, and an evaluation plan. The curriculum that resulted is based on identified learning needs and barriers to participation in graduate education voiced by educators of health professionals. The curriculum is directed toward creating a learning environment in which students and teachers work collaboratively to design learning experiences specific to the student's need.

The learning needs and barriers to participation in graduate education, expressed by health professions educators, corroborated the literature. Although responses from the four groups varied somewhat, it appears that research and administrative skills, notably leadership, are needed by the majority of the respondents. Skills in teaching methods that include a teaching practicum appear to be universally needed. Other learning needs voiced by the health professions educators fall into the category of curriculum development and instructional design. Designing courses, creating media, methods of assessment and evaluation, and developing resources were frequently mentioned. The issue of clinical teaching skills was not identified as a major learning need by the educators. However, the literature and the formative and the summative committee members emphasize the need for a strong clinical teaching component in the curriculum. It may be that health professions educators who have not had formal educational preparation fail to recognize the important differences in classroom teaching and clinical teaching skills.

Barriers to participation in graduate education expressed by the health professions educators closely parallel the literature. Time and workload issues were frequently mentioned. Financial constraints and family responsibilities were common responses. Although health program instructors were the only group to report the institutional barriers of unclear advisement and the feeling of no one to give support when they needed it, this may be an area more common than was reported.

Based on the results of the procedures carried out for this study, a model Master of Science in Health Professions Education was developed. Several implications have evolved from the study.

Implications

The curriculum that was produced as a result of this study was based on data collected from educators of health processionals and from existing adult education and allied health education programs. The literature was used as a framework for curriculum development activities to assure that adult learning principles were basic to the design.

Although the learning needs and the barriers to participation in graduate education, voiced by health professions educators, were not expressly different than those found in the literature, there were areas that influenced the design of the model curriculum. First the health professions educators did not appear to recognize the specific skills needed for clinical teaching. Recommendations from formative and summative committee members relative to clinical teaching content were made a part of the final product. Second, the health professions educators

reported a need for research skills. The curriculum design makes it possible for students to take course content that is specific to their needs. The strategy is designed to prevent the student from becoming involved in an in-depth research course if all they need or want are data-gathering skills or to know how to read research literature critically. This strategy should make the curriculum useful to faculty at the College of Osteopathic Medicine of the Pacific who are content experts but who did not have formal teaching preparation. It should also make the program more available to health professionals who have limited time and resources to attend graduate school.

Benefits of the model curriculum to health professions educators include being able to take 1-unit courses that have learning outcomes that can be met in alternate ways. The program is based on degree-nondegree status so that individuals need only commit to a time frame that is workable for them. In addition, having faculty advisors who work with students from the first day of matriculation until they complete the program of study should prevent the feeling of isolation and bolster confidence for those who are timid about attempting graduate education. It is, therefore, in the curriculum design and instructional alternatives that the model curriculum has the most implications for health professions educators.

The model Master of Science in Education for Health Professionals curriculum is designed to increase the availability of a graduate education program to health professionals who are or want to be educators. Although it has been designed

specifically for COMP, it can be adapted to be used by other institutions.

Recommendations

The need for graduate education for health professions educators has been documented in the literature for many years. Based on the results of this study, it is recommended that the new curriculum be implemented at COMP as soon as possible. Further, a vigorous marketing plan should be implemented to make the existence of the program known to the widest possible audience. Multiple ways of marketing need to be created to reach local and distant audiences. Presentations at professional association meetings, personal visits to campuses and other workplaces where educational programs are located, and personal contacts with health professionals are a few of the ways the new curriculum can be marketed.

A recommendation for immediate consideration is to develop the modules more fully so they can be used in a variety of settings. The developed modules will define the human and material resources needed to operationalize the curriculum more clearly. Institutional support for those resources should be available.

A further recommendation for immediate implementation is faculty development activities. The new curriculum is a move away from the traditional methods of providing instruction. Faculty, staff, administrators, and students need to be prepared for the changes. It may require several workshops to gain consensus on the details of implementation.

A long-range recommendation is to seek funding to assure that the distance education technology is made available so the program can be accessible to more students. Outreach material development will need to be considered.

Further research is needed on ways to provide advanced educational opportunities for those individuals who are currently teaching in the health professions but who do not have a baccalaureate degree. Ways to provide credit for prior learning are needed in this area. Also, research is needed on the appropriate support systems that would encourage health professions educators to seek additional education. It is recommended that these research activities be carried out simultaneously with implementation of the new curriculum.

In summary, this study resulted in the development of a model Master of Science in Education for Health Professionals curriculum. The course content, instructional alternatives, implementation plan, and the evaluation plan are based on the expressed learning needs and barriers to participation in graduation revealed in the collected data and supported in the literature. Although the new curriculum is designed specifically for COMP, it is a model that can be used by other institutions planning a change in their programs.

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APPENDIXES

Appendix A

Curriculum Development Models

Glatthorn, A. A. (1994). Developing a quality curriculum. Alexandria, VA: ASCD.

Steps in developing a mastery curriculum were adapted for this study.

- Identify the goals
- Analyze stated framework
- Refine goals
- Develop a report on knowledge base
- Develop the hallmarks of excellence
- Develop the curriculum framework
- Identify the strands of the curriculum
- Develop the scope and sequence chart
- Identify available curriculum models
- Develop the curriculum guide
- Evaluate the guide
- Determine how the guide will be distributed

Gagne, R. M., Briggs, L. J., & Wager, W. W. (1988). Principles of instructional design. Ft. Worth, TX: Holt, Rinehart & Winston.

The steps in this model represent the process these authors recommend.

- Define performance objectives
- Analyze the learning tasks
- Design instructional sequences
- List the events of instruction

- Select and use media
- Design individual lessons
- Assess student performance

Ornstein, A. C. & Hunkins, F. (1993). Curriculum: Foundations, principles, and theory. Boston, MA: Allyn & Bacon.

The model provided by these authors includes components of curriculum design and development.

- Subject-centered or technical-scientific
- Learner-centered or nontechnical-nonscientific
- Problem-centered can be one or the other

Dowd, S. B. (1995). Teaching in the health-related professions.

The author presents his materials from two perspectives: curriculum components and curriculum alignment.

Curriculum components

- Philosophy statement
- Rationale
- Learning outcome statements
- Learning activities
- Assessment of competency attainment
- Learning environment

Curriculum alignment

- Validate present course content through task analysis
- Agree on the syllabus format
- Agree on scope and sequence of the material
- Write objectives from simple to complex
- Align the objectives with the text used

- Carry out the curriculum
- Align evaluation measures with the curriculum
- Review and evaluate the curriculum

Davis, J. R. (1993). Better teaching, more learning. Phoenix, AZ: Oryx Press.

The author discusses four components of the teaching/learning process involved in curriculum development.

- Subject
- Setting
- Student
- Teacher

Appendix B

Models of Teaching Questions

The model of teaching presented for this study was taken from Davis (1993) and is a list of questions a teacher should ask relative to the subject, the setting, and the student.

Teacher

Effective teachers asks questions about what is being taught, where they are trying to teach it, and to whom the instruction is being directed. Davis (1993, p. 347) states the following questions frequently need to be answered.

Subject

What knowledge is most worth having?

How do I define and describe my subject?

What do I hope to teach through the subject?

What decisions do I need to make about the learning outcomes that are most desired-cognitive, affective, and psychomotor?

What decisions do I need to make about scope? Depth and breadth? centrality and balance? flexibility and choice?

What is considered to be essential, foundational, or the essence of what I am trying to achieve?

What is the "philosophy" of education undergirding this teaching?

What issues and points of controversy are involved with these goals and how have these issues been debated in the past? What do I most value as the outcomes of my instruction?

The Setting

What are the physical arrangements of classroom space and how may they be altered to accommodate the teaching I want to do?

How will people be arranged within the classroom and how will this arrangement affect communication?

What are the social roles to be played out by the teacher and the students in this classroom?

What is the larger institutional context within which this teaching will take place?

What type of institution is this with regard to comprehensiveness? selectivity? type of control (public, private)? orientation (proprietary, religious)? prestige? visibility?

What is the mission of the institution and what is its institutional saga?

How are the culture and climate of the institution expressed?

How are the traditions of the academic disciplines and fields of study represented at this institution?

How do the characteristics of the setting enhance or limit what I hope to achieve through my teaching?

To what extent is there a good fit or some adjustment to be made between what can be done here and the institution where I did my graduate work? the institution where I was an undergraduate? the institution where I hope to teach?

The Student

To what student generation do these students belong?

To what student culture do these students belong?

With what campus subcultures are they affiliated?

How old are they and what social-emotional development tasks are they addressing?

How do they view their education?

At what stage of cognitive development are they and how do they view thinking processes?

What kinds and degrees of intelligence do they manifest?

What are their general and specific aptitudes and how do these relate to their levels of achievement?

What motivates them and to what degree and in what ways are they motivated or not motivated?

What learning styles do they appear to prefer and how do personality variables interact with preferred approaches to learning?

What are the strengths and weaknesses in their capacity for sensory processing and do they manifest any sensory disabilities?

What is their ethnic background and to what extent do they identify with their ethnicity?

What is their economic and social class background?

What sex are they and what is the nature of their gender socialization?

Appendix C

Implementation Models

Ornstein, A. C. & Hunkins, F. (1993). Curriculum: Foundations, principles, and theory (2nd ed.). Boston, MA: Allyn & Bacon.

Model	Author-Originator	Assumptions	Key Players	Relationship to Change Typology
Overcoming resistance to change (ORC)	Neal Gross	Resistance to change is natural Need to overcome resistance at outset of innovation activities Must address concerns of staff	Administrators, directors, teachers, supervisors	Power strategy Empirical strategy Planned change
Organizational development	Richard Schmuck and Matthew Miles	Top-down approach (vertical) organization) Stress on organizational culture Implementation an ongoing interactive process	Administrators, directors, supervisors	Empirical, rational Planned change
Organizational parts, units, and loops	Rensis Likert Chris Argyris	Parts, units, and departments of the organization compromise the whole Linkages between people and groups Implementations consist of corrective actions	Administrators, directors, teachers, supervisors	Normative, rational Planned change
Educational change model	Michael Fullan	Successful change involves need, clarity, some complexity, and quality of programs	Administrators, teachers, students, school board, community and government members	Centralized policies External, internal factors

Appendix D

Evaluation Models

Ornstein, A. C. & Hunkins, F. (1993). Curriculum: Foundations, principles, and theory (2nd ed.). Boston, MA: Allyn & Bacon.

Model	Author	Approach	View of Reality	Possibility of Generalization	Role of Values
Metfessel-Michael model	Metfessel & Michael	Scientific	Reality is tangible, single	Yes	Value free
Provus discrepancy model	Provus	Scientific	Reality is tangible, single	Yes	Value free
Congruence-contingency model	Stake	Scientific	Reality is tangible, single	Yes	Value free
Context, input process, product model	Stufflebeam	Scientific	Reality is tangible, single	Yes	Value free
Judicial model	Wolf, Worthen, & Sanders	Scientific	Reality is tangible, single	Yes	Value free
Connoisseurship model	Eisner	Humanistic	Realities are multiple, holistic	No	Value bound
Responsive-evaluation model	Stake	Humanistic	Realities are multiple, holistic	No	Value bound

Appendix E

Hospital Staff Development Personnel

Telephone Interview Questions

After introductions were completed and the individual had agreed to participate in the study, the following items were asked:

1. Describe your educational background.

2. Discuss any educational requirements your job may require.

3. If you have considered enrolling in an advanced degree in education, please discuss what prompted your decision.

4. Describe an ideal educational program that would meet your needs. Be as specific as possible about course content that would be helpful to you.

5. Describe any obstacles you have encountered in meeting your educational goals.

6. What recommendations would you make related to an advanced degree in education?

Thank you for your participation.

Appendix F

Instructors in Allied Health Programs

Telephone Interview Questions

After introductions were completed and the individual had agreed to participate in the study, the following items were asked:

1. What are your immediate and future educational plans?

2. Describe an ideal educational program that would meet your needs. Be as specific as possible about course content that would be helpful to you.

3. Discuss any obstacles you have found as you pursue your educational goals.

4. Are there any recommendations you would make related to an advanced degree in education?

Thank you for your participation.

Appendix G

Health Professions Educators Who Do Not Participate in Graduate Education

Focus Group Questions

After oral introductions were completed and the individuals had agreed to participate in the study, the following discussion items were presented:

1. Describe your educational background.
2. Discuss any educational requirements your job may have.
3. If you have thought about returning to school, discuss what kind of educational program you have considered.
4. Describe your immediate and/or future goals.
5. Describe the ideal program that would meet your learning needs. Be as specific as possible and include course content that would be helpful to you.
6. Discuss any barriers you might face if you decide to return to school. What recommendations would you make to decrease or eliminate those barriers?
7. Of all the learning needs and barriers to participation that have been discussed, which one is the most important to you?
8. Is there anything else anyone would like to add?

Appendix H

Current Master of Science in Health Professions Education (MSHPE) Students

Focus Group Questions

After oral introductions were completed and the individuals had agreed to participate in the study, the following discussion items were presented:

1. Discuss why you chose to enroll in the MSHPE program.

2. Describe how you plan to use the information you obtain in the MSHPE program.

3. Have you experienced pressure from any source to obtain an advanced degree in education?

4. Describe the ideal program that would meet your learning needs. Be as specific as possible and include course content that would be helpful to you.

5. Discuss any barriers you have faced or that you may face in completing the MSHPE program.

6. What recommendations would you make to decrease or eliminate those barriers?

7. Of the learning needs and barriers to participation that have been discussed, which ones are the most important to you?

8. Is there anything else anyone would like to add?

Appendix I

Formative Committee Members

Carl Trinca, Pharm D.
- Vice President for Institutional Progress
  College of Osteopathic Medicine of the Pacific
- Member of Pew Health Commission

Gary Gugelchuk, Ph.D.
- Acting Dean, School of Allied Health Professions
- Professor, Health Professions Education
  College of Osteopathic Medicine of the Pacific

Sarah Daum, M.S.
- Assistant Professor, Health Professions Education
- College of Osteopathic Medicine of the Pacific

Sage Eileen Bennet, Ph.D.
- Chair, Associate Professor, Health Professions Education
  College of Osteopathic Medicine of the Pacific

Anne Musser, D.O., M.S.H.P.E.
- Chair/Assistant Professor
  Department of Family Medicine
  College of Osteopathic Medicine of the Pacific

Appendix J

Criteria

1. The educational philosophy and the curriculum design should acknowledge principles of adult education relative to active participation of students in their own learning, relevance of student learning experiences, and the utilization of self-directed learning strategies.

2. Educational outcomes should reflect learning needs expressed in the collected data and from the needs of the health professions expressed in the literature while retaining compliance with accreditation standards.

3. Institutional barriers to student participation in advanced education should be addressed in the instructional alternatives and the implementation plan.

4. The curriculum should provide students with a firm grounding in educational theory and practice related to the health professions while allowing for flexibility so that students can explore unique areas of interest and need through the use of unique approaches to learning.

5. All courses should incorporate teaching methods that recognize learner preferences and individual teaching styles.

6. The educational delivery system should ensure that the student is central to the teaching-learning process by providing alternate teaching methods that acknowledge learning preferences and teaching styles.

7. The implementation plan should recognize the complexities of implementing a new curriculum, acknowledge the

need for change agent strategies, and allow for resource development.

8. The evaluation plan should reflect design features of the curriculum, including principles of adult learning, and be comprised of a comprehensive monitoring system with a focus on educational outcome assessment.

Appendix K

Summative Committee Members

Linda D. Jennings, M.A.
- Medical University of South Carolina

Carol Hodgson, Ph.D.
- UCLA - Research Methodologies
  UCLA - School of Medicine

Diane Boughton, M.Ed.
- Department of Medical Education
  University of Southern California School of Medicine

David Cordova, Ed.D.
- Professor and Chairman
  Health Related Studies
  University of Texas Medical Branch at Galveston

Sandra Stork, M.S., R.D.
- Tips Site Director, School of Allied Health Professions
  University of Nebraska Medical Center

Appendix L

The Model Curriculum

MISSION STATEMENT

The Master of Science in Education for Health Professionals program supports the College of Osteopathic Medicine of the Pacific in its mission to increase the availability of primary health care providers to serve the needs of the people living in the western region of the United States.

The Master of Science in Education for Health Professionals program also affirms the educational philosophy of the School of Allied Health Professions in its goal to offer classes in an environment intended to foster respect for the uniqueness of humanity.

It is the mission of the Master of Science in Education for Health Professionals program to provide a learning environment in which current and prospective educators of health professionals are encouraged to expand their knowledge and skill, consistent with principles of adult education, so as to prepare them to provide positive educational experiences for health care students that will accommodate the needs of the students, the needs of their profession, and the health care community they serve.

EDUCATIONAL PHILOSOPHY

The Master of Science in Education for Health Professionals program is guided by the principle that each student entering the program is a developing adult who brings an enriched background of knowledge and skill to the classroom. Each student has unique educational goals and learning preferences. The program strives to accommodate those educational goals and preferences by planning educational experiences accordingly. When students have completed the course of instruction, they are expected to be empowered learners capable of adjusting to varied educational settings and to changing needs of the healthcare workplace. It is believed that this approach is essential to serve future educators of health professionals.

Students in the master's program come with widely differing backgrounds. Some are teaching professionals with years of experience who want to improve their skill in classroom and clinical teaching. Others are just starting their teaching career and have minimal or no teaching preparation. Some are changing from a career in health care service to a career in health care education. Irrespective of their background, all are pragmatic in their approach to learning. They want to apply their learning to their present situation.

In order to serve students with such diverse prior education and experience and who have changing career goals, the Master of Science in Education for Health Professionals curriculum endeavors to meet the learning needs and support the career goals of each student by making flexibility an integral part of the program.

EDUCATIONAL OUTCOMES

Graduate Outcomes

Graduates will accomplish success in the master's program by demonstrating the following knowledge, skills, and behaviors:

1. The application of selected theoretical concepts, relative to learning, by articulating a personal philosophy on adult learning that acknowledges the various roles educators of health professionals play.

2. In the design of their projects, demonstrate a recognition of how cognitive processes, such as information processing, attention, perception, memory, and critical thinking impacts an adult's problem-solving abilities and relate it to classroom and clinical instruction.

3. Acknowledge how affective processes, such as personal value systems, self-concept, and cultural background impacts an adult's learning preference by creating alternate ways to meet learning outcomes.

4. Develop assessment instruments that show an understanding of the value of assessment in the teaching-learning process.

5. Use teaching methods that distinguish the differences and similarities in the academic and the clinical environment.

Program Outcome

The Master of Science in Education for Health Professionals program strives to produce graduates that have entry-level skills, attitudes, and the knowledge needed to teach in a health care education program.

THE CURRICULUM DESIGN

Course Offerings

The curriculum is presented in one-unit modules to provide students and teachers the flexibility to collaboratively design a program of study to meet individual student needs. Modules are grouped sequentially to allow students to build progressively on the knowledge, skill, and values thought important to educators of health professionals.

Students are expected to complete the series of modules in sequence by demonstrating mastery of the learning outcomes identified for each module.

A minimum of 32 semester units are required for completion of the master's degree. One semester unit represents 12 hours of instruction.

Required

Series 1: Theories of Adult Education

Module 1: Philosophical Foundations of Adult and Health Care Education

Module 2: Faculty Roles in Adult and Health Care Education

Module 3: Applied Research Development Seminar

Module 4: Ethical Issues in Teaching Adults

Module 5: Legal Issues in Teaching Adults

Series 2: Teaching and Learning Principles

Module 1: Motivation

Module 2: Transfer of Learning

Module 3: Teaching Styles

Module 4: Learning Preferences

Module 5: Statistics I

Module 6: Statistics II

Series 3: Curriculum Development (Classroom and Clinical)

Module 1: Foundations of Curriculum Development

Module 2: Planning for Instruction

Module 3: Designing Instruction I

Module 4: Designing Instruction II

Module 5: Instructional Resources

Module 6: Evaluation I

Module 7: Evaluation II

Module 8: Evaluation III

Module 9: Presentations

Electives

Series 4: Administration

Module 1: Theories and Models of Leadership

Module 2: Educational Administration

Module 3: Change Agentry

Module 4: Conflict

Module 5: Administrative Roles

Module 6: Administration in Human Resource Development

Module 7: Budgetary Functions

Module 8: Societal Factors in Health Care Education

Module 9: Research I

Module 10: Research II

Module 11: Information Systems

After completing a minimum of 26 semester units from the four series of modules, the student will complete degree requirements by performing a supervised practicum in teaching and a completed project with a written report or a thesis, or a supervised practicum in teaching, three additional units from Series 4 modules, and a three-hour comprehensive examination.

Option 1

Supervised Practicum in Teaching	3 units
Completed Project with Written Report or a Thesis	3 units

Option 2

Supervised practicum in teaching	3 units
Series 4 modules	3 units
Comprehensive 3-hour examination	

COURSE CONTENT

A minimum of 32 semester units are required for completion of the master's degree. A semester unit represents 12 hours of formal study.

Required

Series 1: Theories of Adult Education

Module 1: Philosophical Foundations of Adult and Health Care Education

- Overview of the history and philosophy of adult education
- Overview of health professions education
- Reflection on personal belief system relative to adult learning

Outcome: A completed statement of personal philosophy about teaching health professions' students.

Module 2: Faculty Roles in Adult and Health Care Education
Traditional roles

- Changing roles of health professions' educators
- Impact of philosophy and role delineation on learner motivation, information processing, transfer of learning, and problem-solving abilities

Outcome: Include, in the statement of philosophy, a statement of personal beliefs about the role of faculty in adult education relative to classroom and clinical instruction.

Module 3: Applied Research Development Seminar

- The process of developing a scholarly project
- Problem identification
- Alternate solutions (Literature review)
- Plan of action
- Outcome evaluation

Outcome: The framework for an educational project of the students' choice is completed.

Module 4: Ethical Issues in Teaching Adults

- Student advocacy
- Student-teacher relationships
- Professional behavior
- Impact of societal factors on teachers; on students

Outcome: Understanding of the ethical issues involved in adult education will be demonstrated using an assessment method mutually decided on by the student and the teacher.

Module 5: Legal Issues in Teaching Adults
- Institutional policies
- Federal, state, and local regulations
- Due process for faculty and students

Outcome: Understanding of the day-to-day legal issues that impact a teacher in the classroom and the clinical area will be demonstrated using an assessment method mutually decided on by the teacher and the instructor.

Series Outcome: A philosophical statement will reflect an understanding of adult education, roles of the teacher in adult education, and the ethical and legal issues that impact the adult educator relative to classroom and clinical instruction.

Series II: Teaching and Learning Principles

Module 1: Motivation
- How motivation affects instruction
- How motivation affects learning
- Integration of motivation strategies into instructional plans

Outcome: Generate a list of strategies that can be used to enhance the learning environment.

Module 2: Transfer of Learning
- Importance to professional students
- Relationship to problem-solving skills
- Alternate strategies

Outcome: A list of strategies that will assist students to apply acquired knowledge and skill in the workplace will be generated.

Module 3: Teaching Styles
- Educational philosophies
- Reflection on teaching styles
- Overview of the elements of teaching styles
- Impact of teaching styles on the learning environment
- Diversity issues that impact the learning environment

Outcome: Identification of a personal philosophy, teaching style, and a list of strategies that can be used to enhance teaching style.

Module 4: Learning Preferences

- Introduction to learning style/preference inventories
- Identification of a personal learning preference
- Impact of teaching style on learning preference
- Impact of diversity issues on learning preference or teaching style
- Strategies for enhancing the learning environment through the understanding of the significance on learning preference and teaching style

Outcome: Awareness of how learning preference and teaching style impacts the learning environment will be demonstrated using assessment methods mutually decided on by the student and the teacher.

Module 5: Statistics I

- Foundations of basic statistics

Outcome: Mastery of the learning package by passing the tests.

Module 6: Statistics II

- Manipulation of data

Outcome: Mastery of the learning package by passing the tests.

After completing the first 11 modules:

Students will have fundamental knowledge on the philosophy of adult education and the issues surrounding the many roles a teacher plays in the student-teacher interaction.

Students will understand how motivation can support or interfere with the transfer of learning to the workplace.

Students will be able to demonstrate a fundamental understanding of the relationship between teaching styles and learning preferences. Student should now have the skill to develop an outline of a project of their own choosing that will be used in the next series of modules.

Series Outcome: A project outline that reflects a personal philosophy, knowledge of motivation and transfer of learning concepts, recognition of the significance of teaching styles and learning preferences, and the ability to manipulate data. The project will include an outline for classroom and clinical instruction.

Series III: Curriculum Development (Classroom and Clinical)

Module 1: Components of Curriculum Development (Part I)

- Philosophy
- Aims and goals

- Needs assessment--need for and process of needs assessment

Outcome: Preliminary sequential documentation of a project will be completed.

Module 2: Components of Curriculum Development (Part II)

- Learning domains
- Levels of learning
- Instructional objectives (Classroom and Clinical)
- Learning outcomes

Outcome: The project will now include instructional objectives and learning outcomes for classroom and clinical instruction.

Module 3: Designing Instruction (Part I)

- Selecting course content
- Vertical and horizontal sequencing
- Effective teaching methods for classroom and clinical instruction

Outcome: Preliminary course content and effective teaching methods will be identified.

Module 4: Designing Instruction (Part II)

- Teaching strategies
- Relationship of teaching strategies and the involvement of students in their own learning.

Outcome: Selection and presentation of teaching strategies for use in the project.

Module 5: Instructional Resources

- Selection and development of instructional materials
- Traditional printed materials
- Computers
- Video
- Telecommunication

Outcome: Relationship of instructional resources to classroom and clinical teaching and a rationale for media selection.

Module 6: Evaluation (Part I)

- Classroom assessment techniques
- Application to levels of learning

Outcome: Assessment methods for evaluating outcome performance will be developed.

Module 7: Evaluation (Part II)
- Clinical performance evaluation
- Clinical performance instruments
- Effective methods for giving feedback

Outcome: A critique of a typical clinical performance instrument will be done.

Module 8: Evaluation (Part III)
- Program evaluation
- Who/What/Where/Why/How
- Models of program evaluation

Outcome: A simulated program evaluation instrument will be completed.

Module 9: Class Presentations
- Oral presentation of project proposal
- Written project proposal

Outcome: Completed project proposal.

Series outcomes: A completed written project proposal that includes the following classroom and clinical components of curriculum development:
1. Philosophical statement
2. Aims and goals
3. Plan for needs assessment
4. Preliminary objectives and outcomes
5. Instructional design
6. Teaching strategies
7. Learning resources
8. Classroom, clinical, and program evaluation plan.

When the student has completed the first three series of modules, he or she will have accumulated 20 semester units of credit. A minimum of six semester units must be selected from the modules found in Series 4.

Series IV: Administration

Module 1: Theories and Models of Leadership
- Overview of leadership styles
- Impact of leadership on the learning environment
- Impact of leadership on the workplace environment

Outcome: After interviewing at least two recognized leaders, complete an inventory of observed leadership styles.

Module 2: Educational Administration
- In curriculum development
- In promoting a positive learning environment
- In providing resources for instruction

Outcome: Complete a survey of administrative roles in an educational institution. Include roles in curriculum development, influence on the learning environment, and in the provision of resources for instruction.

Module 3: Change Agentry
- Elements of Change
- Strategies for implementing change

Outcome: Design a change agent model that can contribute to the success of the project (proposal).

Module 4: Conflict
- Overview of conflict theories
- In the classroom
- In the workplace
- Resolution strategies

Outcome: Build conflict resolution strategies into the project (proposal).

Module 5: Administrative Roles
- In a multicultural society
- In an institutional environment
- In student selection, promotion, and retention

Outcome: Present evidence of sensitivity of administrative impact on the learning environment.

Module 6: Human Resource Development
- Professional development
- Faculty
- Staff

Outcome: Complete a mini professional development plan.

Module 7: Budgetary Functions
- The budgetary process
- Responsibilities of top and mid-level administrators

Outcome: Complete a simulated departmental budget with rationale for decisions.

Module 8: Societal Factors in Health Care Education
- Trends and issues in health care
- Impact on education

Outcome: A reflective statement on health care education will be made.

Module 9: Research (Part I)
- Critical analysis of the literature

Outcome: An oral critique of a primary source article will be completed.

Module 10: Research (Part II)
- Introduction to quantitative and qualitative methodologies
- Appropriate use of the research methodologies

Outcome: A simulated research methodologies project will be completed.

Module 11: Information Systems
- Introduction to medical information
- Computer technologies

Outcome: An annotated bibliography obtained through a computerized literature source will be completed.

After completing a minimum of 26 semester units from the four series of modules, students will have two options to complete the 32 semester unit degree requirement.

Option 1:

A supervised practicum in teaching	3 units
Completed project with written report or a thesis	3 units

Option 2:

A supervised practicum in teaching	3 units
Three additional units from Series 4 modules	3 units
A comprehensive 3-hour examination	

A TEACHING MODEL

Education in the health professions is a collaborative process. A collaborative model, which is based on the assumption that teachers and students are in partnership to create a community of scholars, requires students to take an active role in the learning process. In planning a course of study, the students and the faculty share responsibility for the learning outcomes. The faculty members act as facilitators, mentors, and advisors. The students become increasingly more self-directed as they progress through the series of modules that comprise the program.

In implementing this collaborative model for the master's program, the following roles and responsibilities will be undertaken by the students and the faculty.

Faculty Advisor

1. In collaboration with the program chairperson, the student will be assigned a faculty advisor.

2. A tentative course of study that will meet the students' educational goals will be designed collaboratively by the advisor and the student.

3. The advisor will monitor the students' progress throughout the program and will be in contact with the student on a regular basis.

4. The advisor will assist the student to select practicum sites and will assure an effective learning experience.

Faculty Members

1. As classroom instructors, each faculty member is expected to create an environment in which students are provided a variety of learning approaches to master the subject matter.

2. Faculty will collaborate with students to design learning experiences specific to the students' learning needs.

3. Faculty are encourage to validate and use alternative assessment of learning outcomes and to demonstrate the value of assessment in the teaching-learning process.

Students

1. Students will plan their course of study collaboratively with the faculty advisor. Any changes in the course of study will be administered through the faculty advisor.

2. Students are responsible for seeking assistance from the instructor or the faculty advisor if an academic issue arises.

3. Students are responsible for selecting practicum sites. They are expected to validate the site and the expected learning outcomes with the faculty advisor.

4. At the time of admission to the program, students should begin a collection of course materials that will assist them to demonstrate accomplishment of the program outcomes.

AN EDUCATIONAL DELIVERY SYSTEM

The educational delivery system is based on the belief that instructional alternatives must reflect learning preferences of students and the teaching styles of the faculty. The following assumptions are the basis for the way education is delivered in the Master's program.

Assumptions

Students:

1. Do want to learn
2. Are capable of taking responsibility for their own learning
3. Learn best when they can participate in their own learning
4. Learn when they feel supported while experimenting with new ideas and skills
5. Learn best when they have a sense of progress toward their goals
6. Learn best when new information or skills build on past knowledge and experience
7. Are more motivated to learn when alternative instructional methods are used
8. Learn both in independent, self-reliant modes, and in interdependent and collaborative ways
9. Learn in any environment in which relevant information can be found
10. Enter the program with knowledge in the subject matter of their health care profession.

Teachers:

1. Have differing teaching styles

2. Play many roles in the teacher-student encounter

3. Are reflective about their teaching experiences

4. Use various teaching methods in the classroom but are more comfortable in some than in others

5. Strive to be better teachers

6. Will try new ways to teach if support of colleagues is present

7. Care about the quality of educational outcomes.

On the basis of the above assumptions, the educational delivery system utilized by the Master of Science in Education for Health Professions program will be based on the learning preferences of the student and the teaching style of the teacher.

Teachers

1. Collegial mentoring systems will allow for sharing of teaching strengths and create an environment of professional growth for the faculty and the students.

2. Faculty will be supported when trying new teaching methods.

3. Recognition of teaching excellence will be timely and consistent.

4. Inservice will be conducted to assist faculty to implement the new curriculum consistently.

5. Peer and self-evaluation, with input from students, will determine faculty development needs for the program.

6. A collaborative environment for faculty and students will encourage innovation and change to occur.

Students

1. A student mentoring system will encourage students to participate actively in their own learning.

2. The use of alternative instructional methods will support students who experiment with learning new ideas and skills.

3. A scholarly relationship between faculty and students will encourage students to reach their educational goals efficiently.

IMPLEMENTATION PLAN

Implementation of a new curriculum is complex and requires creativity as well as human and material resources. A realistic model for implementation involves utilizing the stakeholders who are impacted by the new curriculum. Stakeholders who contributed to the following plan include administrators, faculty, students, and interested individuals from the community.

Assumptions

1. A new Master of Science in Education for Health Professions Educators is needed.

2. Implementation of a new curriculum requires a collaborative effort from all individuals who will be impacted by the change.

3. Resistance to change requires strategies that address the issues that underlie the resistance.

4. A realistic implementation plan accounts for human and material resources needed for the new curriculum.

5. Human and material resources are available to implement the short term goals of the new curriculum.

Short-Term Goals

1. Assign all incoming students to a faculty advisor.

2. Customize the program for each student as possible.

3. Provide administrative and faculty development relative to the implementation of the new curriculum.

4. Design modules that allow for flexibility.

5. Use independent contract learning events.

6. Maintain schedule flexibility to provide maximum accessibility.

7. Implement the new curriculum slowly and consistently to assure human and material resources.

8. Perform continuous formative evaluation of the program and correct anything that is not in alignment with the rest of the program.

9. Perform a comprehensive summative evaluation.

10. Package the program attractively.

11. Maintain program quality and integrity by involving the stakeholders in the evaluative processes.

12. Degree/non-degree status for the program will make individual modules available to educators not wanting to obtain a degree.

Long-Term Goals

1. Design an intensive summer program to increase accessibility to health care educators who have limited time and work schedules that interfere with attendance at regularly scheduled classes.

2. As the program grows, consider local cluster classes to provide accessibility.

3. Seek funding to create a more accessible program.

4. Plan for distance education technology.

5. Develop a comprehensive program marketing plan to inform health professions educators of the unique features of the program.

EVALUATION PLAN

The evaluation model developed for the Master of Science in Education for Health Professionals has two components: 1) a monitoring phase with elements of formative and summative evaluation, and 2) a program outcome phase.

Monitoring Phase

I. Students

A. Admission and Selection Procedures

1. Annual review of Admission and Selection Procedures

2. A completed application for admission is

a. A completed and signed application form

b. A baccalaureate degree from an accredited institution

c. A post-secondary cumulative GPA of 2.5

d. Transcripts from all postsecondary institutions attended

e. Currently working as a health care professional

B. Learning Outcomes

1. Students will be assessed in every course according to the requirements of the learning outcomes.

2. Alternative assessment techniques will be used and may include, but is not limited to, class presentations, independent projects, student portfolios, class or individual contracts, or other prearranged methods.

II. Curriculum

A. Course offerings and course evaluation instruments

1. The Chair of the Master of Science in Education for Health Professionals will conduct an annual survey of course offerings and course evaluation instruments.

2. Revisions will be made as indicated and agreed upon by the faculty.

B. Course Evaluation.

1. Students will complete an evaluation of the course at the midpoint and the end of each semester.

2. The data will be compiled and shared with the Dean and the faculty.

C. Library and Other Instructional Resources.

1. The Chair of the Master's Program, the faculty, and the students will evaluate resources annually, i.e., books, periodicals, audiovisuals, computer programs, and other instructional materials.

2. Recommendations will be based on availability of resources and individual course needs.

D. Budget and Allocation of Resources

1. The Chair of the Master's program and the faculty will evaluate the program budget annually to ensure that an appropriate funding level is provided for instructional needs.

2. Recommendations will be made to the dean.

E. Support Services.

1. The Chair of the Master's program and the faculty will annually evaluate the level and adequacy of support services.

2. Recommendations on the level of support needed and the adequacy of the current services will be made to the dean.

III. Faculty Evaluation

A. A formal faculty evaluation will be conducted every year according to guidelines in the Faculty Handbook.

B. Faculty will be encouraged to participate in a peer evaluation and a mentoring program, and assessment of these activities will be continuous.

Program Outcome Phase

Graduates

1. Five years post graduation, the graduates will be surveyed to determine applicability and usefulness of the educational outcomes.

2. Feedback will be obtained from the graduates about how the program could be changed to better meet the needs of health professions educators.

3. Revisions will be made as indicated and approved by the faculty and the curriculum committee.

Employers of Graduates

Employers of graduates will be surveyed to determine satisfaction with graduates who are employed by the institution in an educational environment.

BIOGRAPHICAL SKETCH OF STUDENT

Ellen Saxe Clymer was born and raised in a rural area in Pennsylvania. She attended a diploma nursing program in Washington, D.C., and worked in a variety of nursing positions prior to entering Arizona State University in Tempe, Arizona, to obtain a baccalaureate degree in nursing. She went on to Sam Houston State University in Huntsville, Texas, to obtain a master's degree in community and school health education. From there she moved to Galveston, Texas, to work in health profession's education at the University of Texas Medical Branch (UTMB).

The call of nursing was great and after two years at UTMB, Ellen spent the next 14 years as the Director of Nursing Education and Health Technology, first in Arizona, and then in California. She focused on developing a nursing education curriculum that would accommodate students who are traditionally unable to enter nursing because of the many barriers that exist.

Five years ago she left nursing education to become Chair of the Master of Science in Health Professions Education (MSHPE) program at the College of Osteopathic Medicine of the Pacific (COMP) in Pomona, California. She was instrumental in developing a Center for Faculty Development in the Health Professions and is currently the Director of the Center.

Recently she was appointed to an adjunct faculty position at the University of Redlands, in Redlands, California, and she continues to act as a curriculum development consultant for health professions programs.

Ellen is married to John F. Clymer, D.O. She has one son, two stepsons and two stepdaughters. John and Ellen share 10 grandchildren.

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