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ABSTRACT

This document on changing patterns of teacher education in the United States is divided into three sections. Section 1, "Some Contextual Factors," covers the following topics: governmental issues; planning and management, the scientific base for educational practice, ideology and politics, and governance of teacher education. Section 2, is concerned with current patterns. Among the topics covered are the offering of options, teaching for competencies, cooperating in the field, reexamining inservice teacher education, developing teacher centers, and the traditional teacher education program. Section 3, discusses "Implications for Policy Analysis and Research." In this final section, policy issues are examined, and some recommendations for research and development in teacher education are offered. (JA)

CHANGING PATTERNS OF TEACHER EDUCATION IN THE UNITED STATES

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Section I: Some Contextual Factors

Governmental Influences: Planning and Management

While there is little attempt to coordinate national or state policy in housing, welfare, transportation, health, education, and other human services in the United States, trends in these fields are not entirely independent. During any single administration, there is a discernible cast to both the substance and the style of social policy formulation and its implementation, partly because of the philosophical and political beliefs of each president and state governor.

True, the differences in approach to the various spheres of social policy are as apparent as the similarities. A physican usually is considered to be self-employed (though he often works in a facility supported by the public). A teacher is under contract to a governmental unit. As a result, policies differ as attempts are made to manipulate, for example, the incentive systems. Nevertheless, governmental policy in health, transportation, welfare, housing, and education in recent years has been characterized by features such as the following: efforts to determine in as unambiguous a fashion as possible the objectives of the various "delivery systems", administrative guidelines that systematize strategies for the attainment of the specified objectives through sophisticated managerial techniques, ambitious attempts to measure benefits against costs, firm rhetoric asserting the primacy of local initiatives and responsibility, options that increase certain elements of choice for the "consumer", and pressures to cut costs -- particularly costs to the taxpayers.

Regardless of the partisan political bases for the goals advanced and articulated by any particular administration, policy analysis characterized by such procedures has become a prominent feature of governmental planning -- especially since the early days of the Kennedy administration in the United States when Robert McNamara began to introduce highly rationalized management procedures to the operations of the Department of Defense. It is a central contention in this report that teacher education patterns gradually have become more responsive to governmental and political pressures and trends such as those outlined above, and concomitantly somewhat less responsive to traditional sources of initiatives within the profession during the past ten years. The same statement can be made of medical and social work education. And the reasons are attributable in significant measure, though not entirely, to the aggressive implementation of certain governmental planning and management techniques. Therefore some of these techniques will be sketched in the following paragraphs to establish part of the social, political, and economic contexts for an examination of teacher education development.

For the avowed and laudable purpose of reasserting civilian control over military operations in the early 1960's, McNamara introduced to the Department of Defense decision-making procedures that attempted to move away from adjudication of the claims and demands of competing special interest groups solely on the basis of power and influence, and toward objective analysis of goals and costs. For example, instead of balancing the pressures within the Navy for greater attention to submarines as against battleships, or weighing Air Force proposals against those of battleship admirals, McNamara demanded a clear delineation of the objectives for which the military system under consideration

was to be designed; he then demanded careful analysis of alternative methods of achieving the objectives, including detailed projections of the costs of each of the alternatives. Decisions were made based on assessment of objectives, costs, and benefits. It was thought that this procedure, taken directly from industrial management, served to wrest control from narrow specialists who were seen as protecting existing though possibly outmoded practices and power, thereby putting responsibility more clearly in the hands of elected political leaders.

President Johnson was powerfully impressed with the McNamara approach in the Pentagon. He mandated in 1965 that all cabinet officials employ henceforth the managerial techniques brought to the Pentagon by Robert McNamara -- and in each of the federal agencies. The Department of Health, Education, and Welfare was, and is, in the forefront of an attempt to use the new managerial styles -- in part because health, welfare, and education expenditures are huge, and rising, and seemingly uncontrollable.

In the United States, education is a responsibility of each of the fifty states rather than a primary responsibility of the Federal Government. However, in each of the fifty states techniques developed at the national level have begun to assume greater prominence because the tools of management and planning touted in Washington seemed powerful to the governors. Just as the President amassed a huge budgetary staff in a unit now called the Office of Management and Budget, each of the state governors has built a budgetary group, often formally constituted in a unit called a Bureau of the Budget. The Office of Management and Budget and the state-based budget bureaus have been staffed overwhelmingly with individuals trained in management, business administration, economics, and operations research. One of the results of this particular trend is the demand for incontrovertible data as a basis for policy as well as a justification of expenditures.

While the current political mood in America diminishes some of the power of federal agencies, the techniques of program planning and management developed in Washington, then, have migrated to the individual states. It is somewhat ironic that at a time when Washington officials have become somewhat skeptical about the advantages of planning programming budgeting systems and operations research, particularly in the social sphere, state legislatures and state executive departments sustain undiminished enthusiasm for the techniques. One reason for the disparity between Washington and the state governments may be that Washington agencies have had more experience. But it is also probably a fact that the managerial techniques are used as much to cut costs as to improve policy. Accountability laws are passed in the various state legislatures partly as a method for developing a seemingly rational plan for executive and legislative decision-making that seems to require a reduction of expenditures.

The Scientific Base for Educational Practice

A closely related expectation of educational planners is for "objectivity" in educational discourse and decisions. There is, as a result, a quest for establishment of the scientific basis for educational practice, including teacher education. If scientific principles can govern educational practice, the resulting rationality diminishes the influence of powerful interest groups and special pleading.

There are additional benefits to employing scientific styles of discourse when discussing educational policy and practice. Science tends to be valued highly. Scientific and highly rationalized terminology often mask controversial assumptions underlying any attempt to modify teaching. For example,

approaches to instruction based on behavior-modification theory and proximate positive reinforcement are usually advocated on the basis of laboratory experiments that demonstrate the apparent efficacy of these techniques in teaching skills like computation, reading, and spelling. The values that underlie such approaches to human learning are less subject to challenge if it is assumed that scientifically-derived practices represent clearly superior approaches to those derived primarily from tradition without a similar scientific base.

It is characteristic of policy analysis at both federal and state levels that specialists in the various social service fields are viewed with suspicion. Because we are not pleased with health care systems or educational systems, and because the provision of these services is expensive and growing more so, there is a widespread view that professionals must be more responsive to the public they serve. Just as it is asserted that defense is too important to leave to the generals and admirals, and medicine too important to leave entirely in the hands of physicians, it is said that education is too critical an enterprise to be left entirely in the hands of professional educators. Highly sophisticated management procedures, based where possible on scientific research, seem an appropriate method of improving social accountability. Research findings offer a method of freeing policy formulation from the overriding influence of professionals. However, while there must be a continuing search for a scientific base for educational practice, even those researchers who are most committed to this quest usually acknowledge the primitive nature of the present scientific base of teaching or teacher education.

It is a question how well the prevalent planning styles in the United States match the state of rationality of the teaching or teacher education enterprises. The techniques brought to the Pentagon by Mr. McNamara accommodate poorly to ambiguous data, conflicts in values, confusion over goals, and lack of agreement about priorities.

To anticipate one of the recommendations of this report, we do well to separate the scientific and readily rationalizable aspects of teacher education from considerations of worth, purpose, and desirability. Where a rational base is firm, it should be used. But not all educational discourse yields to objective analysis. What is lost and what is gained when we move away from a style of decision-making based primarily on judgments of informed practitioners that, however poorly, accommodate many highly impressionistic data and toward procedures that demand objectivity but as a result may focus on events and outcomes that mask controversial philosophical assumptions? This question is paramount but all too frequently ignored.

Ideology and Politics

As a matter of fact, as will be stressed repeatedly in this report, there are powerful ideological crosscurrents in American teacher education that reflect competition for power among different groups as well as basic philosophical disagreements. This report describes programs at certain teacher education institutions that essentially consist of dozens of programs, the student to make his choice based on inclination and aptitude. At other institutions, performance-based teacher education programs have been established that seem to be a result of a dispassionate analysis of the competencies required by teachers, followed by systematic attempts to train prospective teachers for these skills. At still another teacher education institution, the emphasis is on "humanizing" the teacher education experience, which often means that prospective teacher is expected to learn about himself as an individual ore he can interact effectively with learners.

In the United States, the array of teacher education programs can be characterized by those who are pleased with the system as diverse and by those who are less satisfied as chaotic. But despite governmental pressures toward systematic analyses of these programs, there is so little agreement in the United States about what characterizes an effective education in elementary or secondary schools that there is no clear pattern to emerging teacher education programs -- unless that pattern is patternlessness.

Furthermore there is general dissatisfaction with teacher education, as there is with education generally, as there is with transportation policy, as there is with health delivery policy, as there is with social welfare policy. Americans in the 1970's are disenchanted with their bold social policy initiatives of the 1960's. Brave new plans were set into motion then in housing, transportation, education, race relations, and many other fields. Huge expenditures were directed toward alleviation of human injustice and ignorance. Ambitious claims were made by those officials who advocated the new programs, partly to hasten passage of needed legislation. However, the programs fell short of the expectations, and disillusionment has set in.

The Congress established housing programs that seem to have destroyed a sense of community, transportation programs that seem to have clogged urban areas and destroyed the environment, criminal justice programs that have not reduced the rate of recidivism, and educational programs that do not seem to have raised reading levels or improved employability, particularly of the poor.

A retreat from the rhetoric of the 1960's characterizes the early 1970's. At the same time welfare and health costs have soared, inflation rates are unprecedented, and governmental administrators and legislators are seeking to hold down public expenditures. The new, sober mood in Washington has resulted in fewer federal initiatives in all fields, including teacher education. There is the conviction that complex social problems are not as tractable as government planners thought in the 1960's. For whatever reason, the shiny plans do not result in many heartening practices; the dreams turn sour.

The mood of disillusionment in Washington matches a political philosophy that emphasizes the importance of local control and state-based decision making. To a degree, this development is associated with Watergate, but many observers believe that the Nixon administration would have turned considerable authority for social policy formulation back to the individual states as part of his "New Federalism" and his plans for "revenue sharing" regardless of Watergate-related developments.

All of these events are transpiring at a time of sharply decreasing birthrates and therefore a lowered demand for formal schooling in the younger age groups, at a time of dramatically altered supply and demand picture for teachers, in a period wherein the teacher profession is organizing rapidly and militantly, and in a period wherein there is a financial and enrollment crisis in higher education.

Accompanying the ideological conflict and confusion, as might be imagined, is a highly-charged political climate in the teacher education field with various groups competing for control: colleges of education, the organized profession, academics from the arts and humanities, and public school districts, to name just a few.

Governance of Teacher Education

While the governance of teacher education is not the primary focus of this report, any description of emerging patterns of teacher education in the United States must emphasize questions of control because of the ideological chaos in the field. If the scientific base for educational practice and teacher education is primitive, and seemingly uncontrollable governmental expenditures are soaring, then the roles of legislatures, budget bureaus, state education agencies, teacher certification boards, and the courts become influential in a fashion unknown in nations that may be less heterogeneous than the United States or nations wherein the responsibilities for the formulation of educational policy are more unambiguously established.

The state and federal legislatures exert pressure of at least two kinds. Legislators frequently enunciate policy themes such as educational equality, the need for pre-school education, improved access for adult education, and opportunities for career education. At the same time, political figures in the legislatures and executive departments clamor for results.

The Federal Government enters the education scene out of a sense of national emergency, as was the case when the Soviet Union launched the first space satellite and the American military posture was seen as threatened -- or as an agent to protect constitutionally-defined human rights, as when school busing was mandated to redress the educational deprivation resulting from racial isolation. It is on the latter grounds that federal courts have become particularly active in educational matters. The courts have pressed for plans that promote more equal financing of schools in wealthy and poor districts within a state, for example, just as they played a key role in 1954 in declaring the "separate but equal" doctrine of racial isolation inherently unequal, as part of their attempt to blanket education under the "equal protection" provisions of the national Constitution.

In recent years several state legislatures have passed "accountability" laws. The laws take different forms in the various states in which they have been enacted. In some places it is mandated that performance objectives be established for the various school programs and data collected revealing how well the objectives are achieved. In a similar vein, some states have required by law that performance-based teacher education programs be established. In other states the same purpose has been achieved by actions of the teacher certification boards. These actions result in considerable measure from a distrust of professional educators and disappointment in educational achievement test scores, particularly of poor children.

Few observers expect potent Federal initiatives in the education field in the 1970's. However, especially if the states receive funds through revenue sharing plans from the Federal Government, the various state legislatures may attempt to modify educational practices to a marked degree. Political forecasting is an inexact enterprise, however. While there are significant similarities across the fifty states, there is likely to be considerable variation in legislation affecting teacher education, and the pattern is nowhere clear enough to make confident predictions.

Let us turn to an examination of the emerging teacher organizations in order to portray one force of growing significance in the governance of American teacher education. From teacher groups that aimed primarily to improve communication and professional identification, the teaching profession in the United States has moved rapidly in the past ten years toward trade unionism. For a

variety of reasons, including the fact that education has no cohesive or strong voice in the United States despite the huge size of the profession, and teachers have seen themselves particularly vulnerable to governmental economizing, the teacher organizations have become more assertative and even strident.

In the 1966-67 school year, there were 54 organized work stoppages among teachers involving 45,000 employees. In 1969-70, the number rose to 230 stoppages involving 117,000 employees. In 1972-73, the number of stoppages totaled 143 and about 115,000 teachers were involved.

One point of focus of teacher concerns (beyond the overriding issues of salary and working conditions) is the question of entry into the profession and continuing training. Organized teacher groups are demanding a greater role in the certification and licensing procedure, partly to hold down the numbers of teachers seeking positions in a period of apparent high supply and low demand, and partly to play a greater role in designing preparation programs that often are seen as insufficiently practical and too highly theoretical. Teacher groups have been successful in recent years in changing the composition of teacher certification boards in several states to include more representatives of the organized profession. It is too early to guage the full effect of this greater political power, but it is likely within a decade that teacher groups will exert influence at least as great as that of the organizations of school administrators in the development of training programs, inservice and preservice.

At the moment teacher organizations in the United States are not united. The largest group, consisting of about 1,500,000, is the National Education Association. This group is unaffiliated with the trade union movement and derives its power from state-based affiliates that vary in size, influence and viewpoint. The American Federation of Teachers is affiliated with the AFL/CIO. It is a smaller group consisting of 400,000 members with its major power bases in New York and Chicago. While there is a widespread expectation that the two groups will merge, that expectation has existed for several years, and the merger has not yet been consumated. If and when it happens, the influence of the organized profession will become much stronger, and its role in teacher education, particularly but not exclusively continuing education of teachers, may well be paramount.

There is considerable sentiment within the organized teaching profession that the universities have come to play too great a role in teacher preparation and certification. While the goals of the teaching profession expressed through the formal organizations are not yet clear, there are discernable pressures toward the model of law or medicine. In these fields, practitioners play a key role in the licensing process, and the training institutions, though usually housed at universities, enjoy considerable autonomy from the other divisions of the university. A major emerging issue in teacher education in the United States, anticipating another conclusion in this report, is the degree to which teacher education should be integrated with university education broadly. As will be seen, there are strong (though at the moment few) pressures toward "professionalization" and independence.

For several decades, teacher education in the United States has been fully incorporated into the university, unlike the situation in many European countries. Aspiring teachers receive the bachelors degree after four years of study; in fact it is required for certification in each of the fifty states. No one is seriously suggesting a return to the American normal schools even autonomy in teacher education is advocated. Separate and exclusive teacher ation institutions are practically non-existent at present in the United

States. Those state-supported institutions that were created sixty and seventy years ago exclusively for the preparation of teachers have almost all by now become comprehensive universities. In fact the teacher education function has been de-emphasized as these colleges and universities have attempted to emulate the broad-based institution of higher learning. Arts and sciences have been stressed, rather than the professions.

At the present time, responsibility for teacher education, pre-service and in-service, resides almost exclusively in various colleges of education that are integrated into universities. All of the emerging practices described in this report have begun to take root at such institutions. While there will be continuing pressures to shift the locus of responsibility to either local school districts or to the organized profession or to both, and while legislatures and the courts will influence the system, it is unlikely as far as organization of teacher education is concerned that these pressures will do more than increase the number of cooperative relationships among teacher education institutions, local education authorities, and units of the organized profession. While it is true that local authorities and the organized profession have begun experimenting with teacher centers (somewhat after the British model) as focal points for in-service teacher education, it is likely that even continuing education never will be separated completely from universities. Rather, existing colleges of education will likely share in the total effort cooperatively with the new groups demanding a larger role. The results, as past practice and present trends portend, probably will be non-uniform and diffuse.

A Cautionary Note

While the cases in this report were chosen deliberately to demonstrate diversity and to provide the reader with some understanding of the range of new programs being developed in the United States, the study accurately conveys a picture of minimal uniformity and standardization. And variations still are emerging. There is no clear pattern.

Insofar as governmental agencies mandate the use of managerial techniques such as prespecification of educational objectives, and "accountability" laws are passed in various states to match educational achievements against educational objectives, and a business mentality takes even firmer root in American social policy formulation, then substantive uniformity may follow procedural orthodoxies. The move toward performance-based teacher education in the United States, perhaps the single most powerful trend in American teacher education, is essentially a "management by objectives" approach drawn from standard industrial and business practice; PBTE leaders even talk about "products" of the system. Various legislative actions and the apparent attraction to PBTE among colleges of education suggest that this movement indeed may be the major wave of the next several years.

Nevertheless American educational policy during the last twenty years has been characterized by a rapidly changing series of fresh priorities. It is not at all clear that today's major educational problem or panacea is tomorrow's. Indeed recent history suggests the contrary. In the early 1960's Americans were concerned about education of the gifted. This focus was replaced after a few years by initiatives to improve education of the poor, particularly of poor blacks. One Commissioner of Education in late 1960's proclaimed the highest priority in American education as the right to read. His successor shifted to career education. And so it goes. There is considerable faddism in American education, including teacher education. Each new priority is highlighted in the popular press and the professional journals, then forgotten a few years later when the next crisis claims professional and popular attention.

But to this point, despite the passionate and often contentious rhetorical fireworks, the major characteristic of the American educational system, including teacher education, has been its inertia. It is a large system. The millions of people who are responsible for sustaining it, for making the day-by-day decisions, probably will continue to control its destiny to a greater degree than governmental proclamations or editorial exhortations. The reader is cautioned that the innovative practices described in the report are not widespread -- only suggestive. They are presented to outline the practices featured by the "opinion leaders". But the opinion leaders have not yet found a way to affect American education profoundly, though their writings flood the journals and their speeches resound through the halls at professional conventions.

Only those who staff the system can make significant changes, and these teacher educators, like the teachers in the public schools, tend to modify practice slowly. They draw from the new techniques those that seem to match their own tastes and abilities, rejecting the others not obviously or loudly, but rather by inaction. Overall educational change is slow in a huge system, a fact continually disappointing if not frustrating to those people in the profession and in government who are convinced that they know the steps necessary to improve practice and make schools more effective.

Some of the policy implications of this diffuse and clouded teacher education picture will be suggested later in the report -- after a documentation of some of the specific and conflicting trends.

Section II: The Patterns

This section of the report describes the highlights of certain innovative teacher education programs found in the United States. Several serious limitations in the accounts of these programs must be cited at the outset. Many of the descriptions included here are based on the documents that were assembled at the various sites during the course of our visits. (The documents are listed at the end of this Section.) Because programs evolve, because written materials as such cannot completely convey the nuances of programs that their sponsors feel are quite important, our report may not represent entirely accurately what is in fact being done in these locations. We had neither the time nor the resources to assess completely the accuracy of the descriptions we received.

A second serious problem facing anyone attempting to describe something as amorphous as a teacher education program is that of selective perceptions. The elements we chose to report in our description obviously represent only a small part of what we could have included in this narrative. It is likely that the developers of the programs we visited would have chosen to highlight different aspects of their programs or would have elected to highlight them in different contexts. We apologize in advance to these developers and to the reader for any distortions we have introduced into our descriptions and trust that our colleagues will in good spirit help to correct any inaccuracies.

Offering of Options

A definitive trend in teacher education in the United States is that of ngle institutions offering multiple programs in teacher education. Students

interested in becoming elementary school teachers at these institutions can elect an off-campus or an on-campus training program; can choose a series of courses geared toward urban education or stay in a mainstream of courses aimed at the general population of students; can select a program with a particular philosophical bent, such as behavior modification or open education, etc. An institution that is singularly and prominently characterized by the offering of an array of programs is the University of Massachusetts. Recently, the School of Education of the University of Massachusetts was presented a "distinguished achievement" award from the American Association of Colleges for Teacher Education (AACTE) for the more than twenty teacher education programs offered there. The award is an indication that options are considered exemplary practice.

The presentation of an almost bewildering number of alternative programs to students headed for the teaching profession is based partly on a lack of confidence in the efficacy of the governing process as it is usually practiced by university faculties. "We do not believe that a program orthodoxy within a School of Education faculty should be decided by a 5-4 vote," said Dean Dwight Allen during our visit to the University of Massachusetts, "and neither do we believe that a program should be so bland as to be acceptable to all competing views. The way out is to have multiple programs." Additional arguments given in support of multiple programs included the following: No one knows the best way to prepare students for a teaching role. In fact, many people are stimulated by and committed to ideas of preparing prospective teachers in particular and different ways. Commitment on the part of faculty and students to a program would increase to the degree that the faculty could design, control admissions, and operate the program on their own terms and to the extent the students could choose to select the program.

To administer the number of options available to students, to screen proposals for new programs, and to consider termination of unsuccessful ones, the School established a Teacher Preparation Council. This group, composed of ten faculty members appointed by the Dean, passes judgment upon proposed programs emanating from interested teams of faculty and graduate students. In general, programs are approved if they meet the following guidelines as adjudged by the Council [1]:

"1. The proposed program or component should have an explicit and thoughtful rationale. The rationale should include:

a. An explanation of the goals of the proposed program in terms of teachers, learners, schools and the wider society schools serve. (An explicit goal of combating racism must be included here.)

b. An explanation of how the various components of the proposed programs are designed to reach the goals and how they relate to one another.

c. A reasoned explication of the learning theory implicit in the program.

d. An explicit statement of the terms in which the success of the program is to be assessed.

2. A major component of any program should be in the clinical area and should involve working with other learners of other ages. We do not intend that these other learners necessarily be children nor do we intend that the

clinical component be necessarily designed in conformity with current student teaching or internship practices.

3. A major component of the program must be designed to help students develop both the capacity and the inclination for reflective analysis. By this we mean essentially the ability to learn from one's experience. It implies learning of a second order -- an ability to reflect not only upon one's own behavior but about the assumptions upon which one's behavior is based."

As an un-numbered afterthought, the statement includes the following postscript: "It [the proposal] will also explicitly define how Massachusetts certification requirements will be met." [2]

To encourage faculty and graduate students to submit proposals for an array of programs, the Teacher Preparation Program Council (TPPC) abolished all existing School of Education requirements, thus removing constraints from the thinking of faculty and graduate students as they defined new alternatives. A second step to encourage creativity on the part of program planners was taken by making arrangements with the Massachusetts State Education Commissioner concerning certification of students completing the University of Massachusetts program. In effect, it was agreed that if the TPPC were to attest that the graduates of the program had met the State certification requirements, then the students would be certified. As Dean Allen put it, "If we say a field trip climbing up a mountain is educational history and climbing down again is educational philosophy, then that is what it is." Both of these steps, the elimination of school requirements and the establishment of an accommodation with the State Certification Director, led to the approval of more than twenty new programs during the several months after the program was inaugurated. Brief descriptions of some of the programs are included here.

Urban Teacher Education Program: This program is geared toward "developing teachers who will have political sophistication to the degree they can become reform strategists in the schools and systems in which they teach." [3] Students intern in inter-racial settings in Brooklyn, Pasadena, Philadelphia and in Springfield, Massachusetts. Students in this program are encouraged to develop relationships with students in and out of school by living in school neighborhoods. The off-campus experience is followed up by a period of evaluation seminars on campus designed to identify the student's strengths and weaknesses and to provide additional training in needed skills.

Off-Campus Teacher Education Program: This program offers students a chance to do their intern-teaching in the type of school of the student's choice -- no matter where the school is located. The Off-Campus Teacher Education Program offers the opportunity for students to work in schools with distinctive programs, such as differentiated staffing, open education, international schools in Europe, schools catering to special populations, e.g., American Indians, deaf children, schools working with the integrated-day concept. Students who have participated in the field aspect of the program are expected on their return to campus to help in-coming students prepare for the student teaching role in these remote sites. Since almost 90% of the students in the School of Education live in Massachusetts, one important goal of this program is that of "deprovincializing" the prospective teachers.

Explorations: This program invites students to take a full academic year pursue their own interests in their own ways with the support and counsel of

three co-directors. Student activities in this program include student teaching in public schools, staffing alternative schools, traveling around the world, auditing courses at the University, and many others.

Open Education: The University Laboratory School, Mark's Meadow, is the site of a teacher education program dedicated to the concepts of open education. Students are involved in this program over a three-year period with roles explicitly defined from gradual to total involvement in the school's classrooms. There is a strong emphasis here on child development through a case study approach. The Mark's Meadow School is adjacent to the School of Education, but administratively it is part of the Amherst Public School system.

Education in Community Service: This program recruits students from a variety of fields all of which contribute to community services: law enforcement, mental health work, community agencies, etc., and works to develop in these persons a greater sensitivity to their own educative roles and how they relate to others' educative roles and to the broader community.

This program assumes that "education is the legitimate realm of a wide range of institutions, and staff members of all social institutions could be more effective if they developed greater sensitivity to their own educative roles" [4]. Students in this program work closely with a University program coordinator in several school locations within Massachusetts. By involving themselves in meetings of community groups, with the work of community agencies, and with the schools, students are able to contribute to weekly seminars in a way that enriches their perspectives of how the functions of all social institutions can be enhanced through cooperation and understanding.

Integrated-Day Teacher Education Program: Following the precept of Britain's Plowden Report that "the child is the agent of his own learning," this teacher education program involves students in a full-time commitment over a year's time to working in schools with the integrated-day plan. These students normally take courses at the University in professional education as well.

Other programs that were operational during our visit to Amherst included one in international education -- providing cross cultural experiences designed to prepare elementary and secondary teachers to internationalize education in the United States -- and a program designed to explore alternative possible futures for society. There is no question that the range of choices open to students in the School of Education at the University of Massachusetts is varied and provocative.

One problem that became apparent within the School of Education as the multiple programs were established was the need to establish some components to service all of the programs. As the number of programs increased and as the number of faculty within each program diminished, it became unlikely that the staff of a given program could teach with appropriate authority all the skills that the students or faculty felt were necessary. To meet one aspect of this problem, a component called "Methods Potpourri" was established. This subprogram is composed of ten or twelve different modules aimed at teaching students techniques in the teaching of reading, arithmetic, science, classroom management, and the like. With the help of their program advisors, students can elect to sample from the offerings in the course in a way that best suits their purposes.

Examples of the "Methods Potpourri" modules available to students during the semester we visited Amherst included the following [5]:

"1. Organizing for Reading: Course includes introduction to reading materials, use of class reading time, planning reading lessons, developing reading activities, and grouping for instruction.

2. Developing Mathematical Thinking: Whether you "loved" or "hated" mathematics when you were in elementary schools, you probably want your future students to both achieve at and find enjoyment in mathematics. Activities have been designed to develop within you the ability to think mathematically through the use of discovery-oriented questioning and/or manipulation of materials.

3. Computer Programming for Elementary Teachers: The rationale for studying programming is based on the assumption that many unclear mathematical concepts can be clarified if students have to articulate their thoughts on the subjects by writing and revising programs designed to "teach" computers.

4. Helping Children with Expressive Writing: Students will develop ways of helping children with writing in the belief that writing is as important as reading and should be taught simultaneously with reading.

5. Workshop in Elementary Music Skills: An investigation into the process and content of music in the elementary school and how music may be taught as a separate or integrated subject."

Similar courses were offered in art methods, problems in classroom relationships, social studies, and in elementary science curricula. Other components can be added to the program under the aegis of the TPPC to service needs that arise unexpectedly and that are common to several programs.

There are, of course, a number of serious problems associated with multiple programs such as the one described at the University of Massachusetts. A professor and a few graduate students might propose a new program that reflects their particular views and experiences. In a few months, the professor may not be available to continue the offering of the program, in spite of the assurances he gave to the TPPC at the time the proposal was approved.

Furthermore, there is considerable difficulty in assessing the quality of the different programs. At this writing, the only measure that is definitive and universally monitored is that of student enrollments. Once a program is approved, it is left to the faculty of that program to recruit students. If they fail or if students who register for the program subsequently drop out, then almost surely the program will not be continued. But evaluation, other than by market demand, does not at present represent a serious effort by the faculty or administration. Several faculty at the University of Massachusetts School of Education are concerned by what they see as inattention to standards and quality.

In spite of these problems, however, the offering of multiple programs in a single institution is an increasing trend in the teacher education scene in the United States. Most notably, Indiana University and University of California at Los Angeles have adopted programs in many ways similar to those at the University of Massachusetts. Since there is so little agreement about what is appropriate in teacher education, and since conventional modes of justification such as appealing to experts or even to empirical bases are considered suspect, it is likely that this trend will continue for some time in the United States.

Teaching for Competencies

A second development in teacher education we have chosen to highlight in this report is having a profound influence throughout the United States: the competency-based approach to teacher education (CBTE), also called performance-based teacher education (PBTE). While of course the issues involved are quite complex and to an extent unexamined, the ideas advanced by the advocates of competency-based teacher education have a logic to them that is as compelling as it is beguiling. Teacher educators are urged to identify the effects that teachers should have on students. Then it is necessary to identify the teaching competencies that will facilitate the generation of the desired effects in students.

To give some estimate of the momentum this movement has generated in the United States, the American Association of Colleges of Teacher Education (AACTE) conducted in 1972 a survey of 1,250 institutions asking which were operating, investigating and/or planning competency-based programs. Of the 783 respondents, a 63% return, 17% said they were operating competency-based programs, 29% said they were not, and a large number (54%) said they were in some stage of investigating the [6]

It seems quite clear that the antecedents of the current movement include a concern for efficiency that is found throughout the American social system, as documented quite well by Callahan [7] and as outlined in Section I of this report. Performance-based teacher education also has been advanced by the accomplishments in individualization of instruction made by psychologists during World War II as research and development was carried out to improve the training of gunners, bombardiers, pilots, and other military technicians.

It is quite evident that once a goal is well defined, and it is judged suitable for all students within a class or group, and each student is assumed to be at a different stage in his acquisition of this goal, then each student must be treated differently if the training is to be effective. First and foremost, flexible time limits must be established for students to accomplish the goals. Not everyone will be able to reach the goal simultaneously. Some may have acquired the objective of the course prior to the commencement of instruction. Others may take days, others weeks and sometimes months to attain the objective. Second, several alternative approaches to teaching for the objective must be incorporated into the program to allow for diverse learning styles brought to the group by the various learners. Third, as students progress at different rates through the program, provision must be made to re-group students to take into account spurts in learning that may accelerate some students beyond their peers who started out at similar points.

Almost all of these strategies are found in the rhetoric and the planning of the developers of competency-based teacher education programs. Most of these programs make use of preassessment exercises to place students appropriately in the program. The majority of programs do not place strict time constraints on students. They progress "at their own rate" through the learning activities to which they are assigned. While in some institutions, this procedure has severely taxed the registrars' need for a definite grade at the end of sixteen weeks, in most cases arrangements have been made to defer grades until the student has completed his work at a satisfactory level regardless of how much time it may take. The flexible time requirement idea is further advanced by the use of "mastery exercises" that students can complete to show their accomplishments. Such a procedure allows a student to take the mastery exercise a number of times if he fails to meet the established criterion on an initial attempt. The central components of any well-designed competency-based program are grounded in an

effort to improve the efficiency of instruction by taking into account systematically the individual differences of students as they are engaged in the acquisition of specific, pre-defined objectives.

Of course, at the heart of the matter is the quality and usefulness of the objectives to which the individualized program is addressed. Cooper et al suggest that the competencies required of teachers can be classified as those dealing with (a) knowledge, (b) performance, and (c) consequences. [8]

Knowledge competencies first of all include "knowledge of subject matter." Teachers must have a firm grasp of the subject matter they are intending to teach. In addition, teacher educators might specify that teachers know the categories of Bloom's taxonomy; that they can describe various learning theories and how they apply to specific situations; or that they can define the attributes of effective classroom management procedures.

Performance competencies are those that define operations that a teacher might demonstrate in a real classroom or in a simulated situation. Can they operate a movie projector? Can they implement the Taba teaching strategies? Can they ask higher-level questions in the classrooms? Students can demonstrate their attainment of these and similar prescribed behaviors by acting them out in peer teaching situations; by employing the behaviors in a micro-teaching format that is recorded by a video-tape camera for later analysis; or by performing them in student teaching assignments.

Consequence competencies are those that are reflected in the accomplishments of the teacher's pupils. Teachers are asked to demonstrate that they can effectively bring a group of youngsters up to a specified level of proficiency in reciting the multiplication facts. They are asked to show that they are able to teach pupils how to use an atlas in specific ways within a given range of accuracy. In these tasks, teachers are not limited to the methods they use; the acid test is whether or not the objectives which they have been assigned are met as determined by the behaviors of their pupils.

For the most part, the competency-based approach is utilized in the core of experiences most often termed "methods courses". Generally, those courses are dropped as the competency-based program is introduced. In their place is substituted lists of objectives that a student is to pursue according to his own time-table. Faculty members are available to help students on a one-to-one basis as they undertake the suggested activities which lead to the attainment of the objective. In one mid-western university, a large room is set aside for faculty and students to meet. Students wait patiently as though they were patients in a physician's reception room until a professor is free to discuss the work. Once a student senses that he has acquired the objective, he can then visit an examination room. This facility is usually staffed by a clerk who upon inquiry selects the appropriate examination corresponding to the objective pursued by the student. The student takes the examination to a seat in the room and privately completes the examination. The clerk then grades the paper. (Almost always, the competencies in this program are assessed by objective multiple-choice tests or fill-in-the-blank items.) The clerk then prepares a computer punch card upon which is entered the student's name, the date, the form of the examination taken, the competency that was assessed, and the student's score. Once a week the accumulated computer cards are fed into a computer. The print-out, addressed to students and professors, indicates to both which objectives have been met during the previous week and which ones are most appropriate for attack next. If a student were clever enough, he might complete all of the objectives in one week. However, it would be very unusual for a student to

finish so quickly. One program we visited had over sixty objectives with more than half of them specifically required of students. Certainly it would take more than a week for an accomplished teacher merely to take that many achievement tests.

To further illustrate the kinds of performances required of students in competency-based programs in the United States, we have compiled the following list. The behaviors included in the list may not be representative of all of those found in current programs; nevertheless, in our view, they do suggest the general spirit of the most popular programs.

...to be able to change tasks in class, modifying planned pupil tasks to fit readiness level of individuals. [9]

...to be able to motivate pupils' attending behaviors, providing variety, pleasure, decision, concern and respect, challenge, advanced organizers, successful trials. [10]

...to be able to explain subject matter to pupils, interpreting terms, meanings, and motives in language that readily communicates to the pupils. [11]

...to be able to acknowledge pupil contributions by responding to answers and suggestions. [12]

...to bring relevant psychological principles to bear in confronting problems of deviant behavior. [13]

...to be able to operate audio-visual equipment, including setting-up, running, repairing, automated instructional equipment. [14]

...identify in his own written reports on children's behavior and the reports of others those portions which are inferences or evaluations. [15]

...describe the characteristics of a small number of broad categories of teacher behaviors in classrooms, and the probable intentions of teachers at the time they exhibit each type of behavior. [16]

...when told to produce an example of one of the three categories of teacher behavior (management or administrative, personal or social, instructional or "teaching"), the student will be able to observe a short segment of interaction between a teacher and a pupil, and when the presentation is interrupted, will produce an example of the requested behavior in either written or oral form. [17]

...write and justify the appropriateness of statements concerning the affective outcomes of lessons and curricula. [18]

...translate lesson plans for specified children and subject materials into teaching strategies. [19]

Another characteristic of the competency-based teacher education movement is the micro-teaching unit. Students in these programs are asked to engage in peer teaching or in instructing small groups of pupils for a brief period of time. Beforehand, students are told that their teaching will be rated on several specific competencies, such as asking higher-level questions, providing appropriate reinforcement, being enthusiastic, and many others. In some programs, the techniques

teachers make use of are not examined as much as the learnings that take place in the "students" participating in the micro-teaching. For example, if the objective of the session were to teach children the quadratic formula so that all of them could at the end of the lesson write it down from memory, then the teacher will be deemed a success to the extent his students are able to reproduce the formula after the teaching session. It is rare, however, for a program to examine solely the results of teaching; almost all make use of both the processes and the outcome measures. Students who are rated low for their performances in the micro-teaching experiences have ample opportunity for re-teaching to demonstrate that they have improved.

Once a student has completed all of the required competencies at the level deemed appropriate by the faculty, he then enters the last phase of his program -- student teaching. Almost always, the student teaching experience is not different from that found in any of the other programs we visited. A student is assigned to a teacher for a period of time, and that teacher provides criticism to guide the intern's development. Some competency-based programs make an effort to apprise the cooperating teachers of the various objectives to which their students have been trained. It was not clear to us how effective this effort was in changing the perceptions and practices of cooperating teachers.

There is probably no other educational development in the United States that has elicited so much harsh and hostile criticism during the past ten years as has the competency-based teacher education movement. Several of these reactions are discussed in the following paragraphs.

The central attack, and the one that at the same time angers and dismays most advocates of competency-based teacher education, is that the approach is "inhumane." There are at least two explanations for the strong attack on competency-based approaches by "humanists" -- the first basic and the second almost trivial. Most self-styled humanists part ways with those who are interested in the competency-based programs on the issue of the metaphor used to describe the basic purposes of education. The competency-based teacher education advocates tend to use an industrial metaphor. They speak of concepts such as input and output, the creation of products, and so on. Humanists are repelled by such a conception of the educational process. Most of the latter favor a "growth and development" metaphor which leads to the planning of educational programs by the identification of experiences that students will undergo. The humanists believe that from experiences that can be called "educative", many different worthwhile ends can emerge -- on the whole unpredictable by either the teacher or the pupil. Therefore, there is little room in education, as defined by this group, for prespecified goals.

Many humanists see the imposition of goals upon students as counter to the best interests of teachers or students. Their position is buttressed by the inability of the advocates of competency-based teacher education to provide empirical support for the goals that they impose on their students. For instance, as far as is known, there is no evidence that knowing the categories found in Bloom's taxonomy contributes to the efficiency of the teacher's performance, even when measured on the grounds advocated by the adherents to the competency-based approach. (Needless to say, the humanists would probably reject the evidence if it did exist since they deny that success in imposing goals onto students, and then demonstrating that the students acquired those goals, is relevant to being a good teacher.) Therefore, it is the basic premise of the

competency approach -- that the identification of instructional goals is the initial step in the process -- to which the humanists take issue.

A second and perhaps minor matter that contributes to the "inhumane" image that seems to cling to the advocates of the competency-based teacher programs is the computer. Computerization of information is seen by many people in the United States as a threat to their privacy. As universities utilize computers to facilitate grading, registrations, and communications within the bureaucratic organizations, the effects are seen as de-humanizing the entire educative process. People in general and students in particular are averse to being treated as a number.

There are many distressing examples highlighted in popular media that attest to how lives have been ruined, or at least inconvenienced, by computer error that probably would have been avoided by a person-to-person contact. Because of the tremendous need to keep track of the independent progress made by students as they wend their way through the various tracks of a competency-based program, several institutions have instituted computer programs to meet this need. (In one institution the computer program is referred to, perhaps unfortunately, as a "surveillance system.") Associating competency-based teacher education with the use of computers has apparently emboldened the opponents of this movement to tag it with an "inhumane" label.

In preparing this report, we visited the University of Houston to observe their competency-based program. It was during our visit to this site that we became aware of the dismay of competency-based teacher educators over the humanists' attack on their efforts. Again and again we were told by the Houston faculty, "My job is not to focus on competencies; it's to focus on people." It was our judgment that indeed the Houston teacher education was as much "concern-based teacher education" as it was "competency-based." Several attributes of the Houston program seemed to temper what might indeed be an inhumane approach to students. First, students are generally working in schools every day of the week. The opportunity to work in schools with teachers and pupils apparently enhances the feelings of involvement on the part of students in this program. Second, students are normally assigned to a team of professors for the duration of their training program. Over a two-year period, warm and personal relationships are developed through the medium of personal and informal contacts between students and professors. Third, a factor that may contribute to a more congenial atmosphere from both the students and the faculty's vantage point is an apparent agreement on the part of all concerned about what is considered important in teaching. There appears to be a sharing of technical vocabulary and a consensus about program priorities that pervades the Houston effort and that suggests a unity of concerns among faculty and students that is quite unusual in most teacher education programs. Borrowing in the main the ideas advanced several years ago at the Stanford University teacher education programs, the professors and students at Houston use the terms "set induction", "indirect teaching", "non-verbal communication", "divergent questioning", and others with a precision and with a frequency that may in fact be reassuring to all involved. Fourth, the professors at Houston gave the impression to us of being deeply committed to the success of the program. To an extent that seemed somewhat to concern the college administrators, the faculty at Houston spend a great deal of time with their undergraduate students in schools holding informal conferences, reviewing video tapes of their teachings, and sitting in on conferences between the students and their cooperating teachers. Again, such commitment appears conducive to the establishment of a supportive climate for everyone involved in the program.

A final characteristic of the Houston program that can be reflected in a number of other competency-based programs in the United States and that may ameliorate the potential for inhumaneness is the following. While the advocates of competency-based programs have argued that objectives must be stated with high-order specificity, almost none of the objectives we reviewed at Houston or that we found in the literature meet the criteria outlined by Mager. [20] Almost all of them omit that aspect of the objective that delineates the performance standard a student must meet to provide evidence of acquisition of the competency. It appeared to be the practice to review the performance displayed by a student as evidence of his competency in a certain area and to adjudge it a success. Often, in a private conference, students are told of their weaknesses and informed of ways to improve the performance, but it seemed to us to be a rare occasion that would result in a student's failing. As a matter of fact, there is apparently no sharp difference in the failure rate at Houston now that a competency-based approach is used throughout the College compared to failure rates several years ago. (This is not the case in a number of other locations; at other institutions the number of students entering the program and not completing the requirements has risen dramatically.)

Our observations gave credence to the claim made by the faculty at Houston that a competency-based teacher education program is not incompatible with humane treatment of students. There remain, nevertheless, profound disagreements within the teacher education profession in the United States about the appropriate metaphors that are suitable for describing the educational process.

Promoting Self Development

A school of thought about teacher education that is struggling to survive the current impetus toward competency-based teacher education is that exemplified by the work of Arthur Combs at the University of Florida. Combs and his many talented colleagues are working in a teacher education program which stresses the importance of the "self" of the teacher. This program, termed "humanistic" by its advocates, is philosophically rooted in the progressive education movement of the 1930's. Overshadowed during World War II by an urgency to mobilize all American institutions (including schools) to win the war, the progressive point of view is now regaining visibility and respectability because in part of its new base in phenomenological psychology, because of world-wide acceptance of its assumptions centering on the primacy of the individual, and because of the empirical support researchers have been able to accrue. Combs objects most in the competency-based approach to the ready acceptance of the "industry" metapher in education. He argues that if industries were organized to benefit the worker, then industry itself would reject "systems" approaches. In his eyes, teaching is a "helping profession". As such, the client occupies the central position in the interaction between the helper and the client. It is the client who knows what he is feeling, what he would like to know, what his goals are, and what meanings certain experiences provide for him.

More explicitly, the teacher education program at the University of Florida is based on the following principles. [21]

1. People do only what they would rather do. That is, people behave according to choices they make from among alternatives they see available to them at the moment.

2. Learning has two aspects: (a) acquiring new information and (b) discovering the personal meaning of that information.

3, It is more appropriate for people to learn a few concepts rather than many facts.

4. Learning is much more efficient if the learner first feels a need to know that which is to be learned.

5. No one specific item of information and no specific skill is essential for effective teaching.

6. People learn more easily and rapidly if they help make the important decisions about their learning.

7. People learn and grow more quickly if they aren't afraid to make mistakes.

8. Objectivity is not a valuable asset for a teacher. What is needed instead is concern for students.

9. Teachers teach the way they have been taught -- not the way they have been taught to teach.

10. Pressure on students produces negative behaviors, such as cheating, avoidance, fearfulness, etc.

11. Teachers are more effective as their mental health improves thus freeing creativity, self-motivation, and concern for others.

Students entering into this innovative program participate in three distinct program components -- the seminar, the substantive panel, and the field experience.

The most distinctive aspects of the program are found mainly in the seminars. A group of thirty students is assigned to a single professor for the duration of the two-year sequence of professional education. The students range from beginners to those who are just about to graduate. As students complete the program, replacements are added to the group. The thirty students are divided into two sub-groups for discussion purposes. The discussion groups meet two hours a week -- often in informal settings such as faculty homes or in students' rooms. To enhance group cohesiveness, all thirty students also meet together once a week and gather together informally on other occasions during the term. The seminar is the place where, through discussion and exploration, the students discover the personal meaning of the learnings and experiences they are acquiring in other phases of the program. Individual records are maintained on each student in the seminar. The records include diaries kept by the students describing their experiences and activities in the program and evaluations of their progress by members of the teacher education faculty. The instructor of the seminar also distributes a weekly newsletter.

While seminar instructors vary in their approaches, all attempt to focus the students on their own self-development. Some use "standard" exercises that are derivative from the "human potential" movement. Examples include role playing exercises and group problem-solving tasks. Students are asked to take strong positions on various issues and share with others their understandings of the origins of their beliefs. Other instructors do not introduce such procedures but merely invite students to share their experiences. As topics are introduced in this informal setting, the instructors engage students in a search for personal nings.

A second component of the University of Florida program is the substantive panel. This panel is made up of faculty members who usually teach methods, curriculum, and foundation courses. Instead of convening classes, however, panel members prepare and distribute a list of learning activities that students are to complete. Included in the list are some activities required of all students, but a large number are optional, and students are encouraged to propose their own activities if they feel a substitute is desirable. The first required activity is to attend an orientation session in which the entire package of activities for a given area is introduced. (The areas included science, mathematics, social studies, reading, language arts, sociological foundations, psychological foundations and curriculum.)

In the literature describing the Florida program and in the materials the students receive, the activities are at times listed under the rubric of competencies. Examples of competencies in the social studies list include the following [22]:

"1. To differentiate among at least three major social science disciplines

   a. the essence of each discipline (or a definition of the discipline)

   b. the major concepts and generalizations

   c. the processes used for discovering and building knowledge within each discipline

   d. examples of materials and involving teaching activities to use with children.

2. To locate, evaluate, and develop skills in using broad range of media and activities to promote children's learning in the social studies.

3. To recognize the variety and range of the skills pertinent to the social studies; to develop teacher competence for helping children to gain these skills.

4. To develop, describe and evaluate social studies programs for children in elementary school years.

5. To recognize personal-social and intergroup problems children face in their everyday lives and to assist in the use of the cognitive and affective processes in problem solving situations.

6. To demonstrate that a student can plan and carry out a group study with children using inquiry or problem solving processes."

In the social studies area, students must acquire all six of the competencies listed. They are provided with an array of suggestions for fulfilling the competency requirements. The activities include attendance at a series of laboratory sessions, reading a collection of books and writing reaction papers addressed to the intent of the competency statement, developing an instructional package on a social studies concept, writing a critique of a commercial social studies program, and participating with peers in the selection and investigation of a problem. (This list is included to convey a sense of the activities found in the social studies package; there are many more, and those included are addressed to several of the competencies listed above.)

Students are expected to do extra work("beyond the minimum") in three subject areas under the purview of the substantive panel. In those three areas, selected by the student, panel members prescribe additional work assignments from which students can select the ones they wish to pursue.

The package of activities in the program directed toward the area of curriculum eschews the use of the word "competency". In this collection, eight activities are required of the student, with the opportunity to choose from sixteen. [23] All students are asked to complete six specified activities; no choice is permitted here. However, they may select the two remaining needed to fulfill the requirement by electing them from seven others delineated by the instructor. The culminating activity for the curriculum area is a conference with the instructor to discuss the student's work. In carrying out the assignments, students have a number of other choices to make. A student may do fewer assignments, but expect the professor to employ higher standards in judging the acceptability of the work. Another alternative available to a student is to carry out some independent work under the professor's supervision resulting in at least three "substantial" term papers.

Student progress in the areas directed by the substantive panel is carefully recorded on appropriate forms and filed with the seminar leader. It is the responsibility of the seminar instructor to help students understand the progress they are making and the strengths and weaknesses they are demonstrating as they advance through the teacher education program.

A third component of the Florida teacher education program is the field experience to which students are assigned. Field experience is a continuous part of the program, with students actively engaged in some responsible roles in schools during each quarter of the program. Students are assigned to explicitly defined roles in the field depending on their maturity and previous experience. The role definitions are meant to serve as guidelines for students and instructors and not as narrow prescriptions. Nonetheless, they do provide those involved in the program, students, cooperating teachers, and others, with expectancies to guide their work. The levels of involvement include the following [24]:

1. Tutor: As the initial point of entry, students are expected to help children on a one-to-one basis; to become familiar with classroom procedures; and to develop positive relationships with one or more children. Students in this phase of their school experiences are not to make lesson plans.

2. Teacher-initiate: The second experience asks students to help children one-to-one; help the teacher with classroom chores; help supervise small groups according to the teacher's plans; and to improve human relations skills. Again, students at this level are not expected to prepare lesson plans.

3. Teacher-assistant: At this level, the student is expected to carry out those tasks suggested under the teacher-initiate heading and also to evaluate the work of children and to plan and implement lessons delivered to small groups of children. The student is also asked to participate in the evaluation of his work in these efforts.

4. Teacher-Associate: In this assignment, the student plans and implements a sequential series of lessons to classroom size groups of children. One

central thrust of this assignment is for the student to develop a positive and productive classroom climate.

5. Intensive Teaching: In this final stage of the field experiences, the student is expected to take on the role of the teacher in all of its aspects. These expectations include attending faculty meetings and holding parent teacher conferences.

As found in the other segments of the program, the evaluation of the students' progress in field experiences is recorded on appropriate forms and filed with the seminar leader. These evaluations are collated with others generated by the students' efforts and used in the seminars to help students perceive more accurately the progress they are making.

The teacher education program at the University of Florida is characterized by systematic and continuous evaluation procedures. Deficiencies noted upon the student's entrance to the program are taken into account in program planning. Midway through the program, the data collected by the seminar leader in the form of judgments formulated by members of the substantive panel and by supervisors of the field experiences are considered when making plans for the future. A final evaluation takes place just prior to graduation. At this time, the student's entire progress is reviewed, taking into account all the evidence available. Sharing in the evaluation are the seminar leader, several members of the substantive panel, and the student himself. On the basis of this evaluation, final recommendations are written which may or may not lead to certification, recommendation for employment, and/or graduation. In the evaluation process, the grading symbols A, B, C, D, E are not used. If a student's work is judged to be less than adequate, instead of indicating so by the assignment of a low grade thus closing the matter off from further study, the student is asked to repeat the assignment until high quality results are produced.

The principal aspect of the Florida program that sets it aside from others found in the United States is the attempt to help students find personal meaning in their experiences through the medium of the seminars. The procedures used to help students acquire a sense of their own beliefs, a prising of the feelings and purposes of others, and a developing concern for self renewal through self-initiated learnings are difficult to describe and even more difficult to evaluate. Nevertheless, the importance of these qualities is continually stressed. As Combs puts it, "We can't set aside the laws of learning because it is inconvenient to take them into account".

Cooperating with the Field

Cooperative Education, a movement that was initiated in the United States approximately seventy years ago, is based on at least two observations [24]:

"1. Every profession has many facets which cannot be taught in the classroom. These facets can be learned only through direct on-the-job experiences with professionals already successful in the field.

2. Most students find it necessary to work on a part-time basis and during vacation periods to earn the money to pay for their education. In almost every case, these part-time jobs have no relationship to the student's ultimate career choice, and therefore do not contribute to the professional education of the student."

Educators working in the cooperative education programs attempt to formulate programs based on these observations. The phrase "cooperative education" has been used to characterize these programs since they reflect the cooperation of agencies outside the university in assisting educators on campus to plan and implement programs of inter-related content and experiences. A key aspect of the cooperative program is the placement of students in field assignments that (1) are related to the student's career objectives and (2) are remunerative financially. [25] This last point needs special emphasis. While the rhetoric of higher education has for many years highlighted opportunities for all Americans to enter into professional careers, the fact is that there is a stern financial test blocking the door to most professions. The Cooperative Education movement is dedicated to the idea that higher education should not be an avenue only for the wealthy, and it provides access to the professions for the lower middle classes in the United States.

Advocates of the cooperative program in education contend that it represents a program based on a reality that is often missing in other types of programs. [26] First, there is the reality of exposure to the pressures found in schools over a period of time; issues come and go and many professors locked in campus offices fail to account for them in their teaching. Students working in the schools in various positions confront them in a timely manner and the "curriculum" of the program necessarily is kept relevant by its cooperative nature.

A second realism factor that students meet early in their professional lives is the inequality and inequity of pay rates across the economy. Students learn first hand that salaries vary with the supply and demand in a particular field. Prospective kindergarten teachers, competing against a surplus of workers available for jobs below the certified teacher level, may face different kinds of opportunities and different levels of remuneration than others working in some areas of science, mathematics, or computer science. This repeated first-hand experience with the world of employers affords students a chance to change their career plans early enough in their college program so as not to waste their time and resources.

We chose to visit Northeastern University in Boston, Massachusetts to learn more about cooperative education. All cooperative programs leading to the bachelor's degree at Northeastern University are five years in length. The student receives the same academic content for his degree as the regular four-year student in a conventional program. The work experience of the cooperative program is added to the academic content without replacing any of it.

o As a rule, upon entering the program, students confer with specially-trained coordinators to identify the kinds of cooperative assignments that would best suit their needs. Approximately 35 percent of the education students majoring in "non-science" areas and 20 percent of the science majors are placed with public school systems in paid positions prior to practice teaching in senior year. The students on these job assignments serve as teacher aides and perform such duties as assisting regular teachers, supervising remedial and other special study groups, and monitoring lunch rooms and recreational periods. It is felt that such experiences give students more substantial backgrounds in the field of education than normally provided by just the practice teaching period.

It has been the trend for initial placements in the program to be with non-school but in people-oriented work. Examples of the non-education placements include: clerical worker, librarian's assistant, teller in a bank, prison guard, rehabilitation aide, laboratory technician, museum worker, and many others. [27] There are efforts to place students within the program to provide for progressive

increases in the responsibility required of the student in the assignment he receives each year, and also to provide opportunities for students to make some choices about the assignments they elect.

The school year of twelve months is divided for administrative purposes into four quarters. Freshmen attend classes on campus for the first three quarters and then take a three-month vacation -- the only vacation available to students during the remainder of their college career. Students return as sophomores to work for a three-month period, return to class for three months, and accept another work assignment for three months. The sophomore year closes with a second three-month session on campus in classes. This pattern is repeated during the middle year (the third year) and the junior year.

In the last year of a program, student teaching at Northeastern University is carried out in a pattern that is quite traditional in the United States. A student is assigned to a master teacher in a school system for a specified period of time. The cooperating teacher is responsible for assisting the student in his development as a professional. Academic credit is assigned to this work (unlike the cooperative work assignments). The student does not receive pay for his efforts in student teaching and frequently must pay a tuition charge to the University.

As educational movements come and go across the educational scene in the United States, the Cooperative Education movement remains distinctive because of its distinguished history. The cooperative education idea was first developed at the University of Cincinnati in 1906. Now the movement has spread through quite a number of institutions including Drexel Institute, University of Detroit, Antioch College, Georgia Institute of Technology, University of Tennessee, University of South Florida, and many others. In 1962, a National Commission for Cooperative Education was formed for the purpose of expanding cooperative education in the United States. In spite of its rich past, however, cooperative education is for the most part overlooked in the current teacher education research literature -- an undeserved fate, and, in the view of the authors of this report, to the detriment of the teacher education enterprise.

The "Traditional" Teacher Education Program

To place the trends and innovations included in this report in some perspective, a traditional program in the United States is described in the following paragraphs. Of course, there is no such thing as a typical program. Nonetheless, the qualities of teacher education programs, especially at large prestigious universities, seem to have sufficient commonalities to be discussed in a general way.

The programs at the larger universities seem to offer the following experiences. First, students are enrolled in courses dealing with the philosophy of education and with theories of learning. These courses are generally followed by a field experience in schools. During this initial field assignment, students rarely undertake major responsibilities. They might observe, prepare materials, grade papers, or tutor one or two children who are falling behind. Once this initial experience is completed, students elect the required methods courses. The number of courses required in this category varies considerably. Almost all programs require a methods course both in reading and in mathematics. Others might require a methods course in science, or language arts, or music, or art, in all of these areas. After finishing these requirements, students then enter practice teaching. Almost always, students are assigned to a single cooperating teacher for a period from six to sixteen weeks.

As far as we could determine, there are no empirical bases for the differences in the length of the student teaching period. The differences are apparently due to tradition, convenience, and public school preferences. During the internship period, student teachers are usually supervised by graduate assistants an average of three times. Concurrently, seminars are held on campus with the graduate assistants as seminar leaders to share problems and perceptions.

The primary characteristic of these programs is that they lack clarity and distinctiveness. Very few of them have explicit assumptions or definitive goals that guide the faculty who teach in them. The program can be seen as an entity possessing ever-changing components. Instructors are invited to teach in the program to fill out a full teaching assignment. Almost exclusively, professors at large and prestigious universities are hired because of their particular interests or skills in conducting or directing research projects. It is rarely the case that a vacancy in a faculty is used primarily to meet the instructional needs of undergraduate programs.

Scholars at these universities might accept an assignment to instruct undergraduates for a semester or two, and when a research grant is received, the assignment will be passed along to an individual whose research grant has just ended. There are very few efforts to orient newcomers to the purposes of the program or the assumptions upon which the program is based. Rather, it is generally assumed that the scholar will do his best, that his best while different from persons who have taught before him, is nonetheless useful. Students pass from course to course, hearing diverse views, and usually detecting overlap in lectures and assignments. Because of the large numbers of students in these programs, and the very few resources allocated to teacher education at the major research-oriented universities, very rarely do students have the opportunity to sort out the bewildering ideologies they confront by meeting individually with faculty members, or even in small groups.

A second notable quality of traditional programs is the segmentation of the program. Subject matter content is taught in one course while subject matter methods are introduced in another. The opportunities to practice the methods covered in the curriculum are supervised in yet another course. Within this sequence, it is possible for a student to meet several points of view, some diametrically opposed, as he passes through the program.

Associated with the segmentation is the apparent conviction that the closer one gets to "practice" as an instructor and the further he is removed from "content", the more pedestrian his work becomes. In institutions which reward scholarly work with raises, promotions, and eventually tenure, most ambitious faculty shy away from practice courses. It is not uncommon to find all the practice courses taught by transient graduate students who are supporting their studies by accepting this task. Adding to the problem, it is possible that the graduate students are not even majoring in teacher education, but rather in other fields such as psychology, administration, or philosophy. It is very unlikely that graduate students are aware of the methods stressed in the methods courses or even the views of cooperating teachers in local schools. They are rarely involved in the program long enough to find out, even when they are interested.

A third factor that is quite common to traditional programs is the division of methods instruction into curricular areas. Courses are taught in math methods, reading methods, science methods, etc. (The apparent need for such content-related experiences was apparently felt in the innovative programs we observed

leading for instance to the "Methods Potpouri" arrangement at the University of Massachusetts.) With professors only on rare occasions sharing their views on methods with one another, it is possible for a student to learn how to teach mathematics using a token reinforcement system, to learn how to teach reading through a diagnosis-remediation cycle, and to teach language arts in an open classroom organization.

What clearly differentiates the training of young men and women at these institutions is the quality of the liberal education they receive. Unlike the normal schools of thirty years ago, and to an extent unlike the institutions that have not yet been able to attract large numbers of leading scholars, the large prestigious universities have many top ranking researchers on their faculties who in turn attract the most able graduate assistants. While scholarship alone is not a guarantee of excellent teaching, it is a fact that as professors are dealing with profound issues in their own work, they tend to pass on their excitement and fervor to their students -- even in large lectures. The prestige of a university also attracts bright undergraduates. While student openings do exist in some mediocre institutions of higher learning, the competition for admission to the prestigious universities is keen. As a result, the hidden curriculum found in all schools and colleges -- the after class discussions, the dormitory exchanges, and other similar interactions are enriched by the very quality of those taking part. All of these influences seem to contribute to the high quality of the total educational experience at prestigious universities.

Employment figures suggest that graduates of the highly prestigious universities seem to have a better chance of securing an initial position than their counterparts who are graduating from programs that are more rational, more organized, and more carefully staffed with persons dedicated to teacher education per se. Whether this is the case because principals and other prospective employers are impressed with the inherent intelligence of these graduates or for some other reason is difficult to determine.

For all of the disarray, such programs have their defenders. First, large prestigious universities tend to attract very able high school graduates. In addition, the calibre of the graduate students is likely to be very high. Thus, while direct interest in undergraduate programs might be missing, the programs are probably conducted by the brightest scholars in the United States. Also, it is very likely the case that the teacher education graduates of these institutions have received the best liberal education in classical terms that is available in the United States today.

Despite the sometimes casual nature of the preparation program, the young and inexperienced aspirants who enter this program are frequently transformed into accomplished professionals. The seeming paradox is probably attributable to the selection factors; but it is a paradox deserving of more intensive examination.

Reexamining In-service Education

The primary focus of this study has been on the pre-service patterns found in the United States. In this section some noteworthy trends in in-service education are described.

With the expansion of public schools almost at a standstill in the United States, and with fewer new teachers entering the profession than was the case in the 1960's, teacher educators are shifting their efforts toward in-service education. Generally the same ideological issues that characterize

the pre-service level are reflected in in-service teacher education. Some teacher educators strive to assist teachers to grow and develop by instructing them in well-defined skills. Others promote independence and confidence in the teacher through programs that are often more therapeutic than overtly educative in the conventional sense. In the following paragraphs these two approaches are elaborated.

Skill-Building Approaches. The research and development centers in the United States (Federally funded) that focus on teacher education have tended to accept the "skills" orientation. Most notable in this area is the Far West Laboratory for Educational Research and Development in San Francisco. One approach of this laboratory has been the development of minicourses. Authors of minicourses identify concrete, practical skills that teachers can acquire directly through practice and immediate feedback. Teachers enrolled in minicourses watch a filmed demonstration of the skills, practice using them by teaching a short lesson to a small number of students, and videotape their performance for purposes of evaluation. The Far West Laboratory leadership claims that this immediate and objective feedback, enabling teachers to make needed corrections on their own, has proved effective [28]. (It should be noted that minicourses are deemed appropriate also for use in pre-service education.)

Minicourse I of the Far West Laboratory is designed to improve the questioning techniques of teachers [29]. The first sequence instructs teachers to ask a question, to pause at least five seconds, and then to call upon a student for a response. Teachers are urged to be accepting of student responses and to call upon both volunteers and non-volunteers to keep students alert. The second sequence in the minicourse demonstrates how teachers can ask questions that require longer pupil responses. Teachers are shown how to ask questions that require students to use higher cognitive processes, and how to redirect the same question to a number of different students to decrease the amount of teacher participation and increase pupil involvement in the discussion. A third sequence in this minicourse is designed to improve the "probing" techniques of teachers. Teachers are shown how to prompt students, how to clarify students' views, and how to refocus student responses. The final sequence demonstrates teacher behaviors that might impede the flow of discussion in a class. Such behaviors as repeating the questions and/or repeating students answers are demonstrated to illustrate the deleterious effects they have on the pattern of discussion in the classroom.

A second minicourse focuses on the development of children's oral language skills. The first sequence introduces the skills that expand language and thought. The second sequence demonstrates how teachers can model new language patterns, elicit the use of language on the part of children, and provide specific praise for proper use of language. The final sequences of the minicourse apply these skills in teaching specific language skills: positional language in context and in conjunction with objects; language for classifying and describing objects; and language for describing and identifying action [30].

Other available minicourses include those dealing with individualizing instruction in mathematics, organizing independent learning, and asking higher level questions. The first of these courses helps the elementary-school teacher manage instruction on an individual basis. It outlines tutoring techniques to improve math skills through diagnosis, demonstration, and evaluation. The second helps teachers in primary schools to learn a set of organizational principles that make it possible for them to work with a small group of children for 15 to 30 minutes, while the remaining students carry on independent activities. The last in this set trains teachers in the intermediate grades to ask

questions that lead students to make inferences, solve problems, and develop predictions.

One distinctive characteristic of these Far West Laboratory approaches, in contrast with the pre-service programs described in this report, is the emphasis placed on new technologies -- most notably video-tape. The preservice programs are notable, in fact, for the absence of computers, television, and even film. This emphasis on technology in the development of the Far West Lab materials does have a serious limitation, however. The minicourses are expensive. It could cost a school district $1,575 to purchase the films associated with Minicourse I and more than $200 to rent the films for a six-week period. Since it might be possible to identify up to 200 "skills" that are important to teachers, such an approach is costly and only committed individuals with higher-than-average available resources are likely to invest funds in this approach.

A second approach to skill-building has focused more on the development of appropriate understandings on the part of teachers than on performance skills such as those emphasized at the Far West Laboratory. The National Center for Improvement of Educational Systems of the U.S. Office of Education has invested funds in materials that assist teachers in developing understandings about learning [31]. Such understandings are taught through the use of cognitive materials prepared by this project which describe segments of behavior categorized for the purpose of teaching (1) concepts and principles used in interpreting children's behavior, (2) knowledge about knowledge and (3) self-understanding. The behaviors displayed in the protocol materials are illustrated by episodes that exemplify the concept that is being portrayed. The behaviors are presented to teachers through various media -- print, visual, and/or audio-visual.

For example, students are shown film clips of teachers properly "reinforcing" a students response. They are also shown film clips wherein the teachers response is not appropriate. Often, the developers insert "cues" in the film to prompt the viewers to observe examples of reinforcement. Similar materials are used in an assessment mode without the cues. Viewers are asked in this instance to view the film clip and to identify instances in which reinforcement took place or instances in which it might appropriately have taken place.

The concepts exemplified in the materials developed by this project meet two criteria: they are critical to instruction, and they contain an element of universality such that the materials developed will be useful at several different levels of instruction. Pilot projects to test the feasibility of this approach were funded initially in 1971. The following partial list demonstrates the range of areas that are being studied [32].

1. Protocol Materials in Reading -- Bucknell University
2. Protocol Materials in Learner Outcomes -- Oregon State System of Higher Education
3. Protocol Materials in Oral Language Development -- Ohio State University
4. Protocol Materials in model Learning, Respondent Learning, Reinforcement, Operant Learning, and Shaping -- Michigan State University
5. Protocol Materials in Teaching Concepts, Teaching Interpreting, and Teaching Particulars -- Washington University

6. Protocol Materials in Relationships Between Learning Behavior and Conceptual Demands of Subject -- Harvard University

7. Protocol Materials in Cognitive and Affective Interaction and Classroom Management -- Indiana University

A third type of skill-building, in-service activity prominent in the United States is associated with particular curriculum packages and/or programs. For example, Science Research Associates, a publishing company, distributes an early reading program called DISTAR. School systems that adopt this particular program may also contract for in-service education services from the publisher. Since it is often the case that DISTAR materials are used primarily by poor children within a district, and federal funds therefore are earmarked for certain programs in these districts, supplemental funds to purchase in-service training services are available. The publishers, Science Research Associates in this particular case, in turn employ psychologists, teacher educators, and others familiar with the program to train the teachers in special workshops.

The training is usually intense and systematic since the success of the materials is directly related to the degree to which the teachers implement the procedures precisely as intended by the authors. The DISTAR program carefully prescribes how children are to be diagnosed, how teachers are to deal with errors made by children during a lesson, and what remedial actions should be employed. Schools may commission, in addition to the training services, consultants who will assess the extent to which teachers are implementing the procedures correctly.

The basic assumption of such an effort is that teachers do not teach mathematics, English, science, or reading independently of available materials. Rather they teach these subjects using certain programs which have been selected from among many possible programs. The best way to assist teachers, say the advocates of this approach, is to help them master the program they are going to teach. Programs with well-defined and often narrow goals are best suited to such an approach.

Teacher Development Approach. A particular strategy, called the Advisory, designed to individualize in-service education is being attempted in various parts of the United States. This approach entails expert consultants working with individual teachers to provide whatever assistance seems necessary. The Advisory provides help to teachers only if the help is requested; it addresses itself solely to the expressed needs and interests of individual teachers; and it usually provides assistance in the teacher's own classroom and not in seminars, meetings, or on college campuses. The key to the Advisory approach, obviously, is the special relationship that is established between the teacher and the advisor [33].

Advisory services are made available to teachers through a number of different administrative arrangements [34]. Almost exclusively at first, advisories were funded through U.S. government initiatives. Two separate projects in the "Follow Through" program (a federal effort to support the education of poor children in the early years of compulsory education, so named because it followed "Head Start", a special preschool educational program for the poor) made extensive use of advisories. In California, the High/Scope Follow Through Project used advisors as a way of installing new curricula and instructional methods. In a program sponsored by the Education Development Center in the Boston area, the advisory process was the central intervention

under study. In both of these instances, however, persons acting in the advisory role were in fact supported by the Federal government.

In other sections of the country, advisory services are delivered by persons employed directly by the schools system. For example, Lillian Weber has developed such an arrangement in the New York City Public Schools. Advisory services have also been made available through graduate training efforts. At the University of Illinois, Bernard Spodek has worked with graduate students who were assigned advisory roles in elementary schools in the State. The University of North Dakota's Center for Teaching and Learning also offers opportunities for students to work in advisory roles.

In still another mode, professionals present themselves to school systems as "free-lance" advisors making their services available on a contractual basis. Devaney reports that such "outside advisors do not have to work as hard as resource teachers to keep independent of school administrators, and they are less likely to have their perceptions skewed by the personal relationships within a school" [35]. She points out, however, that free-lance advisors may have difficulty understanding in sufficient depth the ongoing problems in the school.

In a study of the teachers' perceptions of what a person does in the advisory role, the following kinds of behaviors were among those identified [36]: The advisor brings materials to class, helps work with children, helps in making materials, shows how to work with children, determines teacher's needs, points out next steps, gives reinforcement and praise, boosts morale, provides literature, explicates principles, asks questions to stimulate thought, helps the teacher become aware of her own progress, and encourages new priorities in values. Of course, the ways a particular Advisory works with a given teacher varies widely. Some examples of procedures as described by teachers are included here [37]:

> "She'll come in room -- look around -- and maybe discuss things with me for a few minutes. Then she'll sit down and work with some children, and she'll talk in a very loud voice so I can hear without having to stop what I'm doing. I literally learned how to talk and work with children in new ways listening to her."

> "(The Advisor) . . . goes in and starts fiddling around with something and have a group of kids interested -- and I wouldn't know enough to start fiddling around it in the first place. I feel he can add something that I can't to my classroom."

> "Oh, yes, they come right in the room and work -- and when they're there, they usually do something I wouldn't have thought of -- and I try to jot it down so I can remember to do it later."

The Advisory approach is based on the assumption that the best way to bring about change in teachers in-service is through the establishment of close, long-term, and supportive relationships. Initial reports suggest the assumption is warranted, and that advisors are effective.

Developing Teacher Centers

Whether a particular program of in-service education is established to convey skills to practitioners, or whether it is intended to promote autonomy and a sense of growth, it is very likely in the early 1970's to be housed in a facility called a "teacher education center". Centers have proliferated in

the United States over the past seven or eight years. At present, they exhibit many different patterns and serve several different objectives.

The first centers to become widely recognized in the United States were those that were established as transition agencies between pre-service and in-service education. Teacher educators on university campuses tried to avoid the usual pattern of merely assigning their students to teachers in the field more-or-less haphazardly. Rather, they established long-term arrangements with public schools by developing teacher education centers. Student teachers were assigned to centers that served a cluster of nearby schools. The public school system and the University shared in the support of center personnel, who organized and implemented both the pre-service and the in-service activities within the center. The initial in-service training efforts were directed at improving the supervisory skills of the cooperating teachers (those who worked with student teachers) so that they would become more effective themselves as teacher educators.

One of the first such arrangements was established jointly by the Montgomery County (Maryland) Public Schools and the University of Maryland. The goals of this program included [38]:

"1. to cooperatively design, implement, and evaluate model teacher education programs.

2. to integrate theory with practice, the on-campus with the off-campus, and the pre-service with the in-service.

3. to articulate the theoretical education faculty (college) with the clinical teacher education faculty (school) in such ways that they work together in teams at the same time, in the same place on common instructional and supervisory problems.

4. to bring together pre-service and in-service teacher education into one continuing program.

5. to individualize professional development -- for the pre-professionals as well as for the practicing professionals.

6. to develop a "corps" of associates in teacher education."

The key to the success of such a center is the ability of the center coordinator. His role is "to bring together in creative ways the personnel and material resources of the school system and the college in ways that will produce effective laboratory experience programs for the university students assigned to the center and reality-oriented in-service programs for the teachers" [38]. As the University established a number of centers in cooperation with several different school systems, the success of the plan varied with the characteristics of the persons who were employed in the coordinator role. During the first years of the centers at Maryland, it seemed that the center coordinators were the only persons who were able to grasp the entire picture of the pre-service to in-service continuum. Professors and practicing teachers contributed to the program in fragmented ways, with these individuals contributing a day here or an hour there in a fashion orchestrated by the coordinators. Since the coordinators were generally persons without doctorates and without the accompanying status, they often were unable to influence either the public schools officials or those in the university to change programs or attitudes. However, as the years pass, there are signs that this situation is improving. Staff from both the university and the public schools are becoming more sanguine about the impact of the centers.

More recently, American educators, particularly practicing teachers, became aware of the British teacher centers. They were impressed with how the British centers seem to have been established to meet local needs as determined by teachers themselves. As a result, a large number of centers -- for teachers and by teachers -- have been established throughout the United States. In late 1972, a survey was undertaken by the editors of Scholastic Teacher to identify teacher centers in the United States [38]. Approximately 80 centers were listed in this survey, and they were located in almost every one of the fifty states.

Activities sponsored by centers created in this mode include establishing lending libraries of curriculum materials; offering workshops; providing work areas in which teachers can develop and share curriculum ideas; making available advisory services; holding discussions among parents, teachers, students and any others interested in the educative process; arranging for speakers to attend PTA meetings and faculty assemblies; and publishing occasional papers dealing with current thought in American education. Centers find financial support from a number of sources: foundation grants, funds from the U.S. government, support from the public schools, monies provided by various institutions in exchange for services, and from modest tuition fees charged to students.

The National Education Association, the largest organized group of teachers in the United States, is launching a program of NEA-sponsored teacher centers by establishing ten initially in widely scattered parts of the country. The NEA, as indicated in Section I, intends to increase its influence in teacher education activities.

One teacher center is described briefly here to illustrate the breadth of activities offered by these institutions. The Greater Boston Teachers Center effects arrangements with schools, museums, shops, and studios in the Boston area to make facilities available to teachers after school hours [39]. The staff of the Center arranges for groups of teachers from many different school systems, both public and private, to meet in classes covering such topics as Room Arrangement for Various Activities; Building Furniture and Apparatus from Tri-wall; Music, Dance and Drama; Mathematics Materials for Elementary Grades; Environmental Studies; Human Values in the Classroom; Woodworking in the Classroom; Teaching Black History in Boston, and many others. Persons staffing these courses come from a variety of backgrounds including education, the arts, museum work, and other allied fields. The classes offered by the Center are on occasion recognized by teacher training institutions in the area, enabling students to receive graduate credit for work undertaken under the aegis of the Center. The courses are usually open to parents, administrators, teachers, graduate students and others interested in education.

The establishment of teacher centers -- for teachers and by teachers -- is just beginning to flourish in the United States, and it is as yet too early to determine just what form they will take or what effects they will have upon teachers, upon teaching, and upon graduate education over the next several decades.

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Section III: Implications for Policy Analysis and Research

Before outlining policy issues that seem to be suggested by this study of emerging teacher education trends in the United States, a brief summary of these trends and the social and political context in which they are embedded are offered to review the setting for the range of decisions that will or should be considered in the American teacher education enterprise in the remaining years of this decade.

... American teacher education is moving in many directions at once. The prospective teacher, and presumably the prospective employer, has a wider range of choices in programs leading to teacher certification, even at a single institution. Diversity in ideology and in program design is the keynote.

...There is growing concern about and investment in continuing education of teachers. "Teacher centers" represent one significant trend in inservice teacher education.

...Governmental agencies are gradually becoming more influential in modifying teacher education programs, primarily because of management and planning techniques that are being established at universities and in the public schools under governmental pressure. This pressure is from legislatures, executive departments, and -- to a degree -- from the courts.

...Although there is no clear, single direction apparent in teacher education for the 1970's, performance-based teacher education programs represent by far the most visible distinctive development of the decade.

...The scientific base for teacher education and for education in public schools is primitive, but there is a growing desire in many quarters to base practices on the results of scientific findings, and attempts are being made to develop programs on the basis of research -- perhaps to a degree unwarranted by the present state of scholarship in the field.

...There is a tendency to move teacher preparation programs, both preservice and inservice, away from the campus and out to sites in public school districts.

...There is considerable effort to establish objectives of teacher education programs, partly as an aid in decision-making about support to be accorded these programs, and partly as an evaluation tool to judge their success.

...Teacher organizations are gradually becoming more influential in the design of teacher education programs as teacher groups grow in size and assertiveness.

...Within the governmental sphere, there is a drift of power from Washington to the individual states. The states have always been primary in education. Federal initiatives became strong only in the 1950's and 1960's. But the trends of the past decade or two are reversing.

...State governments are increasing their influence over teacher education, both by targeted budgetary decisions and by modifications in teacher certification requirements.

...There is less optimism about the tractability of social systems in the 1970's than there was in the 1960's. The educational system does

not seem to respond to governmental initiatives as was hoped when legislation was passed, and as policy directives are administered by the executive departments.

As a broad conclusion, education generally, including the teacher education component, seems to be taken more seriously by government, by the public, and by professionals than was the case before Sputnik I. Until fifteen years ago, education in the United States was generally accepted as important, but to a major degree it was taken for granted. Children went to school. Teachers were prepared. While there were problems here and there, sometimes serious ones, the system was not questioned closely and aggressively by large numbers of people.

This condition has changed for several reasons. For one thing, political rhetoric about equality did not seem to make people equal. Blacks and the poor did not seem to enjoy the fruits of American Society as much as many other groups, and, it was asserted, primary responsibility for this state of affairs lay in our social and political policies. There were monumental attempts to use the schools as an instrument to advance social justice. And there was later monumental disappointment with the results.

While the equality aim was perhaps the strongest single theme of the 1960's in education, it followed a brief but frantic and influential period in which the schools were mobilized to improve the American defense posture. Sputnik I produced waves of distress and ripples of reform throughout the American educational system for the avowed purpose of catching up with and surpassing the Soviet Union in space and defense capability. (No political leader or popular commentator seems to have credited the schools with the fact that the United States did surpass the Soviet Union in space accomplishments, and in a very short period of time.) The brief flurry of attention to programs for better education of future scientists and engineers seems to have set the stage for systematic and continual use of the schools as an instrumentality in advancing general societal aims.

For a variety of reasons, some of which have been sketched in this report, the emerging model of a teacher, insofar as there is any single discernible trend in this regard in the United States, is toward the model of teacher as efficient and skillful manager. The schools are expected to become more business-like as well as purposeful. Efficiency, a goal orientation, and a consciousness of costs have been emphasized. Concomitantly there is new attention to the design of sophisticated instructional programs directed toward well-understood objectives.

The analogue to business and industry, always highly esteemed in the American culture, is clearer today than it was twenty years ago. Educational discourse is peppered with talk about products, inputs, outputs, and even throughputs. Flow charts are used in policy analysis and curriculum development as a planning device to identify critical decision points. American educators talk of systems, costs, benefits, and accountability. High order rationality is pressed aggressively in the competition for resources among the social programs. There is a continual quest for social indicators that would enable policy-makers to establish a series of benchmarks indicating expected and actual accomplishments.

At the same time, during the 60's, the schools also served as a battleground for competing community groups. In one of the more dramatic such developments (in New York City), considerable control for school policy-making

was transferred to neighborhood groups and away from the City's centralized Board of Education. The schools were used as a base for the establishment of local political power. City politics for years swirled around issues of "community control".

Events such as these have emphasized that schools and teaching are indeed serious business. And partly because there is greater strain in the American social fabric than was the case twenty years ago, there is probably more strain evidenced in schools and among teachers now. Schools are often tension-laden institutions. General social malaise has not bypassed educational institutions, partly, some suspect, because schools in the 1950's and 1960's were expected to carry so much of the burden for correcting societal ills.

Against this background, emerging policy issues are far from crisp. In education we are not dealing with a field in which there are basic and broad agreements about fundamental principles, with the major task one of choosing from among clearly understood alternatives. Perhaps policy in some fields yields well to systematic analysis of the sort introduced in many governments in the 1960's, but the situation in education seems confounded by the fact that there are more than two million teachers in the United States who have been trained in thousands of separate teacher education institutions. They are employed by more than 17,000 separate governing units, each unit operating broadly within the statutory constraints of one of fifty different states. Occasionally the federal government takes major initiatives to modify this complex system, but with mixed and ambiguous results.

Some Policy Issues

1. One policy matter that receives little attention on a nationwide basis is the question of recruitment for teacher education programs. When dollar allocations are examined, it is noted that there is an infinitesmal investment in recruitment compared to the investment in the education of teachers. Inasmuch as teacher attitudes are modified with great difficulty, a significant decision is made about the kind of individual who will be teaching in the schools four or five years hence at the moment that individual is admitted to a teacher education program.

Since attitudes and values of teachers play a critical role in the educational system, it is necessary to learn more about the attributes of individuals who choose to teach. Selection criteria of a more systematic sort than are used at present might be employed when admitting each teacher education student.

Alternatively, choices can be made about the particular institutions that are to be authorized to offer teacher education programs. It is known that different kinds of students attend different universities. The characteristics of the students at a particular institution in terms of intellectual attainment, intellectual aptitude, family income, and social class are well understood. Insofar as there is a relationship between these attributes and the qualities desired in a prospective teacher, this policy issue can be approached more analytically.

At the outset, however, it should be recognized that the topic raises political and social questions that are highly controversial, and perhaps for that reason they cannot and will not be broached by teacher certification boards and legislators. Nevertheless the issue is highlighted here because it may well be the one that has the most profound potential for influencing the educational system over the long term.

2. A second policy issue surrounds the relationship between the award of teaching credentials or a license and the requirements of the teaching position. At the moment in the United States, the prospective teacher is expected to present credentials that may have little relationship to performance on the job. For example, the teacher is expected to have attended university for four years and have completed a large number of courses that are not assumed to bear directly on teaching -- though presumably they are valued as a part of general education. It is alleged by some critics of teacher education programs that teacher education should be geared more closely to job requirements. The fact that it is not serves as a device to screen out certain applicants, rather than a device to preserve standards.

Advocates of performance-based teacher education programs point out that PBTE directly addresses this issue. To the degree that employers and teacher educators feel successful in delineating the skills required for successful teaching, there likely will be related pressures to couple licensing directly to the acquisition of those competencies. The educational policy ramifications require careful scrutiny, particularly because a certain model of schooling is implied by such a move; this model should not go unexamined.

3. The American experience of recent years suggests a policy study associated with the demands for decision-making authority in teacher education by different groups. In the design of teacher education programs and formulation of teacher-education policy, what are appropriate roles for elected school boards, the public at large, the organized profession, the various legislatures, the executive branches of government, the established teacher education institutions, local school districts, and representatives of business and industry? Control of teacher education is in question of course. The competing groups are active. Inevitably decisions will be made as a result of the interplay of political forces. The final decisions, however, might be influenced by analysis of the practical and social implications of the roles suggested by and for the various parties. In fact some experimentation might be inaugurated to study the effects of planned change to test the competing approaches, possibly in combination.

4. A somewhat related policy question centers on identifying the scientific base for the establishment of teacher education arrangements or practices. It would be useful background for the policy decisions that must be made in teacher education to review in detail those elements associated with the education of teachers that have yielded or are likely to yield to research. If it can be demonstrated, for example, that student achievement is directly associated with definable teacher competencies, then a powerful argument exists for training teachers in the competencies thus identified.

It is characteristic of the current state of decision-making in teacher education that performance-based teacher education programs are being instituted on a large scale without any evidence of the relationship between specific competencies of teachers and children's achievement. The same statement can be made of programs for teachers based on "humanizing" education through "self-development" of teachers, or for programs in open education, or for any other programs. The research is silent on the associations between teacher abilities and children's learning.

It is not the purpose here to question the appropriateness of any element in teacher education programs that is not demonstrably associated with achievement of students. It seems perfectly reasonable that certain attributes of teaching and teacher education programs are desirable in and of themselves,

regardless of our present knowledge of their effectiveness in changing behavior. For example it is worthwhile to help the teacher understand the history of teaching children from minority groups, or help the teacher understand various educational philosophies.. It also is desirable that teachers learn to listen carefully to the thoughts expressed by children, and that they become reflective about their own actions. These characteristics are worth emphasizing in a teacher education program whether or not a clear relationship can be established between the attributes and the achievement of children. Nevertheless it would clarify a considerable amount of educational discourse if it were clearly understood which practices were being advocated on the basis of replicable research and which practices were being advocated for other reasons. Of equal importance, it would be useful to identify educational problems that seem most likely to yield to scientific approaches, and which must be approached by understanding value preferences, political constraints, and budgetary limitations.

5. There is a cluster of policy questions centering around effective strategies for educational change. During the 60's, educational change was seen largely as a sequential series of steps starting with theory, moving to research, followed by development -- then dissemination, diffusion, and finally evaluation. It was assumed, though seldom explicitly, that the teacher or teacher educator was a passive client awaiting the results of developmental activity undertaken by talented groups and based on firm and incontrovertible knowledge.

It became apparent after several years that educational change did not seem to occur the way change was assumed to occur in medicine or agriculture. In the case of medicine, pharmaceutical firms engage in research to develop new treatments for various diseases. When certain medication is found to be effective, pharmaceutical "detail men" carry the word to practicing physicians who try to make a match between symptoms spotted in their diagnosing rooms and the treatment and effects described by the pharmaceutical detail men. When Elliot Richardson was Secretary of the Department of Health, Education and Welfare, he seemed attracted to the analogue of the pharmaceutical detail man and claimed that we needed agents such as these in the field of education to carry the word of effective practices to classroom teachers.

In the field of agriculture, the United States has a well-developed network of extension agents who for decades have been informing farmers about methods of plowing, planting, and cultivation that increase yield. Agricultural practices seem to have been affected profoundly as a result. The agricultural extension agent model, also, has seemed attractive to educational policy makers during the 1960's, and an extensive literature has developed around the theme of educational change agents, their responsibilities and possible impact.

For a variety of reasons, the methods do not seem to work well when applied to the field of education. The teacher does not seem to be interested in "yield" in quite the same way as the farmer. Educational "treatments" do not seem as reliable as therapeutic approaches in medicine. Some observers, in retrospective analysis, point out that incentive systems differ for teachers as compared with farmers or physicians. They point out, also, that teachers, in effect, have considerable latitude since the practice of one is not compared readily to the practice of another.

Whatever the reasons for the failure of recent models of educational change in teacher education or classroom teaching, there is a need to under-

stand more fully how change has taken place and what strategies might be utilized in the future as a basis for policy.

At the moment in the United States there are clear trends, as have been indicated, toward locally-based decision-making authority. This shift to decentralized decisions suits America's present conservative political mood. But, some claim, it is also a more realistic approach to change in education. The task becomes one of fostering and enhancing local innovation, rather than implementing what may be an alien instructional plan.

This policy issue entails discovering the optimal relationship between statewide and local decision-making in teacher education through realistic understanding of how it is that teacher education programs can reasonably be expected to change. There are presently a series of practices, effective or not, that have extensive historical roots. They are built into the folkways of teacher education. New approaches that seemed to violate the assumptions of these existing practices can be expected to meet resistance. Analysis may identify those folkways, their strengths and shortcomings. Change strategies based on such analysis may prove more effective than strategies that seem to ignore the existing system.

6. A further cluster of policy issues is associated with uniformity as against flexibility in teacher education. To what degree is it educationally and socially desirable to mandate a single program, however effective it seems, and thereby rule out competing alternatives? Some states are moving toward mandating PBTE programs. How desirable is this practice within a single state, and to what degree should we seek national standardization of teacher education programs? On the one hand, reciprocity across the fifty states in the licensing of teachers argues for a degree of standardization. On the other hand, our lack of knowledge of the effects of various teacher education programs, as well as our apparently conflicting goals for the educational system, seem to argue for governmental policy that preserves diversity.

As has been pointed out in the introductory section, managerial styles that have come into broad usage in the United States seem to suggest a uniformity in planning and management procedures that tend to favor certain kinds of educational programs -- those that reflect highly detailed predetermined objectives and carry an evaluation plan for ready assessment. But it is a major question in education whether our educational practices should be limited by the present state of our planning and assessment procedures. If there are significant outcomes of our educational programs that do not seem to be revealed by present planning and assessment methods, perhaps we should not rely exclusively on these methods.

Present techniques of management and evaluation tend to emphasize proximate goals. Tangential effects, longterm outcomes, and questions of worth tend not to be examined explicitly. For example a well-engineered instructional sequence can convey to a prospective teacher some specific skills associated with the teaching of reading. It may even be demonstrable at a later date that these skills are effective in teaching reading to children. But what kind of a reader is the teacher, and what kinds of readers does she educate in the schools? Is she broadly read? Is she reflective about the reading she does? Does she help instill a desire to read as well as reading skills? These questions are more difficult to answer than those associated with her possession of specific skills, yet they are important ones. Certain approaches that are effective in building ding skills may be counterproductive if the goal is to enhance the quantity quality of voluntary reading.

We have a long history in the field of education of having our various curriculum efforts devolve toward those outcomes that can be most readily assessed. And so our educational programs tend to reflect the examination system in current usage. Particularly in a period when there is a gradual trend toward the child becoming more active in the management of his own learning, there is significant doubt about reliance on procedures that demand high order prespecification of proximate results.

7. Then there is the policy issue of the degree to which teacher education programs should be integrated into regular university activities. While the United States does not display patterns still visible in many European countries of free-standing teacher education institutions, there are pressures toward greater autonomy for the teacher training function within the comprehensive university. Some of those who argue for stronger "professionalization" claim that teacher education governance should be similar to the governance of education in professions like medicine or law. In these fields, working practitioners cooperate closely with professors in the specialized fields to develop the appropriate curricula. The general university decision-making structure is usually bypassed. Thus all-university faculty senates seldom consider revisions in requirements for law or medical degrees, but they often play an active role in modification of teacher education programs.

Some observers claim that this procedure leads to programs that are undesirably impractical and too heavily weighted toward theory. Other observers claim that effective teacher preparation must be based on a rigorous general education.

In a typical four-year teacher preparation program, about one-quarter of the student's effort is devoted specifically to teacher preparation courses offered within the education department. The rest consists of courses in science, language and literature, social sciences, and arts. These requirements are not very different from those expected of the liberal arts graduate.

The issue of the appropriate mix of courses has been a vexing one, and the antagonists have usually been those in education and those in the arts and science faculties. The new entrants into the fray are the teachers speaking through their organized profession, and local school district school administrators arguing for a greater role in the design of teacher education programs.

8. Finally, there are critical policy questions associated with evaluation of the quality of teacher education programs. Much of the discourse about teacher education focuses on ideology. Ideological battles are far from trivial, yet there are policy considerations associated with standards and quality. To meet this particular issue directly, it would be necessary to identify those elements in teacher education programs that can be evaluated and compared regardless of ideology, and to develop appropriate evaluation methods. Otherwise there is a danger that shodiness will parade as diversity, and the teacher education enterprise will be weakened appreciably.

For related purposes, summative evaluation procedures must be developed that accurately characterize the various teacher education programs. Since it is likely that teacher education in the United States will continue to appear chaotic to many observers for several years, it is necessary for the prospective student and the prospective employer to have the most complete information possible to aid in decision-making about entry into the program and recruitment of graduates.

Right now, school superintendents are able to go to the University of Houston or certain other institutions if they want teachers who are certified as having acquired certain specific competencies. They can go to the University of Florida if they want teachers who have been exposed to a "humanistic" program. But in addition to having a basis for judging the quality of these programs and others, superintendents need adequate description of all teacher education efforts if they are to make informed decisions. A policy question focuses on who carries the responsibility for this description inasmuch as program developers cannot be relied upon to provide all the evidence of significance to different audiences.

Clearly, policy issues in teacher education are basic as well as broad. And there is not much background in the United States -- or skill -- in educational policy analysis. Nevertheless, it seems desirable and in fact inevitable that policy issues will be approached more systematically in the coming years. That being the case, it is hoped that the issues outlined here will be examined carefully by interested parties and that the practices and policy questions highlighted in this document will add to informed discussion and ultimately to improved practice.

Research and Development in Teacher Education: Some Recommendations[1]

1. Studies are needed to find methods of judging the correspondence between the needs of teachers and the in-service education they receive. Research findings suggest, for instance, that in passing from teacher aspirant to experienced professional, students move through various stages of development. The pre-service stage and the early years of teaching are characterized by a desire to do the job well in the eyes of superordinates. There is little room for philosophical analysis or even reflective thinking during this phase. It is suggested by the research findings that once a teacher feels that he is able to meet the demands of the job, he then shows concern about the effects of his work on students. As this stage is passed, the teacher becomes more attentive to the functioning of the school in society.[2]

If these are reliable findings, then it may be a mistake to offer identical programs to in-service and pre-service teachers, or even to all in-service teachers. The results of the research suggest that some grouping by stage of professional development would be beneficial. Differentiated teacher education programs should be developed and studied

2. Once general dispositions are identified that seem to be desirable in teachers, studies are needed to catalog those behaviors on the teacher educator's part that advance or impede the development of those dispositions. Does grading by the teacher educator help or hinder the development of self-evaluation on the part of the prospective teacher? Does the emphasis on discussion sections which prize the sharing of feelings reduce the chances that teachers will become or remain readers of books and articles dealing with teaching? Does the advocacy

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[1]The authors acknowledge the major contributions of Professor Lilian Katz to this section of the report.

[2]For a review of this research, see Frances F. Fuller, "Concerns of Teachers: A Developmental Conceptualization", American Educational Research Journal, Vol.6, No. 2, pp. 207-226, March 1969.

positions of professors in colleges of education for or against prevalent ideologies reduce the likelihood that teachers will become critical thinkers when considering issues in education? Empirical studies of these relationships are needed to design appropriate teacher education programs.

3. At the root of many of the "personal development" approaches to teacher education is the idea that behavior changes in teachers that do not involve a corresponding change in beliefs and attitudes are ephemeral. Longitudinal studies of the belief structures of individuals and how these structures function to affect behavior and perceptions is needed to test this assumption more rigorously. Findings from such research efforts might suggest specific actions that teacher educators might follow both in selecting and training teachers.

4. As with any institution, the school exerts powerful forces of socialization on any newcomer. If schools are to change and develop to meet the needs of a changing world, so too teachers must change. If the pressures of socialization are inherently conservative, then researchers must study those forces to understand more completely how they operate to inhibit change. The need for research in this area is especially pronounced since a rapidly increasing number of programs in teacher education are assigning students to schools for a major portion of their training. It may be the case that young students are especially vulnerable to the socializing forces of the public school institutions, to the detriment of innovation and flexibility.

5. Teacher educators are intent about helping their students acquire a wide range of learnings. Some learnings are routine and mechanical, such as those related to running equipment or to record-keeping responsibilities. Others are subtle such as being sensitive to the pre-conceptions that students bring to a study of gravitation. Researchers can contribute to teacher education planning by identifying the experiences that are best suited for the acquisition of different types of learnings so that the skills, cognitions, and attitudes acquired in a teacher education program are indeed integrated and functionally related.

6. More analysis is required of the selection criteria for teacher education programs and their effects. It is our belief that much of the effort that is expended in the in-service training of teachers could be diverted to other areas if there were more astute initial selection of teachers. The measures currently used in selection efforts are mainly convergent ones: How much does an aspirant know, and what problems can he solve? It might be helpful to identify other abilities -- for instance receptivity to new ideas; tolerance for ambiguity; ideational fluency; and the ability to anticipate responses of clients (students) in given situations.

7. Of course, what is desperately needed to advance knowledge in the field of teacher education is the identification of some variable or set of variables that can be accepted as indicators of effective teaching. The problem that has plagued the advancement of knowledge in almost all helping professions -- counseling, psychiatry, the ministry, social work, and teaching -- is the lack of such criteria. To identify such factors might revolutionize the field of teacher education.

8. If such factors were identified, we could better assess the influences that various elements contribute to the development of a teacher. Clearly students come to teacher education with certain predilections, aptitudes, attitudes, and skills. Almost certainly they acquire additional learnings during the pre-service stage of their training. In addition, through experience and in-service programs, teachers acquire other learnings. An interesting research

question focuses on the weightings each of these sets of factors are likely to contribute to the criterion. Until an ultimate variable is discovered, attempts could be made to assess the weights on the more tentative measures now available to us: ratings of supervisors, ratings of pupils, judgments of parents, self-ratings, and even a measure of pupil growth.

9. In the United States, a very few institutions have a distinctive quality that is conveyed to most of their graduates. Bank Street College of Education, for instance, apparently instills in its students certain characteristics that are readily discernable. It would be important to identify such institutions to study the strengths and weaknesses such programs possess and to isolate those qualities that contribute to their unique character.

10. Finally, we need to examine closely the assumption on the part of many teacher educators that learnings stemming from systematic instruction tend to be non-enduring and dysfunctional. Whether we are teaching how to ask higher-level questions or how to compute chi-squares, there is evidence to demonstrate that the learnings that result are short-lived and often misapplied once the student has left the "testing" situation. Are there ways to make changes in the normal procedures used in systematic instruction to diminish this disappointing outcome? Are there ways to capitalize upon the normal bent of human beings to acquire learnings and understandings in a natural and non-systematic fashion so that they will also acquire the skills needed to become an effective professional?