This synopsis of a symposium on priorities for research and development in education was intended as a planning report for the National Institute of Education. The members of the symposium suggested that the following research and development efforts be undertaken: a) an analysis of the data base for teacher education; b) an analysis of the difference between the standard practice and the best practice of teacher education; and c) the development of a concise, systematic terminology to describe teacher education so that research and development priorities may be set and projects carried out in ways that encourage conceptual understanding and information exchange. It was recommended that the National Institute of Education perform the following functions: a) the packaging and dissemination of research and development products; b) the pilot testing of programs before they are implemented on a national basis; c) the clarifying of the roles of the teaching profession, universities, and federal agencies in national policy setting and implementation; and d) the long-range futuristic planning for research and development efforts. (HMD)
SOME PRIORITIES FOR RESEARCH AND DEVELOPMENT
IN TEACHER EDUCATION

(A Planning Report for the National Institute of Education)

The Association of Colleges and Schools of Education in State Universities and Land-Grant Colleges commissioned the following persons to participate in a symposium on the above topic. This paper is a synopsis of that seminar.

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There are several assumptions which underlie the thinking that this paper summarizes. They are stated explicitly with the thought that they constitute an informative context which embellishes the message of the paper.

1. "Education in America is a vast and vitally important enterprise. Schools, for good or ill, touch the lives of millions of Americans and the performance of our schools is important to all of us. Not only are good schools necessary for the survival of society but a good education is essential for each individual who wishes to share in the opportunities society provides."

Of all the factors that constitute a school, the single most influential in terms of pupil performance is the impact of the teacher. The education of educators, however conceived, is central to the quality of the educational enterprise and the quality of life. Improved teacher performance requires improved teacher education programs. Research and development activities in teacher education are basic to improving the quality of teacher preparation programs.

2. Education, in both its formal and informal settings, is likely to continue to be a labor-intensive industry. It is essentially a person

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1/ The Association of Colleges and Schools of Education in State Universities and Land-Grant Colleges, A National Center for Teacher Education. The Association, February 1971, p. 5. This statement is included for two reasons. First, it is a basic assumption which underlies the remainder of this paper. Second, it calls the reader's attention to the publication from which it is excerpted. That document, while not referred to directly in the remainder of this paper, is foundational to this paper. Its content was reaffirmed by
to person interactive experience. A broadening of the persons vehicles, and equipment associated with the processes of education will enhance the role of the teacher rather than detract from it. [While the contributors to this paper endorse this assumption, we also agree that it should be questioned.]

3. The research literature regarding teaching per se is vast, but the data-based literature regarding teacher education is a considerably lesser collection. Much of the knowledge garnered from "research in teaching" begs for translation into "research in teacher education," i.e., too few of the implications of the former for educating teachers have been tested empirically or developed into instructional materials for teacher education programs.

There are, nonetheless, numerous illustrations of highly significant research and development products created by the better universities and educational laboratories. The chief deterrents to a more adequate supply of research-based teacher training procedures is directly attributable to the lack of funds devoted to such endeavors, the recency of those resources which have been so allocated, and the lack of broad-scale and long-range planning and coordination of these efforts. Many conditions -- the receptivity of educators, the availability of trained manpower, the expectations of society, the promise of recent scholarly efforts -- make this a propitious time
for a concerted effort to significantly increase the momentum of the research and development movement in teacher education.

4. Many of the research and development questions in teacher education are rooted in the work of other disciplines and professional fields. Teacher Educators are eager to participate as members of interdisciplinary teams seeking to explore and explicate these questions. Many other more specialized research questions vital to improving teacher education fall more exclusively within the scholarly expertise of teacher educators. These questions are chiefly two types: those where the research leads of other disciplines need to be applied to the several specific settings in which education and teacher education occur; and those where the chief goal is the identification and control of a predictive relationship rather than an explanatory one, i.e., where the primary need is for knowing "what" occurs while knowing "why" is of less moment.

Similarly, in the development realm, the active involvement of teacher educators in both the discovery and packaging of knowledge activities appears to be the best way of developing change agents equipped to bring about the actual modification of teacher preparation practice.

5. No attempt was made to differentiate between the problems of pre-service teacher education and those of in-service teacher education.
The differences in current practice are recognized and appreciated, but our basic posture is that the same questions and needs are fundamental to the whole range of teacher preparation, questions of context and sequence not withstanding.

The concept of laying the groundwork for future research is as important as is getting immediate results. The questions of teacher preparation lend themselves optimally to simultaneous and coordinated attacks upon improving practice in both the long and the short range. We believe that the issue of the time frame of the payoff expected from research and development efforts has special meaning for the National Institute of Education, since current endeavors in teacher education, including those sponsored by the United States Office of Education, seriously neglect "delayed action" and longitudinal research and development.

The questions, issues, and arenas to which teacher education research and development efforts should be directed span a continuum from the broad and general to the specific and precise. The following constitute some of the more general concerns which deserve attention.

1. Teacher Education, like most fields of human endeavor, is faced with the dual needs of correcting deficiencies in the state of its knowledge base and of bringing practice up to the level of existing
knowledge: At the moment we have neither an authoritative analysis of the state of the knowledge base for teaching teachers nor a valid precise of the relationship between standard practice and best practice. Obtaining answers to this two-fold dilemma appears to be a logical and a feasible basic priority for improvement.

2. Attempts must be made to describe the problems of education in terms which are precise, measurable, and widely communicative. What are our universes of variance? What units should be used to describe research findings so that meaning is derived and the difficulties of translating the language of research into the language of instruction and practice are minimized? How do the people in teacher education ascertain and view the forces and vectors which affect teachers and students? What are the criterion variables in the multi-dimensional base of teacher education? [Which is characteristic of professions such as medicine and which differs from the undimensional base of most scholarly disciplines.] We are suggesting the need for a comprehensive and systematic depiction of Teacher Education in both its praxiological and educoalogical dimensions so that research and development priorities can be developed and projects executed in a manner conducive to conceptual interlock.

It is widely agreed that the construction of new and better instruments for describing the phenomena inherent in educating teachers
would stimulate both more and better research. Instrument development, hopefully with an imaginative yet rigorous posture regarding instrumentation, is seen as an early step so that the tools necessary for widespread involvement in hypothesizing and data gathering are available.

4. The accumulation of data through insightful evaluation of teacher education programs "in action" over a period of time holds promise for building a much needed stock of information concerning both the processes and substance of Teacher Education. The Performance Based Teacher Education movement which specifies competencies-to-be-developed accentuates this possibility. This evaluation emphasis should be encouraged and every attempt should be made to enhance its contribution to research and development goals.

The following outline illustrates an approach for planning a comprehensive analysis of the research and development needs of teacher preparation, as well as a specification of some specific and potentially fruitful research and development propositions.

I. The Selection of Personnel to Become Educators

A. What must persons bring as "natural attributes" to roles in education?

1. To optimize the relationship between quality of preparation and retention and promotion within the profession.
2. To optimize the allocation of personnel to differing training programs.

3. To determine the social benefits of training many persons who do not practice the profession of teaching but who do rear children and/or work with other social groups.

4. To determine the social consequences of both natural and planned selection of persons to become teachers. [The exclusion of certain races from the profession, the rejection of men from teaching young children, etc.]

5. Etc.

B. What types of persons (as determined from their characteristics) can form effective relationships with particular clientele of education?

C. What sorts of screening procedures might be effectively used in the profession? How do these differ between varying educational roles and positions?

D. What are the expectations, values and desires of practicing and potential teachers? How do these affect performance and training?

E. Etc.

II. The Education and Preparation of Professional Educators

A. What are relevant knowledge bases for preparing teachers?
1. Can we establish and execute a theory-research-development continuum for systematically building knowledge regarding:

   a. pedagogical technology; b. theories of instruction;
   c. learning mediated by human beings as this differs from learning mediated by machines, d. etc.

B. What are the effects of alternative patterns for educating the several types of educational personnel?

   1. Are there optimal instructional sequences within patterns?
      Are there optimal settings for this training? [We acknowledge that in many cases development must precede research, i.e., one can't test a treatment that doesn't exist.]

   2. What is the cost effectiveness of alternative preparation patterns?

C. What are the controlling variables in the learning of professional educators and in the on-the-job behavior of these persons?

   1. What are the effects of: a. setting; b. peer influences;
      c. training; d. institutional organization; e. community;
      f. etc.

   2. Do these factors have similar impact upon the instructional and the non-instructional roles of teachers?

D. How can the "basic research findings" of the social science disciplines and of applied educational research be translated into functional and workable principles applicable in professional work? How can these translated principles be converted into
materials:

E. How can the human resources [parents, personnel from other disciplines, other occupations and professions, and other walks of life] be most effectively employed in training educators for their several roles?

F. What types of instructional (training, protocol, simulated) materials can effectively be employed in teacher education? What is the optimum mix and relationship of instructional materials, teacher training personnel, setting, and student human resources in training for the differing roles of the educator?

G. Can we develop and test models of training which permit differentiation by the expected level of the professional educator role to be assumed?

H. Can we develop and use a national information system for teachers and teacher educators which will have impact upon future planning and which will "control and guide" teacher education through the strength of its output?

I. What is the contribution of the "substance" of liberal, general, and disciplinary education to the total education and performance of a teacher? What is the optimum mix of these elements? What relationships among segments of the higher education community must be established to attain this mix?

J. What are the conditions of successful career development for
conditions, continued professional viability, etc.? 

K. Etc.

III. How is the success of the preparation of professional educators, including its pre-and in-service elements, to be judged?

A. What are the sources of levels and types of criteria against which trained educational personnel are to be evaluated? How are these criteria to be weighed? How does one secure an appropriate balance between social, professional, and personal criteria sources?

B. How, when and by whom are these criteria to be assessed, instrumented, and reliably applied?

C. Against what criteria shall the various patterns and programs of professional preparation be evaluated?

D. How can individual institutions, given the diversity of goals, programs, and models, be helped to set up adequate systems of quality control?

E. How can individual teachers make valid judgments concerning the effects of their own teaching?

F. Etc.

There are, finally, some topics discussed by symposium participants which are more directly related to the role and function of the National Institute of Education than to teacher education process and substance.
1. The question of how research and development products are disseminated is important. Not only do findings need to be communicated accurately, but they also need to be packaged in forms which make judgments about their utility easy to make and adoption likely to occur. Both research and development concerning how teacher education programs can and should be changed are greatly needed. Dissemination, both as a data generator and as a service to teacher education, needs to be a function of the National Institute of Education.

2. Communication between the U.S.O.E. and University-based Teacher Education programs needs to be re-established. Clarification of the roles of the organized teaching profession, public schools, universities, state boards of education and federal agencies in making and implementing decisions concerning teacher education is badly needed.

3. The apparent split within U.S.O.E. between the administration of EPDA and activities in the R and D arena has a debilitating effect upon teacher education. Specifically, programs should be pilot tested before they are instituted on a nation-wide basis.

4. Will the future resemble the past? There is a strong need for comprehensive long-range futuristic planning so that societal change is anticipated and teacher education relevance to the future is maintained. This appears to be a highly appropriate function for an organization such as NIE.
In conclusion, we believe that research and development related to teacher education should be as central to the National Institute of Education as the teacher is central to the institution of education. It can be demonstrated that teacher education is susceptible to improvement through research and development and that numerous questions crucial to the future of education are unlikely to be successfully attacked by any group other than teacher education scholars.