DOCUMENT RESUME

ED 324 280 SP 032 579

AUTHOR Petrie, Hugh G.
TITLE Teacher Education, the Liberal Arts, and Extended Preparation Programs. Rockefeller Institute Reprints.
INSTITUTION State Univ. of New York, Albany. Nelson A. Rockefeller Inst. of Government.
PUB DATE 87
NOTE 16p.
AVAILABLE FROM The Nelson A. Rockefeller Institute of Government, 411 State Street, Albany, NY 12203 ($1.00).
PUB TYPE Viewpoints (120)

EDRS PRICE MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS *Academic Education; *Course Content; Elementary School Teachers; Elementary Secondary Education; Epistemology; *Extended Teacher Education Programs; Higher Education; *Intellectual Disciplines; *Knowledge Level; *Liberal Arts; Secondary School Teachers; Teacher Education
IDENTIFIERS *Knowledge Base for Teaching

ABSTRACT

In making a case for the liberal arts in teacher education, the point is made that the liberal arts contribute to the professional qualifications of teaching. If teachers are to be more than mere technicians, the professional skills of problem solving, analysis, and critical thought are needed. A discussion is presented of the specific need for teacher competence in the areas of: (1) effective communication; (2) mathematics; (3) scientific understanding; (4) historical and social consciousness; and (5) the humanities. Suggestions are offered on the content of general education courses for both elementary and secondary teacher preparation. (JD)

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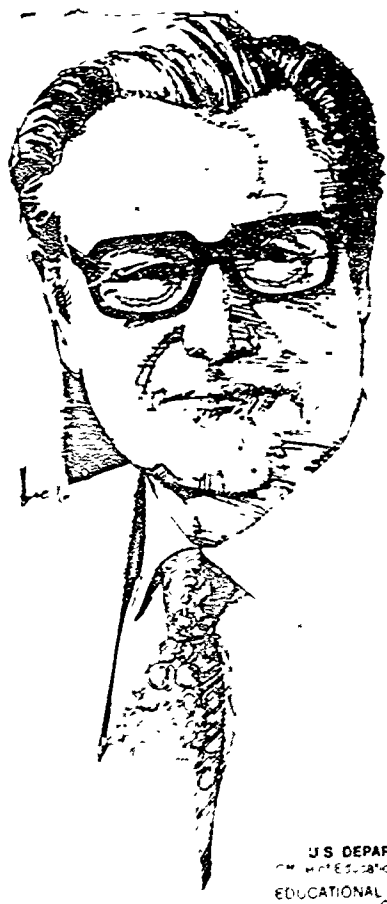

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Teacher Education, the Liberal Arts, and Extended Preparation Programs

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Number 26
Spring 1987

Reprinted with permission from *Educational Policy*, Vol. 1, No. 1, Winter 1987.

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$1.00

TEACHER EDUCATION, THE LIBERAL ARTS, AND EXTENDED PREPARATION PROGRAMS

Hugh G. Petrie

Spring 1987

What should be the role of liberal education in teacher education programs? Clearly teachers must know what they teach. But how much biology should a high school biology teacher know? How much course work in English literature does an elementary school teacher need, to be able to teach writing? What would an appropriate academic major be for an elementary teacher? Learning to read is one of the key goals of elementary education, yet no liberal arts department of reading exists. Nor do I know of a single college English or linguistics department that teaches the content of reading. Even in the area of content knowledge, such questions have no easy answers.

When one moves beyond subject matter competence, the questions become even more complex. Who is responsible for the misspelled words and poor grammar in the teacher's letter home to the parents—the college of education, the English department, or the teachers themselves? Is it the responsibility of the liberal education portion of a teacher education program to instill within a would-be teacher the inquiring, adaptive spirit needed for lifelong professional development?

To what extent *should* a teacher be liberally educated? My contention is that, among professions, teaching has perhaps the strongest connection to the liberal arts. Teachers have no less a responsibility than to induct young people into our society and culture. The disciplines associated with liberal education are strong reflections of that society and culture, and the teacher is, along with the family, the church, and the media, one of the most powerful transmitters of the values and norms of our society.

But the case for the liberal arts in teacher preparation extends beyond the fact that teachers are major transmitters of culture. The liberal arts also contribute to the professional qualifications of teaching. The issue here is not professional education versus liberal education. Rather the issue is whether we want liberal-professional education that favors high levels of conceptual skills and application or technical-professional education that favors prescriptive knowledge and narrow skill performance.

If teachers are to be more than mere technicians, faithfully following a "teacher-proof" curriculum, then professional skills of problem-solving, analysis, and critical thought are needed. These are precisely the intended outcomes of a liberal education. How, if at all, can such liberal education goals be pursued in the context of professional teacher preparation? Is the sometimes meager general education background of other professionals such as doctors and engineers enough for teachers?

Contrary to the notion of teacher as technician, the image emerging in the literature of the 1980s portrays the teacher as a critical problem-solving professional. From B. O. Smith's, *A Design for a School of Pedagogy* to David Berliner's work on teacher effectiveness; from Hendrik Gideonse's calls for a revolution in teacher education to Judy Lanier's research on teacher preparation, the teacher is conceived of as a true professional. Recently, Lee Shulman has even argued that the teacher not only must know *that* something is the case, but also must understand *why* it is the case—a level of understanding not often attempted even in typical academic majors.[1]

If one accepts this concept of teacher as liberal-professional, some important consequences follow. A compelling case can be made for the wide-ranging contribution of liberal education to teacher preparation, a contribution which goes far beyond the simple

notion of mastery of content. Even that most often criticized part of teacher preparation—the methods course—can be improved by appropriate contributions from the liberal arts and sciences.

In order to see how this is so, I need to set forth a working perspective on teaching. For me teaching involves:

a) the intentional use of a variety of communicative strategies
b) to help render accessible to student inquiry and learning
c) a body of knowledge, set of skills, or group of character traits deemed valuable.

Doubtless, something is included in this definition that is objectionable to someone, and perhaps something is left out that should be included. Nevertheless, the components at least touch on most of what we have come to understand from our conceptual and empirical inquiries into the conditions and techniques of teaching and learning in complex social settings. This view of teaching suggests that liberal education may contribute to teacher preparation in four major areas: 1) general education; 2) higher order skills such as inquiry, critical analysis, and decision making; 3) the traditional content areas; and 4) methods of teaching.

GENERAL EDUCATION

The general education portion of a teacher preparation program serves four critical functions: extension and expansion of the knowledge base formed in high school, introduction to scientific and artistic modes of inquiry and expression, refinement and extension of personal and societal values, and cultivation of each student's ability to communicate in an informed and reflective manner—most particularly through writing. As is discussed later, the pedagogical portion of a teacher preparation program must include these same goals in its courses and fieldwork. More specifically, the general education of a teacher should include the following:

- Effective communication. All teachers should be able to read, write and listen, and express themselves in a coherent and intelligible manner.
- Mathematics. All teachers should be able to comprehend and use fundamental mathematical concepts and operations to be able to keep records, perform data analyses, and carry out testing and evaluation.
- Scientific understanding. All teachers should have a basic grasp of the major methods and results in the natural and social sciences and the technological implications of these results. Not all citizens need to be technical experts, but our technological society demands at least a general appreciation of science and technology.
- Historical and social consciousness. All teachers should understand the ineluctable fact that both our individual and social experiences are historically grounded. To prepare students for a global perspective in the twenty-first century, teachers need a comprehensive background in the historical and cultural traditions shaping the societies of the world.
- Humanities. All teachers should appreciate the human condition as it is illuminated by language, literature, and philosophy, so that they may encourage their students to live full, meaningful lives.

In principle, these skills are advertised as goals of many programs of general education. They appear to be minimally necessary for every citizen, not just teachers. Nevertheless, such general education typically has had one of the lowest priorities in our institutions of higher education. It is often ignored by senior professors and administrators, and viewed with suspicion by students with narrowly vocational interests. Worst of all, it is widely assumed that a simple collection of introductory courses in the major fields constitutes a general education. Introductory courses in any discipline are primarily designed for those who will major in that field. The idea that such courses will at the same time provide the basic skills for a generally educated student—whether prospective teacher or not—must be seriously questioned. The general education curriculum in our colleges and universities is largely chaotic, with the weak distribution requirements in place no substitute for a coherent course of study.

A number of scholars are beginning to recognize the inadequacy of general education as it is currently carried on in our nation's colleges and universities. For example, in 1984 the NIE Study Group report, *Involvement in Learning*[2] calls for renewed attention to providing a coherent general education for all students, whether they are prospective professionals or not. The 1985 report of the Association of American Colleges, *Integrity in the College Curriculum: A Report to the Academic Community*[3] indicates the sorry state to which general education has fallen and urges a rededication to a coherent view of liberal learning with a revitalized general education core. Teachers must be no less well educated in this sense than the average well-educated member of our society.

HIGHER ORDER SKILLS AND COMPETENCIES

Competent teachers must be multi-talented and extremely adaptive professionals. From motivation and discipline of students, to choice of curricular materials, instructional strategies, and organizational resources, the teacher must deal with an enormous array of contingencies. Has Johnny learned fractions? How much review of yesterday's lesson on geography is necessary? What items should be on the unit test? What reading group should Jan join? How can I motivate Susie to participate more? Are Richard's problems at home interfering with his ability to concentrate? What are the most likely misunderstandings students will have of the physical concept of work? These and a host of other questions must be answered by teachers each day. Can the liberal arts and sciences help?

In order to make these types of decisions and choices, teachers must be able to analyze a wide variety of situations in a way that leads to satisfactory formulation and solution of problems. They must learn to be critical, creative, and integrative thinkers, to transcend the narrow boundaries of disciplinary thought and to see things as a whole.

In addition to the somewhat abstract reasoning competencies just described, the traditional human traits so often associated with elementary and secondary teaching must not be ignored. Character, compassion, caring and concern must also be acquired by would-be teachers. Although sometimes slighted in overly rationalistic descriptions of liberal education, historically these characteristics have been thought to be appropriate outcomes of a truly liberal education. They are certainly necessary for those to whom we entrust our young.

The most basic of all human characteristics is that of making and acting on choices. While the knowledge of concepts and skills derived from general education studies can inform

choice-making, it is the value system in both its affective and cognitive dimensions that provides the cultural and personal meanings and justification for making choices. Without imposing any specific set of values, the teacher must be able to help students come to appreciate the values that shape their choices and decisions. It is in such a way that teachers most appropriately transmit culture in a free society.

The cognitive, affective and choice-making characteristics described above have long been espoused by advocates of liberal education. Typically, the assumption is made that these ends will be achieved almost as a by-product of taking the standard distribution requirements of an undergraduate degree. However, I do not believe these competencies will be achieved without explicit attention to their realization. For example, one of the key features in the modern mathematics curriculum is the attempt to get students to pay attention to the "reasonableness" of the answers they get by algorithmic procedures. The ability roughly to estimate answers is essential to understanding mathematics and is part of critical thought in mathematics. Yet one finds little if any attention paid to estimation in typical college mathematics programs. A variety of courses and integrative experiences must be developed to address the goals of problem formulation and solution, critical thinking, ethical and social development, lifelong learning, and human concern. New approaches are essential for all liberal arts graduates, but they must be given special focus and purpose in the context of professional preparation.

To live is to adapt; to adapt is to learn. To instill a passion for learning is to instill a passion for living. This level of thought and action is not easily conveyed simply by more detailed work in the disciplines, for that only leads one further into the discipline. What is wanted is an examination of how the disciplines assist in developing the individual. Jan Blits puts it well when he says:

> Liberal education aims to prepare young people for an intelligent life. Its most important goal is to teach them to become thoughtful about themselves and the world, about their actions and their thoughts, about what they do, what they say, what they want, and what they think. It seeks to illuminate life, and particularly to clarify the fundamental human alternatives, by delving as deeply as possible into the roots of things. Liberal education is thus essentially a recovery of rediscovery of root issues and origins.[4]

The liberal arts must give explicit attention to these root issues and origins to an extent not often found in contemporary liberal arts programs.

CONTENT

Elementary Education

Historically, the liberal arts have contributed least to the content of elementary education. This is easy to understand when one considers that elementary education tends not to be departmentalized. In today's schools a single elementary teacher is responsible for all aspects of curriculum in the classroom. Furthermore, unlike secondary schools, the "subject matter" of elementary education is typically not organized in ways comparable to the disciplinary organization imposed by liberal arts colleges and universities and adopted by secondary schools. The elementary school teacher must deal with reading, beginning writing

(even penmanship), basic arithmetic, social studies, health, science, physical education, art and music—all in addition to human development.

In what follows I assume that the elementary classroom will continue to be organized much as it is today, with the individual teacher responsible for a broad range of areas. This assumption could, however, be questioned and the difficulties surrounding teacher preparation in elementary education might be significantly alleviated were we to introduce changes in the structures of elementary classrooms. Just as one example, teams of elementary teachers could be formed with some team member expert in mathematics and science and others experts in reading and language arts. Such a change might alter the necessity for a single teacher to know everything—a necessity not easily honored as will become apparent.

In general, elementary schools are primarily concerned with imparting the prerequisite tools and skills for learning, rather than with the actual learning of organized bodies of knowledge. The liberal arts, on the other hand, concentrate almost exclusively on those bodies of knowledge and find it difficult to conceive of the tools and skills as "college level" material. Consequently, the preparation of elementary teachers is usually found in schools and colleges of education, rather than in liberal arts colleges. Elementary teachers sometimes take up to 50 percent of their courses in education and most often receive their degrees in education. In contrast, the proportion of courses in education that a secondary teacher takes is usually about 20 to 25 percent of the total in a bachelor's program, and the degree is usually taken in a regular academic major.

The issue of the appropriate contribution of the liberal arts to the content preparation of elementary school teachers is extremely troublesome. On the one hand, there are those who would argue that the lack of disciplinary structure in elementary schools is simply a historical accident of the normal school approach to teacher training. Advocates of disciplinary structure would point to the slighting by elementary teachers of content areas in which their own preparation was meager. In other words, elementary teachers who had little or no mathematics in their education do not teach elementary mathematics very much or very well. The remedy, from this perspective, would be to insist on rigorous and appropriate disciplinary training for elementary school teachers which would, in turn, make at least possible the imposition of disciplinary structures on elementary classrooms. Or, perhaps, interdisciplinary majors composed of appropriate parts of the disciplines for which elementary teachers are responsible could be developed.

On the other hand, there are those who would argue that the development of young children is incompatible with the imposition of a disciplinary structure on elementary education. Advocates of this view suggest that, until about the middle grades, children are largely unable to grasp material cast in the logical structure of a discipline. Philosophically and historically, it is argued that conceiving of the liberal arts as consisting primarily of disciplinary study is, in any case, overly narrow. It reflects the Germanic tradition of the research university and ignores the earlier liberal tradition which valued the development of compassionate, caring, concerned, and connected human beings—persons with character and an inquiring mind. Indeed, the most trenchant contemporary criticisms of the disciplines, even at the collegiate level, have to do with this tendency to fragment learning. The remedy, so this line of thinking runs, is to extend the integration found in elementary classrooms upwards.

Nor is it easy, in practical terms, to reach a compromise between these two approaches. Let us assume the current structure of elementary schools and insist that elementary teachers acquire at least a minimum of disciplinary knowledge in each of the areas for which they are responsible. If one insists in addition that elementary teachers acquire specialized knowledge of how young children learn *and* of how to help them become compassionate, caring, concerned, and connected people, we are potentially asking more of elementary teachers than secondary teachers or even college professors—an unrealistic, albeit interesting, idea.

It is quite essential to appreciate the fact that two entirely different conceptions of liberal education as a whole are represented in the debate over the contribution of the liberal arts to elementary education—the disciplinary vs. the personal development approach to liberal education. I cannot settle this controversy within the confines of this paper. However, either approach will increase the contribution of the liberal arts to the content of elementary teacher preparation requiring either more traditional content or a greater focus on human growth and development.

There is yet another major area in which the liberal arts might contribute to the content preparation of elementary teachers. Elementary teachers must deal with an extremely broad range of subject matter. Thus, whether or not an academic major is required of the elementary teacher, attention must be given to the wide *range* of content area to be covered in the elementary grades.

Given the introductory nature of most elementary school subjects, the advanced esoteric course work required for a standard collegiate major may not be necessary. More appropriate would be carefully designed basic courses that acquaint elementary teachers with the specific content they must teach. Too often liberal arts departments scoff at the apparent implication that they should teach subjects such as spelling, arithmetic, or reading. So the responsibility falls to education departments, and they are scorned because they "teach college students elementary content." It is absolutely essential to break free of such a simple-minded understanding of the "content" of elementary education. Of course, teachers must know how to spell and do arithmetic, but that cannot be the content of college courses. Rather, that content must be placed in the context of a college level course by paying attention to the logical and disciplinary structures underlying the various elementary content areas and the ways in which those structures might inform the selection of methods for teaching the content to young children.

Lee Shulman[3] has coined the phrase, "pedagogical content knowledge" to refer to this approach. These would not be standard courses in "mathematical methods," for example, but would rather concentrate on such things as the most central and powerful concepts, metaphors, and methods of discovery and validation in mathematics itself. Such knowledge would also add to the understanding of the major learning problems students of a variety of ages tend to have in grasping those concepts, metaphors, and methods. Even the most elitist professor of a discipline should be able to appreciate that this kind of study of "elementary" content is worthy of college credit. Moreover, this kind of knowledge of content would be far more valuable to elementary teachers than advanced esoteric courses in the field.

Secondary Education

The relevance of disciplinary content areas for secondary teachers is obvious and, as far as I am concerned, non-controversial. Every secondary school teacher should major in the discipline he or she is going to teach, receiving a bachelor's degree in that field, along with an appropriate minor. This is the norm now and at a minimum it should be continued. To note that most secondary teachers do major in the disciplines they teach is not, however, to suggest that all is well with secondary education. As should be apparent by now, a great deal of the liberal arts is relevant to teacher preparation over and beyond the oft cited requirement that, for example, a biology teacher must know biology. Yet, as noted earlier, all too often an emphasis on the disciplines comes at the expense of ignoring the more humane goals of liberal education. Secondary teachers need to care as much about the kinds of total human beings their students are becoming as they care about their disciplines.

A *good* general education for secondary teachers will address this concern in part, but more needs to be done. Even more than other students majoring in a discipline, future teachers need to be made aware of the fundamental structure of their discipline. They also need to know what the various disciplines contribute to human understanding, how they fit together, their interrelatedness and application, Thus, as noted with elementary teachers, the notion of the *structure of a discipline* is the key to understanding one of the most exciting new contributions the liberal arts can make to teacher education. Furthermore, that structure must be understood as encompassing not only the logical, conceptual framework, but also the complex of human needs and activities that give rise to the discipline in the first place.

STRUCTURES OF KNOWLEDGE

Neither elementary nor secondary teachers need to know all of the technical details of a discipline required of practitioners of that discipline. Teachers would, however, profit enormously from understanding the various ways of knowing which have developed historically and which are reflected in the basic *structures of the disciplines*. For example, scientific method and processes of discovery, inference, and justification are crucial for understanding science, likewise, the ideas of counting, correspondence, and operation are central to mathematics. However, it is not obvious that the structure of a disciple can be learned simply by increasing the exposure to the content of the field. The challenge is to design courses in the various disciplines that can help teachers understand the concepts, methodologies, and criteria of validity in each field and discipline and to develop ways of teaching which draw from that understanding. Thus, not only should teachers generally become competent in subject matter, they should also learn the structure or philosophy of what they teach. Understanding the structure of their fields would enable secondary school teachers to plan their lessons taking into account both the logic of the discipline as well as the needs and capacities of their students. They would be better able to diagnose student difficulties and propose appropriate activities if they had an overall cognitive "map" of their disciplines.

Thus, the liberal arts need to provide prospective teachers with a knowledge of the structure of the disciplines. The teacher, elementary or secondary, must be aware of the fundamental concepts, methods of discovery and validation, major findings and theories, and how they all fit together. Only with such knowledge can teachers make intelligent choices of how to provide young people access to these fields. Courses in the structure of a discipline are

too seldom found and yet they are a critical part of an ideal teacher preparation program. Several such courses should be required for all prospective teachers.

METHODS OF TEACHING

Ideally "methods" courses should be the most intellectually challenging and exciting part of the teacher education curriculum. Too often, they are nothing but "bags of tricks" or anecdotal reflections. The question is not *whether* students will learn how to teach but rather *how* they will learn how to teach, for even if we eliminated methods courses, students would revert back to how they were taught, pick up hints in the teachers' lounge, or perhaps read the textbook out loud. The challenge is to make methods courses what they could and should be. The ideal methods course should combine a survey of the substance and structure of the content area, with the principles of child development and learning theory; the social context of education, along with compassion, caring, and concern must be *connected* with instructional and management strategies that fit the everchanging circumstances of the classroom The teacher must draw upon the higher order skills of problem-solving, critical thinking and human concern to decide when and how certain aspects of the discipline should be presented, taking into account the students' different needs, motivations, and backgrounds. Teachers must be brought to reflect on and critically evaluate their teaching performance. What really happened in class today? Why did that example work? Would another strategy have been better suited to get at that concept? Imagine a methods course in which a content area professor, an education professor in the area, an experienced teacher, and a group of student teachers sit down and critically analyze, evaluate, and improve *real* teaching practice.

The "logical" structure of a content area is not necessarily the best "pedagogical" structure as the problems with "new math" taught us. Methods courses must deal with the interaction of the *logical* structure derived from the disciplinary experts in liberal arts and the *pedagogical* structure derived from the experts in education in the context of human relationships. I conclude that the liberal arts can contribute not only to improving general cognitive skills and content, but also to improving the methods of teaching.

EXTENDED PREPARATION

As one review the wide-ranging potential contributions of the liberal arts to teacher preparation, it quickly becomes apparent that more is required than is typically the case in the 1980s. The general education component of liberal education must be revitalized and reconceptualized for all students to make it a more integrative experience. That will likely require more, not less time. If one pays special attention to the higher order skills and competencies rather than assuming they will emerge on their own, more time will be required. If one goes beyond the disciplines to earlier conceptions of liberal education as preparation for an intelligent life, more time will be needed. Traditional "content" education must be given its due, and as our knowledge grows, so will the pressure to increase the time devoted to regular academic majors. If we take seriously pedagogical content knowledge, the structure of the disciplines, and the liberal arts contributions to methods of teaching, we will need to find room in our curricula for such work.

In short, the liberal arts must contribute more to teacher education, but not simply through increasing the hours required in traditional majors. Indeed, with the exception of a few teachers who teach college level courses in high school, there seems to be no demonstrable

connection between advanced content knowledge on the part of teachers and better student performance. On the other hand, many teachers have been justly criticized for a lack of basic and higher order cognitive skills and for the inability to handle the essentials of subject matter in ways appropriate to the capacities of their particular elementary and secondary students.

It might be suggested that we could find room by eliminating the professional component from teacher preparation and allowing liberal arts graduates to learn how to teach on the job. It is not my purpose here to defend the professional component in teacher preparation. Suffice it to say that several recent analyses make strong cases for retaining a professional component. The Holmes Group Report, *Tomorrow's Teachers*[6] contains a particularly compelling case for not resting content with the "bright person" (liberal arts only) model of teaching given the reality of the kinds of "high risk" students who will more and more come to populate our schools. The Carnegie Commission report, *A Nation Prepared. Teachers for the 21st Century*,[7] likewise calls for a professional component, albeit at the graduate level. Furthermore, the knowledge base underlying general pedagogic ' knowledge has increased dramatically in recent years, strengthening the case that we can and must teach people how to teach. If we maintain the professional component, teacher preparation will take longer than four years. We will require extended preparation programs for teacher education of at least five years.

Some advocates of a five-year teacher education program argue for a baccalaureate followed by a fifth professional year of educational studies. Such a proposal fits far more easily into the existing models of liberal and professional education than does an integrated program. On the other hand, an integrated five-year program might be more consistent with the contributions of the liberal arts noted above. There are, of course, a myriad of problems associated with actually implementing an integrated five-year teacher training program or a fifth year program. My point is simply that if the liberal arts are to play their proper role in teacher preparation, and we do not slight professional preparation, it will take at least five years. Perhaps it is time we got on with the job.

NOTES

1. B. Othanel Smith, *A Design for a School of Pedagogy* (Washington: U.S. Government Printing Office, 1980); David Berliner, "Making the Right Changes in Preservice Teacher Education," *Phi Delta Kappan* 66 (October 1984): pp. 94–96; Hendrik Gideonse, "State Education Policy in Transition: Teacher Education," *Phi Delta Kappan* 66 (November 1984): pp. 205–298; Judith Lanier, *Research on Teacher Education* (East Lansing, Michigan: Institute for Research on Teaching, Michigan State University, 1984); Lee S. Shulman, "Those Who Understand: Knowledge Growth in Teaching," *Educational Researcher* 15, no.2 (February 1986): pp. 4–14.

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5. Shulman.

6. The Holmes Group, *Tomorrow's Teachers* (East Lansing, Michigan, 1986).

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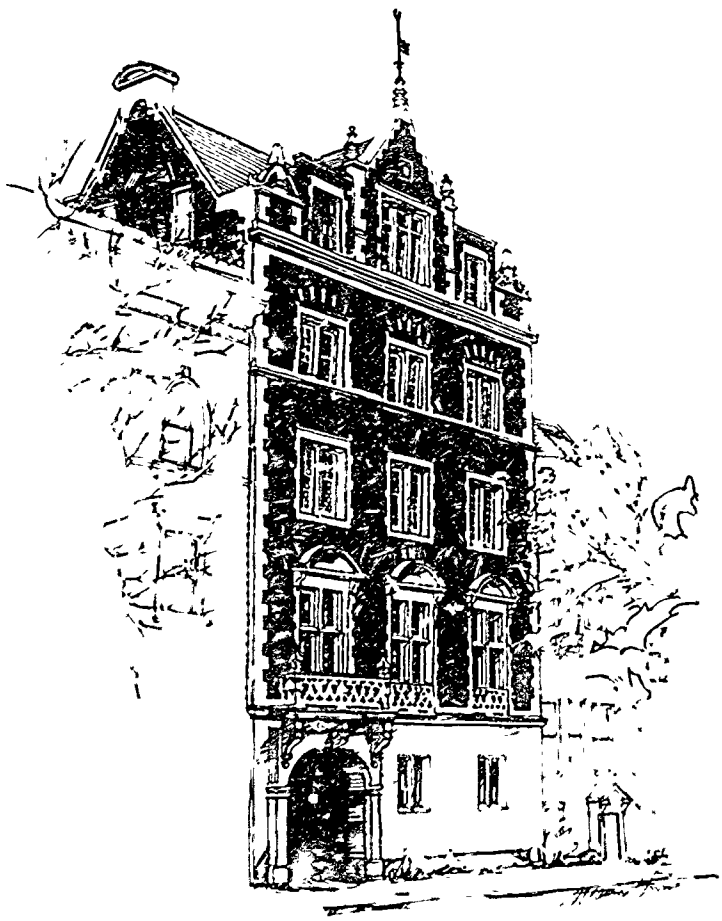

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Appendix 16

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