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**North Carolina Basic Education Program: Design versus
implementation**

Ingle, Mary Margaret, Ed.D.

The University of North Carolina at Greensboro, 1991

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NORTH CAROLINA BASIC EDUCATION PROGRAM:
DESIGN VERSUS IMPLEMENTATION

by

Mary Margaret Ingle

A Dissertation Submitted to
the Faculty of the Graduate School at
The University of North Carolina at Greensboro
in Partial Fulfillment
of the Requirements for the Degree
Doctor of Education

Greensboro
1991

Approved by


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APPROVAL PAGE

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The Basic Education Program was authorized in 1984, and implementation began in 1985. Incremental increases were planned annually, and full implementation was expected to be achieved during the 1992-93 school year. The purpose of this study was to determine whether the North Carolina Basic Education Program staffing formulas/ratios would provide sufficient certified staff to school systems when the program was fully implemented to achieve equalization of opportunity in the educational program.

This research investigated the problem of how school systems which vary greatly in population and geography planned to allocate personnel to provide a "basic education." The superintendents of the eighteen school systems in the Western Education Region in North Carolina were asked to schedule teachers into the required curriculum areas at various grade levels so that all of the required subjects of the Basic Education Program were offered and to complete a questionnaire designed to specifically gather data about the number of teachers required to fully implement the BEP.

This study found that the staffing formulas/ratios will not provide adequate staff to all school systems to offer all of the required course offerings in the Standard Course of Study. The

largest school systems will have the least difficulty implementing the BEP according to the current staffing formulas. A variety of factors will influence the way systems implement the BEP staffing formulas. Total enrollment, distance between schools, availability of work stations, and community characteristics are some of the factors which will guide local administrators in utilizing staff positions.

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CHAPTER I

INTRODUCTION

OVERVIEW

Throughout the history of American education, reform has been a major theme. Elmore, in fact, says educational history is "recurring cycles of reform" which operates on the levels of policy, administration, and practice. The outcome of reform efforts depends on the interaction among the three levels (1988).

Elmore uses a metaphor which compares reform and language. "Language is independent of our attempts to change it. Some attempts to change usage 'take,' others don't. Official language (read policy) is often quite different from actual usage (read administration and practice)" (1988). Whether one accepts or rejects the notion that a reform has "taken" is perhaps a matter of perspective.

There was a time when some educators first promoted vocational training in public schools. Many strongly defended the familiar classical model. The reform effort did not "take" in the form of immediate and sweeping change, but vocational programs are a very large part of today's education budget. The language metaphor can be

extended to point out that some things which begin as substandard and unacceptable--in both language and education--eventually gain broad acceptance and respectability.

Society is not static, so citizens continually debate the quality and purpose of education. The dynamics of culture constantly create new needs and problems which necessitate frequent revisions of both procedures and objectives. With the launching of Sputnik in 1957, a new wave of reform called for more emphasis on mathematics and science. President Lyndon Johnson voiced priority for the underprivileged when he signed the Elementary and Secondary Education Act in 1965. Not for the first time, schools were challenged to respond to society's unique and diverse needs. These two events portended conditions which have shaped recent educational history: a highly advanced technological economy, and an ever-expanding underclass.

As educators seek to educate, they must be mindful of the conditions around them and implement appropriate changes if schools are to be successful in preparing students for adulthood. Problems need to be recognized and remedies developed.

The Carnegie Forum's Task Force on Teaching as a Profession called for sweeping changes in the preparation of teachers in A Nation Prepared (1986). The task force suggested that the key to

success in the pursuit of excellence in education is to create a supply of teachers ready to assume new powers and responsibilities in the schools of the future. They suggested that a national board be created to license teachers who can meet stringent new standards. They recommended that teachers should have undergraduate degrees in the arts and sciences prior to obtaining Masters in Teaching degrees, and they proposed a new category of teacher called the Lead Teacher. Albert Shanker, President of the American Federation of Teachers and a member of this task force, was supportive of the goals of the report which he felt would promote teaching as a full profession (Carnegie Forum, 1986, pp. 2-118).

The National Commission on Excellence in Education in A Nation at Risk: The Imperative for Educational Reform (1983) proposed that teachers have more control but did not specify how they should achieve such power. This document focused on elementary and secondary education and called attention to failures of American education. After holding hearings across the country, the 18 member Commission reported that educational reform was not working; children were not learning.

The Commission's findings recommended that elementary schools provide a sound foundation in the basics, foreign language and the arts. However, most of the recommendations were for high schools

and called for all pupils to study English for four years; mathematics, science and social studies for three years; and computer science for one-half year. A Nation at Risk: The Imperative for Educational Reform urged higher standards, accountability, and academic excellence because these were the needs of industry. Interest shifted from serving the disadvantaged to serving the privileged class (Lauderdale, 1987).

Goodlad, author of A Place Called School (1984) and Boyer, author of High School (1983), conducted research studies and suggested educational changes. Both recommended strengthening the high school curriculum and proposed that goals be clarified. Goodlad recommended a "core curriculum" that did not consist of topics but of concepts, principles, skills and ways of knowing. Most of the reform suggestions in 1983 agreed on a core curriculum but did not agree on what courses were involved (Education Commission of the States, A Summary, 1984).

Adler, in The Paideia Proposal (1982), was concerned about the high school curriculum and favored a common course of study for all high school students. His premise was that "the best education for the best is the best education for all" (Adler, 1982, p. 3). This is certainly in contrast to the elitist remark attributed to Admiral Rickover about education, "Save the best; shoot the rest" (Polmar &

Allen, 1982, p. 597).

North Carolina's response to changing educational needs in the era of swift technological advancement and the widening gap between the haves and the have-nots was a comprehensive piece of legislation passed in 1985, commonly referenced as the Basic Education Plan (BEP). According to Maniloff (personal communication, April 14, 1989), Assistant Superintendent in the North Carolina State Department of Public Instruction (SDPI), A Nation at Risk: The Imperative for Educational Reform influenced the planning, creation, passage and early implementation of the BEP more than any of the other reforms written during the early 1980s.

History played an important part in setting the stage for education reform in North Carolina during the 1980s. More than a decade before BEP, the Governor's Study Commission on the Public School Systems in North Carolina reported to Governor Dan K. Moore in A Child Well Taught (1968) on the problems of equity. This commission defined a Minimum Basic Program and called for a budget to "achieve expenditure for each pupil that assures equitable educational opportunity for all pupils in the state" (Governor's Study, 1968, p. 232). This goal of the commission, regardless of its importance, was tabled for a number of years because of other pressing issues.

The Governor's Commission on Public School Finance in 1979 again talked about equal educational opportunity. The major recommendation of this commission was for equalization of school finance. Some of the larger districts with more money objected to the plan so the problem remained for many of the schools in the state (Avery, 1988, May 8, A1).

Inequities continued among school systems, and it was not until 1983 that the General Assembly initiated an experimental program which disbursed funds in a new way. The State Board of Education directed eight school systems which participated in a pilot program to define and develop "a basic education program." By November, 1983, questions began to arise about the definition of basic education--what it included and what would be necessary to provide a basic education to all students in North Carolina.

Following the appearance of A Nation at Risk in 1983, an education policy commission was appointed in North Carolina. The fifty members were divided into three committees to study curriculum, finance, and personnel. The finance committee referred to the 1979 study, Access to Equal Education Opportunity in North Carolina, and requested a definition of "basic education program." The State Board of Education defined it not only as curriculum but as a comprehensive program including staffing and facilities. A

legislative committee heard of the definition and in January, 1984, asked that a first draft of the basic education program be submitted by February 29, 1984. Maniloff reported that time constraints precluded production of a polished document, but a first draft of the basic education program was provided by the target date in February, 1984 (Personal interview, April 14, 1989).

Senate Bill 23 directed the State Board of Education to define and estimate the cost of a basic education program for the children in North Carolina. The Elementary and Secondary Education Act, passed one year later by the General Assembly, directed the State Board of Education to develop a standard course of study that would be offered to every child in the state. The Basic Education Program resulted from this directive. For the first time, the General Assembly was addressing education from the standpoint of what kind of education children need rather than how much would be spent on education (Maniloff, 1985b).

The Basic Education Program specifically defined the educational program for every child in the state and incorporated the essential knowledge that every student should possess when s/he graduated from a North Carolina high school. An eight-year plan for implementation of the BEP was completed by the State Board in February, 1985, and the total cost was estimated at \$627 million

dollars in new state funds. The General Assembly ratified legislation for the funds for the Basic Education Program during the 1985 session, and the State Board of Education formally adopted the Basic Education Program with implementation to be completed by July 1, 1993 (Hayden, 1985).

The North Carolina Basic Education Program states educational purposes and outlines minimum requirements for the curriculum and educational support services that will be provided in all North Carolina schools. The program encompasses a schedule of instruction that is fundamentally complete in that it prescribes a thorough grounding in the arts, communication skills, media and computer skills, a second language, healthful living, mathematics, science, social studies, and vocational education.

The Basic Education Program describes a standard course of study and sets achievement levels to be attained at selected grade levels. It includes promotion and graduation standards and stipulates that schools provide health, guidance and psychological services. It specifies instructional time, the length of school year, class size, library facilities, basic instructional materials and staffing levels. If, as proposed, the BEP is funded completely in 1992-93, the Department of Public Instruction projects that the Basic Education Program will cost \$818,029,299 (North Carolina

Department of Public Instruction, 1989d).

School systems are not limited by the Basic Education Program. The objective is to assure that every child in North Carolina has the opportunity to become a responsible, productive, competent citizen who is able to think, reason, and communicate. School systems may provide additional courses and services at local expense. However, local administrative units are finding it difficult to provide state mandated programs with the staffing formulas provided by the Basic Education Program. Maniloff worked with three county school systems while the BEP was in the formative stage to test staffing ratios. The original staffing formulas were used to schedule the BEP courses into these systems. The principals reported that the formulas were adequate except in the smallest system. Maniloff feels that it will be difficult to schedule all of the required courses unless there are modifications in certification. For example, if the staffing formula provides only one or two foreign language teachers to a small system, scheduling might be very difficult for several widely separated schools (Personal interview, April 14, 1989).

Superintendents across the state are concerned about having enough personnel to implement all of the BEP requirements. They have also expressed concern about being able to locate teachers certified in special areas. During the initial implementation stage,

administrators have found it difficult to obtain teachers certified in the fine arts areas of dance, theater, and visual arts.

The reform movement of the 1980s has called for the curriculum to be strengthened and for all children to take more courses in English, math, science, social studies, foreign language, and the arts. North Carolina has responded to the call for reform and has proposed the Basic Education Program that will provide all children in North Carolina a standard course of study in the basics, foreign language and the arts.

STATEMENT OF THE PROBLEM

The Basic Education Program was authorized in 1984, and implementation began in 1985. Local unit budgets included additional funds in 1985. Incremental increases were planned annually, and full implementation was expected to be achieved during the 1992-93 school year. Since school systems varied in course offerings and programs so widely at the outset, local units were allowed wide latitude in moving through initial phases toward uniform implementation by 1993.

School systems expected various types of problems in implementing the BEP. Questions were raised as to whether there would be enough teachers certified in the various curriculum areas

to fill positions across the state. Some school systems were concerned that they would not be able to teach all of the required minimum courses with the number of state teachers the BEP allotted by staffing formulas/ratios. Regular classroom teachers and program enhancement teachers would be combined and allocated at the ratio of 1:20 in grades K-3, 1:22 in grades 4-6, 1:21 in grades 7 and 8, and 1:24.5 in grades 9-12. Principals must maintain a class size of 1:23 in grades K-3 and 1:26 in grades 4-12. According to the BEP, this should be sufficient to provide teachers for both traditional subjects and for the expanded curricular areas such as arts, foreign language, and healthful living (personal communication, W. C. Church, June 7, 1989). This research investigated the problem of how school systems which vary greatly in population and geography planned to allocate personnel to provide a "basic education."

PURPOSE OF THE STUDY

The BEP provides a list of required minimum course requirements for students in kindergarten through twelfth grade. It also provides certified teachers to each local administrative unit to teach these courses according to a staffing formula. The purpose of this study was to determine whether or not the North Carolina Basic Education

Program staffing formulas/ratios would provide sufficient certified staff by 1992-93 to achieve equalization of opportunity in the educational program.

ASSUMPTIONS OF THE STUDY

The following assumptions will be used in conducting the study:

The BEP will provide basic and equal educational opportunities to all students in North Carolina public schools.

The BEP will require the same basic curriculum for each child.

The BEP will allow students to choose courses in certain areas in grades five through twelve.

LIMITATIONS

The study will be delimited to one educational region of North Carolina, the Western Region as defined by the State Department of Public Instruction.

All school administrative units in the Western Region will be used. In instances where one teacher is assigned to a county but is shared by both the city and the county system, the position will be totally assigned to the county system. An example of this is the teaching position for a math, science, and computer teacher.

RESEARCH QUESTIONS

North Carolinians, speaking through their legislators have endorsed the concept that all students in the state deserve a sound basic education. In order to deliver the intended services and instruction, it is necessary to look at the regulations in regard to staffing. Several questions will be explored.

- 1. If all of the minimum course requirements that must be made available to students through the BEP are requested, how many teachers will be required in each public school system in the Western Region of North Carolina to offer the courses?**
- 2. What are the alternatives to teaching a required course offering to five or fewer students?**
- 3. Will the supply of certified teachers be adequate in all instructional areas in all of the school administrative units?**
- 4. Can trends be discerned among local teacher training institutions to indicate whether the local labor pool will meet the staffing needs of the schools?**
- 5. Will the funding and recommended staffing ratios/formulas of the BEP be adequate to permit all public school systems in the Western Region of North Carolina to teach all of the minimum requirements of the BEP?**

DEFINITION OF TERMS

For the purpose of this study, the following selected terms are defined:

Basic Education.--"A common core of knowledge in a variety of curricula" (North Carolina Department of Public Instruction, 1989d, p. 2).

Average Daily Attendance. (ADA)--The result obtained by dividing the number of days in a given term into the aggregate number of students present.

Average Daily Membership. (ADM)--The result obtained by dividing the number of days in a given term into the aggregate number of student days of membership.

Educational Equity.--"Whether children in poorer communities are receiving an education equal to the one enjoyed by students in wealthier districts" (Maniloff, 1985b).

Equalization.--"a certain level of fiscal support to education was guaranteed for each child" (Maniloff, 1985b).

CHAPTER II

REVIEW OF THE LITERATURE

INTRODUCTION

A large body of literature exists which explores the concept of educational change (reform); the impact and implications of a current reform such as the North Carolina Basic Education Program (BEP) are better understood if first placed in context as a fiber in the thread of educational activities, a thread to be woven into the complex fabric of our total educational system. Although the term "school system" is commonly used, it actually refers to a sub-system within larger boundaries--state, national, even international. In a simplified but clear discussion of system theory, Reilly (1989) points out that "educational systems do not determine their own goals. Goal setting for educational systems is established by community, state, and national agencies, each with its own sense of priorities, needs, and desired outcomes" (p. 23).

One view of the BEP is that it is unique. Maniloff, who is credited by the editors of School Law Bulletin as being the "chief architect of the Basic Education Program," focuses on this exact feature to describe the program:

The 1985 session of the North Carolina General Assembly addressed the matter (educational equity) by fashioning a unique approach based on the kind of education children need rather than on a relatively arbitrary dollar figure to be spent on education (Maniloff, 1985b, p. 12).

The unique feature of the BEP is that the legislature approved a plan which would provide the same fundamental program to every student in the state whether he lived in an affluent suburb or an impoverished tenement. Previously, school funding had been on the basis of dollars and population. The new program, however, intends to deliver the same basic product to all, even though the cost may vary from place to place.

A second view is that the BEP is merely another link in a continuing chain of educational reform. The program was enacted in 1985 and initiated immediately thereafter with the expectation that it would be fully implemented by the fall of 1992. State educators, swept into the current of change, have, at the mid-point of the implementation process, already relinquished many comfortably familiar habits and attitudes. Careful attention to instructional time has eliminated many high school assemblies and pep rallies and elementary recess periods. Principals have wrestled with scheduling problems, and teachers of self-contained classes have

adjusted to enhancement teachers in music, art, dance, and drama in addition to specialists in exceptional children programs. Roll books and monthly attendance reports have largely disappeared, replaced by daily bubble sheets carefully executed with number two pencils and recorded electronically by someone other than the teacher. They can reasonably expect additional drastic changes.

BEP: UNIQUE EVENT OR PART OF A PATTERN?

Current educators--those on-the-job practitioners who translate theory into practice--must confront the uniqueness of the BEP as an unfamiliar delivery plan for educational services. Their responses must be unequivocal and must coordinate with practices of the immediate past. Since educational history is "recurring cycles of reform" (Elmore & McLaughlin, 1988), reflective interpretation indicates that the movement also be viewed as a recent event in a continuum of change. The BEP is an historical event. It is also a unique experience for educators who are implementing the program.

Since the purpose of this study was to evaluate from projective data whether the BEP staffing formulas will provide sufficient personnel, the survey of literature presents an informational context against which to evaluate the study from two perspectives: (1) the BEP as a link in a continuing chain of educational reform, and

(2) the BEP as a unique delivery plan for educational services.

THE PATTERN OF CHANGE

The history of education is replete with chronicles of change. A few illustrative events from this century demonstrate the consistency and pattern in the change process. Whether schools exist to shape society or vice versa is a moot point in this discussion of reform. Regardless of who initiates it, change occurs when society and educators mutually recognize a need and respond to it.

Change is a multi-dimensional phenomenon.... A number of theories and hypotheses from disciplines such as economics, anthropology, sociology, psychology, administrative and organizational science, and pedagogy, are important in understanding the many dimensions in the process of change....Only a 'process analysis' that takes the characteristics of the innovation and the setting into account can grasp the full meaning of the process. (Dalin, 1978, p. 23)

Progressivism

Early in this century Mann, Dewey, and others recognized that the classical education which had previously prepared young men for the professions did not meet the needs of a population which was shifting from rural to urban and from agrarian to industrial.

Influential educators proposed significant modifications, and

because the setting was right for change, the Progressive movement replaced the Traditionalism which had dominated schools since colonial times. This illustrates a principle articulated by Dalin that "...the types of innovation and change at a given point in time reflect social and economic forces to a large extent" (1978, p. 14).

Subsequent events in education have illustrated repeatedly that innovative efforts reflected social and economic forces.

The Eight Year Study

Another major reform effort which came to be known as "The Eight Year Study" appeared about a quarter of a century after Progressivism became popular. Another groundswell of interest arose in the 1930s, and the National Education Association sponsored a long-range study which "represented perhaps the most comprehensive and potentially significant curriculum study ever undertaken" (Passow, 1984, p. 12). Though the results were significant, the impact of the study was negligible because the study was completed just about the time the United States turned its effort and resources toward winning World War II. The unimpressive result illustrates another principle of the change process: innovations "need political and economic support over time. Political stability and relatively stable economic conditions are

therefore necessary for implementation" (Dalín, 1978, p. 90).

The Impact of Sputnik

In one voice the nation cried for educational reform in 1957 when the USSR launched Sputnik. At first, the attention of schools focused on the inadequacies in math and science; but it soon broadened to a general anxiety about the entire educational system. Funds were expended toward a great variety of goals--equipment, supplies, teacher training, new curriculum offerings. Reforms were initially aimed at science and math but were soon broadened to almost all aspects of the educational endeavor--language, libraries, audio visual aids, summer programs, and science equipment--but the lasting impact was again negligible. President Johnson's War on Poverty, with emphasis on education for the disadvantaged, closely followed the Sputnik reaction and was similarly ineffective.

A Ford Foundation study concluded that its \$30 million investment in school innovation had had few lasting or significant results. Most innovations seemed to wither when the charismatic promoter moved elsewhere or external funding was reduced (Passow, 1984, p. 17).

Concerning this kind of results, Dalín states,

The classical problem in the management of educational change is the fact that the groups we are talking about, namely, (1)

those who benefit, (2) those who decide and (3) those who have to change, are often individuals and groups with different roles. They live and work apart from each other, and the result is alienation (1978, p.19).

Political and economic stability, even when combined with generous funding, do not assure effective innovation; success depends on coordination among all the parties involved.

The Recent Past

The decade of the 60s included the fiscal generosity which accompanied the War on Poverty; but it also included the Vietnam War and the Civil Rights Movement, both national events which spawned dissatisfaction in general and criticism of schools in particular. Faith in the educational system to open gates to "the good life" were shattered, and "educators who never promised sure delivery of success...were left accountable at the end" (Dalin, 1978, p. 3).

During the 1980s educators responded to a number of problems. Since Johnny couldn't read, compute, or find the state capital, a back-to-basics movement was launched. When teen-age pregnancy and epidemic social diseases raged, schools added sex education-- but were careful not to offend either liberals or the religious fundamentalists. When SAT scores dropped, the schools raised

academic standards; but when the drop-out rate soared, schools made their programs more appealing and nurtured the fragile self-esteem of reluctant patrons. These are only a few examples of a litany of recent school criticisms. Educators have responded, but their proposed solutions have not been offered in neutral settings. They met identifiable barriers which were part of the pattern of change. Dalin classified these as value barriers, power barriers, practical barriers, and psychological barriers (1978).

SUMMARY OF LITERATURE CONCERNING PATTERNS OF CHANGE

Educators do not operate in a vacuum; they act and react in an exceedingly complex society of individuals and organizations. It is axiomatic that change is a process rather than an event, and the preceding highlights from educational history indicate that the process is guided by predictable principles. The following principles have been illustrated:

1. Change is a multi-dimensional phenomenon....Only a 'process analysis' that takes the characteristics of the innovation and the setting into account can grasp the full meaning of the process. (Dalin, 1978, p. 23)
2. Innovation and change at a given point in time reflect social and economic forces to a large extent.

3. Political stability and relatively stable economic conditions are necessary for meaningful change.
4. Political and economic stability even when combined with generous funding do not assure effective innovation; success depends on coordination among all the parties involved.
5. Value barriers, power barriers, practical barriers, and psychological barriers may impede reform.

Changes in education are more comprehensible when examined and interpreted in light of their historical setting and the principles which govern reform.

RECENT REFORM PROPOSALS

The ineffective reforms stimulated by America's loss in the space race, declining test scores, and growing discontent among the youth drew national attention to the state of the schools by the beginning of the 80s. Several condemnatory studies were published in the early part of the new decade. Because they were released over a relatively short period of time, sponsored by different organizations and branches of government, and because they drew conclusions from different data bases, it is reasonable to assume that they were independent studies, reflective of actual problems which needed attention. Five nationally recognized reform-oriented

documents shaped the actions of educators and legislators.

The Paideia Proposal

The Paideia Proposal appeared in 1982. Adler, the principal author, set the tone of his treatise early by quoting another author, Robert Maynard Hutchins, who has said, "The best education for the best is the best for all" (1982, p. 6). The Paideia group favored a standard course of study for all pupils. "Electives and specialization are entirely proper at the level of advanced schooling--in our colleges, universities, and technical schools. They are wholly inappropriate at the level of basic schooling" (p. 21). Adler proposed an idealized educational system strong in basics and devoid of vocational courses, populated by highly motivated students, and staffed by teachers who can stimulate even the most reluctant learners. In a book characterized by unequivocal language--"There are no unteachable children. There are only schools and teachers and parents who fail to teach them" (Adler, 1982, p. 8)--this author set the tone of educational literature for the 1980s with a strong indictment of the system. Legislators in North Carolina responded to Adler and proposed in the BEP to strengthen the curriculum and to offer the same basic minimum courses to all children across the state.

A Nation at Risk

Anyone who had more than the most casual interest in education during the 1980s was aware of A Nation at Risk, released in April 1983 with dire warning about a "rising tide of mediocrity."

Authored by the National Commission on Excellence in Education under the auspices of the U. S. Secretary of Education, the widely publicized report portrayed schools in a very negative light.

Schools, particularly at the secondary level, were deemed fragmented and ineffective. The report endorsed the notion that quality education should be available to all and suggested specific areas of responsibility for local, state, and national levels of government. The report drew attention to the scope of the educational problem by stating that "quality education for all members of the society is essential for maintaining the Nation's competitive edge in international economic markets, and for success in the so called 'information age'" (Stedman, 1986, p. 60). Again, legislators reacted to the research and in the BEP, called for the curriculum to be improved and required end of course tests to check for effectiveness in course content.

Action for Excellence

Another description of the general malaise afflicting schools appeared in June of 1983. This was Action for Excellence: A Comprehensive Plan to Improve Our Nation's Schools issued by the National Task Force on Education for Economic Growth (Stedman, 1986). North Carolina's governor, James B. Hunt, Jr. who chaired the Task Force wrote, "It is the thesis of this report that our future success as a nation--our national defense, our social stability and well-being and our national prosperity--will depend on our ability to improve education and training for millions of individual citizens" (1983, p. 15). This report was similar to other challenges to reform, noting academic weaknesses, and attributing them to assorted causes such as poorly prepared teachers, outdated equipment and supplies, and administrative blunders. It was similar, too, in urging all segments of society and all levels of government to act in behalf of youth. Influenced by this report, the legislature included money for materials, supplies, equipment and staff development in the BEP.

A Nation at Risk, Action for Excellence, and authors, Adler, Boyer, and Goodlad were all critical of the way students were being educated, or not being educated. The BEP was a direct response to this criticism of the 1980s and was intended to strengthen the curriculum for all children K-12, to provide equipment and materials

that teachers needed to teach, and to even provide staff development to improve the skills of the teachers and administrators.

High School: A Report on Secondary Education in America

In September, following A Nation at Risk, another call for reform, High School: A Report on Secondary Education in America, reached the public. Sponsored by the Carnegie Foundation for the Advancement of Teaching, High School... focused more on staff than students but arrived at similar conclusions. It found schools to be "adrift" and lacking "a clear and vital mission." It advocated more rigorous academic standards for students and suggested staff training, better working conditions, and more effective administrative policies as areas for reform (Stedman, 1986).

A Place Called School

Another 1983 publication which received national attention was Goodlad's A Place Called School: Prospects for the Future. Using data gathered over a period of years, Goodlad and his associates asserted, "American schools are in trouble. In fact, the problems of schooling are of such crippling proportions that many schools may not survive" (1983, p. 1). The substance of Goodlad's criticism was similar to other publications of the era: weaknesses in curriculum,

ineffective teaching, and misapplied administrative effort among them.

REGULATIONS AND PRECEDENTS IN NORTH CAROLINA

Although the major burden for providing public education rests on the state, events and research at the national level influence states' responses to school needs. The preceding portion of this chapter has reviewed some of these events and has cited recent research to indicate the legislative climate at the time the BEP was enacted. Reform movements succeed or fail as a result of interactions among various affected segments of the populace. Reform in a given state must be within the parameters of what is permitted or disallowed under the legal system of that state and what meets locally perceived needs. Since North Carolina leaders and lawmakers are bound by their own precedents and regulations, the BEP should be examined not only in the context of national history and reform paradigms but also in the context of state law and history.

In 1839 North Carolina became the first state to equalize school spending by using a foundation system. In 1901 equalizing grants were awarded from the state level to enable poorer units to provide a state-mandated minimum term; and in 1933 when North Carolina mandated an eight-month term, the state assumed responsibility for

all operating expense. Maniloff says, "The issue of inequity in financing public schools differs from the issue of adequacy in financing" (1985b, p. 12). The theory of equity was not new to North Carolina educational legislation; the BEP was a fresh approach to the concept.

In a personal interview (April 14, 1989), Maniloff related the BEP to North Carolina history by mentioning a study done during Governor Moore's term and published under the title, A Child Well Taught. Twenty-five years before the BEP, Governor Moore's group defined "minimum," a key issue during the planning phase of the BEP. Maniloff mentioned other innovative ideas which appeared in A Child Well Taught and pointed out that the study made little impact because at just about the same time desegregation claimed the spotlight in legislative halls and state offices. This sidelight reiterates the principle that effective innovation is unlikely except under propitious political, social, and economic conditions.

Maniloff also articulated the legal validity of the BEP by pointing out that

North Carolina's Constitution provides...a commitment to education: 'The General Assembly shall provide by taxation and otherwise for a general and uniform system of free public schools, which shall be maintained at least nine months in every year and wherein equal opportunities shall be provided for all students' (1985b, p. 12).

In 1979, then-Governor Jim Hunt appointed another study commission, and the report, Access to Equal Educational Opportunity, was the outcome of its work. This study again revived the idea of a minimum basic education for all students and went so far as to say that the state should give financial help to the smaller, poorer school systems so that all children could receive a quality education. The wealthier school systems opposed this, and the legislature refused to implement these suggestions (Avery, 1988, May 8, A1).

In July, 1983, a pilot project was undertaken that allowed eight local school systems in North Carolina to test new ways of distributing state school funds. The legislation that allowed this pilot project also directed the State Board of Education to develop "a basic education program" and to determine the cost for statewide implementation. The State Board was also to recommend to the 1985 General Assembly how public education should be funded and how the cost should be divided between the state and local governments (Maniloff, 1985b, p. 13).

The General Assembly passed House Bill 1567, "The Elementary and Secondary School Reform Act of 1984." This bill directed the State Board of Education to develop a standard course of study for every child in North Carolina public schools. The State Board

responded with the Basic Education Program.

The State Board of Education began to develop the basic education program which included staffing needs, media and technology, support services, and facilities as well as curriculum. When the legislative committee first heard this definition in January 1984, it asked for a first draft of the basic education program by February 29, 1984 (Maniloff, personal interview, April 14, 1989).

The staff of the State Department of Public Instruction spent a great deal of time during the next seven months obtaining input from superintendents across the state. As a result of the local school systems' input, summer school, promotion standards, and the minimum length of the instructional day were included in the presentation to the State Board of Education in September, 1984.

Staffing ratios were not included in this presentation but were included at the presentation in October after they had been planned and tested. Three school systems were selected to try out the staffing formulas because they represented small, medium, and large school systems. After careful study, the principals in these counties were given the proposed course offerings with the staff ratios. The administrators who tested the ratios reported that the formulas would work in the large and medium-sized systems but would require additional staff in the smallest unit (Maniloff,

personal interview, April 14, 1989).

The State Board of Education approved the final draft of the Basic Education Program at the October 4, 1984, meeting. The Basic Education Program was defined in this draft, and the cost was estimated to be 627 million new dollars. It was suggested that the program be implemented over an eight-year period because 13,000 additional teachers would be needed. The State Board of Education said the program should be developed but left the requirement for the implementation in the local school units to the General Assembly (Maniloff, 1985b, p. 13).

During the 1985 meeting of the General Assembly, several bills concerning the Basic Education Program were written before one was actually adopted. Representative Foster presented HB 102 as a "blank bill". It was not ratified because the major elements of the bill were never incorporated. Four editions of SB 68 were presented before the Senate passed one version. This bill was never presented to the House of Representatives. HB 897, sponsored by then-Representatives Etheridge and Fussell, was deemed to have the best chance of all to pass both houses. Instead, the Basic Education Plan was incorporated into the Appropriations Bill, SB 1, Chapter 479, and the implementation of the Basic Education Program, along with the other appropriations of the 1985 session, was authorized in

June, 1985 (Yancey, personal communication, February 22, 1988).

Additions and revisions have been made to the original Basic Education Program. In 1985 promotion standards were strengthened and a five and one-half hour instructional day was mandated. Concerns by superintendents have continued about the staffing formulas and the extensive program offerings required by the BEP. In 1987, when there was a great deal of discussion about the need for additional assistant principals, the staffing formulas were studied again.

In November, 1987, an Assistant State Superintendent (memorandum, November 19, 1987) notified superintendents in selected school systems that the recommended staffing formulas of the BEP were being studied. Eighteen sample school units were selected randomly according to geographical location and size. The ADM for the 1986-87 initial allotment was used and the staff modeling process was completed for each system according to the formulas in the BEP using only state allotted positions. The comparison of this data with projected additional personnel provided a basis for determining that there were deficiencies in the staffing formulas (R. D. Boyd, memorandum, January 19, 1988). As a result program enhancement positions were increased for school systems with 2500 ADM or less. Seventy additional teaching

positions were allocated to the 24 smallest school systems.

If the Basic Education Program is fully funded and implemented in 1992-93, positions for teachers, counselors, and media specialists are to be allotted statewide on the basis of ADM and assigned by the superintendent to the individual schools by the ratio of one teacher for 20 students K-3, one teacher for 22 students 4-6, one teacher for 21 students 7-8, and one teacher for 24.5 students in grades 9-12. Class size will be 23 in grades K-3 and 26 in grades 4-12. Counselors and media specialists will be assigned one position for 400 students. One math, science, and computer teacher per county will be allotted (North Carolina State Board of Education, 1986, pp. 48-50).

Cost for the BEP continues to climb. In 1990 the estimated cost was \$800 million over the the eight year implementation period. When fully funded, the BEP will have added 11,000 new teachers, 6,500 teacher assistants, 3,500 instructional support personnel (nurses, counselors, social workers, psychologists and media specialists), 2,304 clerks and secretaries, 361 assistant principals, 264 assistant and associate superintendents, 132 vocational teachers, 110 supervisors, 895 in-school suspension personnel, and 100 attendance officers. This is a total of 25,014 new teachers, administrators, and support personnel (North Carolina Department of

Public Instruction, 1989d, pp. 8-9).

Maniloff (personal interview, April 14, 1989) foresaw problems in applying the staffing formula throughout the state if current certification standards were rigidly applied. It might be difficult, for instance, for a certified visual arts teacher to personally deliver instruction to all pupils in a system. The appropriately certified teacher could, however, function as a consultant to classroom teachers and deliver services indirectly. An elementary physical education and dance teacher might coordinate their programs similarly. Maniloff also anticipated that rigid departmentalization among specialists might diminish efforts previously made by teachers in self-contained classrooms. A classroom teacher might hesitate to integrate a visual arts activity with a traditional subject activity if students were regularly scheduled to go to a specialist in a designated visual arts room. Maniloff summarized his concerns by stating, "It may not be possible to implement the BEP with traditional approaches; innovative ways will be needed."

SUMMARY

Educational literature strongly suggests three concepts that put the BEP in perspective:

1. Reform movements, no matter how worthy, do not succeed on

merit alone; they succeed only when complex sociological circumstances are auspicious.

2. Reform movements are temporal; they arise to meet current needs that are felt by leaders in various disciplines.

3. Reform movements follow predictable patterns.

CHAPTER III

METHODOLOGY

POPULATION

The population of this study was the 18 public school systems in North Carolina Education District 8 served by the Western Regional Education Center. All of the school systems in this district were utilized in this study.

INSTRUMENT

The instrument that was used to collect the data from each system was designed for the specific purpose of gathering data to answer the research questions of this study. On this instrument, superintendents were provided the projected number of state teachers, including the special-allotment math, science and computer science teachers, vocational teachers, guidance counselors, and librarians to be allotted to their system in 1992-93 according to the staffing formulas/ratios of the North Carolina Basic Education Program. The superintendents were asked to schedule teachers into the required curriculum areas at various grade levels so that all of the required subjects of the Basic Education Program were offered.

The questionnaire was administered one-to-one with three retired superintendents prior to providing it to participating school systems. Three recent retirees were located so that they would be familiar with the Basic Education Program. The items were discussed with each one to identify possible problems in directions and wording. No changes were made in the questionnaire after the evaluation.

PROCEDURE

Information about the final projected average daily membership was obtained from the Controller's Office/Information Center of the North Carolina Department of Public Instruction. The figures for 1991-92 were used because they would be the numbers used to start the 1992-93 school year, which was the year that the Basic Education Program was to be fully implemented in North Carolina (I-10-I-40).

According to the Basic Education Program for North Carolina's Public Schools, February, 1988, teachers would be allotted one for every 20 ADM in grades K-3, one for every 22 ADM in grades 4-6, one for every 21 ADM in grades 7-8, and one for every 24.5 ADM in grades 9-12. The BEP detailed the allotment of teachers for the handicapped, gifted, and pregnant students. Summer school teachers

would be allotted separately. The Basic Education Program called for class size by 1992-93 to be one for 23 in grades K-3, and one for 26 in grades 4-12. After allotting teachers by the class size, the BEP indicated that the school system would use additional teachers for the expanded curricular areas such as the arts, foreign language, and healthful living. Vocational teachers would be allotted one for 95 ADM, librarians one for 400 ADM, and guidance counselors one for 400 ADM (43-45).

Knowing the number of teachers the state had allotted to each school system, but not limited to this number, superintendents were asked to allot teachers to grade levels, kindergarten through third grades, fourth through sixth grades, seventh and eighth grades, and grades nine through twelve. These grade spans were used so that they would be the same as the grade spans used by the BEP for the allotment of teachers. The assumption was made that all of the required minimum courses would be offered kindergarten through twelfth grade and that superintendents would allot the minimum number of teachers to offer the required curriculum in all of their schools. The number of schools in each system was recorded on the questionnaire as they were listed in the North Carolina Public Schools, 1989 Statistical Profile.

After superintendents allotted the teachers on the questionnaire, they were asked if there were areas or grade levels where the number of teachers needed and the number of state teachers allotted were different. Superintendents were asked how they would handle these differences and how they expected to fill any gaps they had after scheduling all of the state teachers. They were also asked about alternatives to offering a required class for five or less students and were asked to respond to a question about the effects of the size and number of schools in their system on scheduling teachers. Finally, superintendents were asked if they anticipated problems in obtaining certified personnel.

A letter accompanied the questionnaire to the superintendents stating the reason for the survey. Directions were provided on the questionnaire itself. Also attached were a list of all of the required subjects that must be offered by 1992-93. These were broken down by subjects required in kindergarten through fifth grade, sixth through eighth grades, and grades nine through twelve.

The questionnaire, letter and attachments were mailed directly to the superintendents in the 18 school systems. If the questionnaire was not returned in two weeks, a letter reminding the superintendent of the questionnaire was sent. If the questionnaire was not received at the end of three weeks, a phone call was made

to the superintendent asking that the questionnaire be completed. A stamped self-addressed envelope was included for the return of the questionnaire.

In order to verify the availability of teachers in certified areas, a letter was sent to each college and university in North Carolina with a teacher education program asking for the number of graduates in 1989. The colleges were also asked to project the number of education majors in 1990, 1991, and 1992. A stamped self-addressed envelope was included with the letter for the return of this information. If the information was not returned in two weeks, a letter was written to the college asking that this information be sent. One week later, if the information still had not come, a call was made to the college asking again for the information.

Copies of the 1986-87 and the 1988-89 North Carolina Department of Public Instruction Personnel Services Area report, Personnel Needs in North Carolina Public Schools by Teaching and Geographic Areas, were used to obtain the supply and demand of people certified in North Carolina. The General Administration of the University of North Carolina and the Department of Certification were contacted in order to find the number of people certified in different areas in North Carolina.

Questionnaire data were analyzed. The areas of course offerings at the different grade levels and the total number of teachers needed to offer the courses were compiled for the 18 school systems. The first verification was to total the teachers assigned at each grade level. This number was compared to the number of state teachers that would be allotted by the BEP. This information was compiled in a table for all school systems. This information was put into a computer data base for each system. Other statistical data was included in each school system's file.

The ways superintendents planned to handle the difference in the number of teachers needed and the number of teachers allotted by the Basic Education Program were recorded for each system. Problems, if any, with the size and number of schools, were recorded by system. Alternatives to offering a class for a small number of students were recorded by system also. The data were compiled in an electronic data base for all systems to find the results for the region.

The information received from the teacher education colleges/universities was difficult to collect. All colleges/universities did not respond, and the best information available was obtained from the education department of the North Carolina Department of Public Instruction. Colleges with teacher education programs are

required to send an annual report to the North Carolina State Department of Public Instruction on the graduates and projected graduates, and this information proved to be the most helpful because it was complete for all of the colleges/universities.

The projected number of new teachers from the colleges/universities with teacher education programs and the supply and demand data of certified teachers in North Carolina were analyzed to determine if there would be sufficient numbers of teachers to fill all the BEP positions.

CHAPTER IV

RESULTS AND ANALYSIS OF DATA

The purpose of this study was to determine whether or not the North Carolina Basic Education Program staffing formulas/ratios would provide sufficient certified staff by 1992-93 to achieve equalization of opportunity in the educational program if all recommended courses were offered to all students. This chapter presents the data which describes the staffing formulas/ratios and some of the problems that appear to be related to implementation of the BEP. Data will be reported according to the research questions specified.

I. If all of the minimum course requirements that must be made available to students through the BEP are requested, how many teachers will be required in each public school system to offer the courses?

The 18 public school systems in Region 8 will require 5,094 teachers and support staff to fully implement the BEP in grades K-12. Table 1 summarizes the breakdown by school system for the 4,227 teachers and 867 support staff required to implement the programs in grades K-3, 4-6, 7-8, and 9-12. Teachers included all

Table 1

Teachers and Support Staff Needed to Implement the BEP

LEA	Teachers				Support staff				Total
	K-3	4-6	7-8	9-12	K-3	4-6	7-8	9-12	
1	362.00	239.00	144.00	239.50	35.00	29.50	25.00	117.00	1,191.00
2	93.00	52.00	39.00	51.00	4.00	8.00	11.00	21.00	279.00
3	55.00	39.00	25.50	55.00	5.00	4.00	5.00	21.50	209.50
4	18.00	15.00	8.50	18.00	2.00	0.50	3.00	9.00	74.00
5	22.50	18.00	11.00	17.50	1.00	2.00	3.00	6.00	81.00
6	114.50	80.50	85.50	83.00	9.50	9.00	21.00	39.00	442.00
7	135.00	98.00	70.00	117.00	9.00	9.00	18.00	45.00	501.00
8	29.00	18.50	12.50	23.50	2.00	1.50	2.50	11.00	100.50
9	51.00	39.50	28.50	42.50	4.00	4.00	9.00	18.00	196.50
10	56.75	40.25	30.50	46.50	4.00	4.00	4.00	19.00	205.00
11	38.50	29.00	27.00	34.00	3.50	4.00	4.50	16.50	157.00
12	99.00	72.00	62.00	90.00	9.00	10.00	10.50	29.50	382.00
13	36.00	28.00	18.00	27.50	5.00	2.00	7.00	10.50	134.00
14	33.00	25.00	18.00	19.00	1.50	2.00	4.00	12.00	114.50
15	155.00	107.00	81.00	122.00	15.00	12.00	18.00	58.00	568.00
16	26.00	18.00	15.50	21.50	2.00	2.00	3.00	13.00	101.00
17	58.00	43.50	30.00	46.00	5.00	4.00	9.00	13.00	208.50
18	35.75	28.75	28.25	30.25	3.50	3.50	5.00	14.50	149.50

teachers, either self-contained, or in speciality areas of the arts, healthful living, second language, communication skills, math, science, and social studies. Support staff included positions funded as line items in the allotment, guidance, media computer skills, and vocational teachers.

Table 2 presents the breakdown for each area in grades K-3. None of the systems in Region 8 used vocational teachers in these early grades. Teachers were assigned to self-contained classes and were assisted by teachers in the arts, healthful living and second language. In Region 8, 1417.5 teachers will be needed to implement the BEP in grades K-3.

At the 4-6 grade level, a majority of teachers were assigned as self-contained teachers. However, two systems began in the sixth grade to assign teachers by subject areas. Five of the school units used vocational teachers to teach pre-vocational classes to children in the sixth grade. As in grades K-3, the self-contained classroom teachers were assisted by specialists in the arts, healthful living, and second language. Table 3 lists all of the teachers and support staff in each area for each school system in grades 4-6 and shows the need for 991 teachers 4-6 to implement the BEP.

Seventh and eighth grade teachers were most often assigned by subject areas in all but three school systems in the region. Each

Table 2

Kindergarten-Third Grade Teachers Needed to Implement the BEP

LEA	Self-contained	Arts	Healthful living	Second language
1	303.50	16.00	17.50	25.00
2	81.00	4.00	4.00	4.00
3	46.00	4.00	2.50	2.00
4	16.00	1.00	0.50	0.50
5	18.00	2.50	1.00	1.00
6	98.00	7.50	4.50	4.50
7	120.00	6.00	5.00	4.00
8	25.00	1.00	2.00	1.00
9	45.00	2.00	2.00	2.00
10	48.00	4.00	2.25	2.50
11	32.50	2.00	2.00	2.00
12	88.00	4.00	3.00	4.00
13	31.50	2.00	1.00	1.50
14	27.00	3.00	2.00	1.00
15	137.00	4.00	10.00	4.00
16	23.00	1.00	1.00	1.00
17	50.00	2.00	3.00	3.00
18	31.00	3.25	1.00	0.50

Table 3

Fourth-Sixth Grade Teachers Needed to Implement the BEP

LEA	Self-contained	Arts	Healthful living	Second language	Communication skills	Math	Science	Social studies
1	196.50	12.00	12.50	18.00	0.00	0.00	0.00	0.00
2	46.00	2.00	2.00	2.00	0.00	0.00	0.00	0.00
3	32.50	3.00	2.00	1.50	0.00	0.00	0.00	0.00
4	12.00	1.00	1.50	0.50	0.00	0.00	0.00	0.00
5	8.00	2.50	1.00	0.50	1.50	1.50	1.50	1.50
6	61.00	7.50	4.50	4.50	0.00	0.00	3.00	0.00
7	83.00	6.00	5.00	4.00	0.00	0.00	0.00	0.00
8	16.00	0.50	1.50	0.50	0.00	0.00	0.00	0.00
9	33.50	2.00	2.00	2.00	0.00	0.00	0.00	0.00
10	32.00	4.00	2.25	2.00	0.00	0.00	0.00	0.00
11	23.00	2.00	2.00	2.00	0.00	0.00	0.00	0.00
12	61.00	4.00	3.00	4.00	0.00	0.00	0.00	0.00
13	22.00	2.00	2.00	2.00	0.00	0.00	0.00	0.00
14	19.00	3.00	2.00	1.00	0.00	0.00	0.00	0.00
15	88.00	9.00	7.00	3.00	0.00	0.00	0.00	0.00
16	15.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00
17	35.50	2.00	3.00	3.00	0.00	0.00	0.00	0.00
18	16.00	3.25	1.00	0.50	2.00	2.00	2.00	2.00

system utilized specialists in the arts, healthful living, and second language areas. Vocational teachers were used in each system at this grade level. Table 4 lists all the areas of assignment for grades 7-8 by school system and shows the need for 734.75 teachers in these grades to implement the BEP.

At the high school level, grades 9-12, teachers were assigned by areas of certification except in LEA #1 where principals at the six high schools were assigned teachers based on enrollment. It became the responsibility of the individual principal to make teacher assignments. Table 5 shows by school system the assignment of teachers for grades 9-12, and the need for 1083.75 teachers to implement the BEP.

2. What are the alternatives to teaching a required course offering to five or fewer students?

It is not uncommon for small schools to have five or fewer students request a particular class. Some schools, for example, have a hard time offering physics and chemistry during the same year. Advanced classes in the foreign languages and mathematics also present problems.

Each school system in Region 8 was asked what alternatives it would use if five or fewer students requested a particular class that

Table 4

Seventh-Eighth Grade Teachers Needed to Implement the BEP

LEA	Self-contained	Arts	Healthful living	Second language	Communication skills	Math	Science	Social studies
1	128.00	8.00	8.00	0.00	0.00	0.00	0.00	0.00
2	0.00	2.00	4.00	3.00	8.00	8.00	7.00	7.00
3	0.00	2.00	1.00	1.00	6.50	5.00	5.00	5.00
4	0.00	0.00	0.00	0.50	2.00	2.00	2.00	2.00
5	0.00	1.50	1.00	0.50	2.00	2.00	2.00	2.00
6	0.00	9.50	11.00	5.00	18.00	15.00	14.00	13.00
7	0.00	9.00	6.00	3.00	13.00	13.00	13.00	13.00
8	10.00	0.50	1.50	0.50	0.00	0.00	0.00	0.00
9	0.00	2.00	3.00	2.00	6.00	5.50	5.00	5.00
10	22.00	3.50	3.00	2.00	0.00	0.00	0.00	0.00
11	0.00	2.00	3.00	2.00	5.00	5.00	5.00	5.00
12	0.00	8.00	7.00	4.00	11.00	11.00	11.00	10.00
13	0.00	2.00	1.00	1.00	3.50	3.50	3.50	3.50
14	13.00	2.00	2.00	1.00	0.00	0.00	0.00	0.00
15	0.00	6.00	12.00	3.00	15.00	15.00	15.00	15.00
16	0.00	2.00	1.00	0.50	3.00	3.00	3.00	3.00
17	0.00	4.00	4.00	2.00	5.00	5.00	5.00	5.00
18	0.00	3.25	4.00	1.00	6.00	6.00	4.00	4.00

Table 5

Ninth-Twelfth Grade Teachers Needed to Implement the BEP

LEA	Self-contained	Arts	Healthful living	Second language	Communication skills	Math	Science	Social studies
1	228.50	11.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	3.00	6.00	2.00	12.00	10.00	9.00	9.00
3	0.00	6.00	3.50	2.50	13.00	10.00	10.00	10.00
4	0.00	1.00	2.00	2.00	4.00	3.00	3.00	3.00
5	0.00	2.50	2.00	1.00	3.00	3.00	3.00	3.00
6	0.00	8.00	10.00	7.00	22.00	12.00	11.00	13.00
7	0.00	9.00	9.00	7.00	27.00	22.00	24.00	19.00
8	0.00	2.00	2.00	2.30	4.50	4.50	4.70	3.50
9	0.00	2.00	5.00	3.00	10.00	8.50	7.00	7.00
10	0.00	5.00	4.00	2.50	10.50	9.50	8.50	6.50
11	0.00	4.00	5.00	2.00	8.00	5.50	5.50	4.00
12	0.00	7.00	9.00	6.00	17.00	17.00	17.00	17.00
13	0.00	3.00	3.00	2.00	6.00	4.50	4.00	5.00
14	0.00	2.00	2.00	2.00	4.00	3.00	3.00	3.00
15	0.00	12.00	16.00	6.00	26.00	22.00	20.00	20.00
16	0.00	3.00	3.00	0.50	5.00	4.00	3.00	3.00
17	0.00	2.00	8.00	2.00	10.00	8.00	8.00	8.00
18	0.00	3.25	3.00	1.00	6.00	7.00	5.00	5.00

is on the required list of the BEP course offerings. Of the 18 school systems surveyed, 15 reported they would use itinerant teachers. This would enable one teacher to teach the same subject in several different schools.

Twelve of the eighteen school systems were concerned about problems that occurred in allotting teachers. The problem mentioned most often was that school systems with small, rural schools have a difficult time allotting the teachers. It was mentioned that classes were not made up of 23 students in each grade level. One system even mentioned having a rural school with grades K-8 and only 75 students. The school systems with several small schools have been using itinerant teachers but expressed concern over the amount of time wasted in travel.

TI-IN, an educational television program that is transmitted through a satellite dish, was the second alternative most often given by the school systems. The State Department of Public Instruction installed the receivers and satellite dish in every county in the state and also provided a dish to the smallest high schools across the state. TI-IN enables students to take classes in subjects not offered by the local high school.

Ten school systems reported that they would continue to make use of regular classroom teachers. These systems would allow a

teacher to teach five or fewer students or even combine classes. French III and French IV might be taught by the same teacher during the same class period.

Ten systems also reported they would refer small numbers of students to community colleges to take special classes. Only seven systems in the region indicated they were willing to allow students to complete course work by independent study. One system reported that it would refer students to a neighboring system if classes they wanted were not taught locally. Another large system in the region was already offering classes in Russian and advanced science courses to students across the entire county at a central location.

3. Will the supply of certified teachers be adequate in all instructional areas in all of the school administrative units?

One of the recommendations of the Task Force on the Preparation of Teachers in The Education of North Carolina Teachers: A Report to the 1987 North Carolina General Assembly, was that the SDPI should prepare biennially a projection of teacher supply and demand and identify areas of teacher shortages (p.44). Information on the availability of teachers was obtained from the North Carolina Department of Public Instruction in the first two reports that were

prepared. One was completed July 1987 and the second October 1989.

According to the publications, Personnel Needs in North Carolina Public Schools by Teaching and Geographical Areas 1986-87 and Personnel Needs in North Carolina Public Schools by Teaching and Geographical Areas 1988-89, the ratio of supply and demand was decreasing in most subject areas. The shortest supply relative to need was in the area of dance. Table 6 compares the rankings of ratios of potential teacher supply and demand for 1987 and 1989. There were only 59 certified dance teachers available for 65 position resulting in a ratio of 0.91. The demand for teachers in certain areas called for in the BEP has increased, and therefore, there was a greater demand for teachers in the areas of theater arts, dance, music, guidance, librarians, art, physical education, and foreign language.

Table 7 indicates the levels of difficulty likely to be experienced by the 18 school systems in Region 8 in recruiting teachers. For particular geographic areas, Personnel Needs... showed that administrators have a more difficult time attracting teachers in sparsely populated regions of the state. Only Graham County in Region 8 was listed in the eight counties expected to have the hardest time recruiting professional staff. On the opposite end,

Table 6

Rankings of Ratios of Potential Teacher Supply vs. Demand Ratio

<u>Type of Personnel</u>	<u>86-87</u>	<u>88-89</u>	<u>Difference</u>
Chemistry	2.58	1.42	- 1.16
Theater Arts and Dance	3.03	1.45 .91	- 1.58
Guidance	3.22	2.93	- .29
Physics	3.29	1.45	- 1.84
Librarians	3.47	3.91	+ .44
Latin	3.67	3.22	- .45
Mentally/Emotionally Handicapped or Learning Disabled	3.70	2.89	- .81
Math 7-12	3.73	3.18	- .55
Speech Impaired	3.75	2.56	- 1.19
Spanish 7-12	4.32	2.69	- 1.63
Self-Contained 4-6	4.65	3.91	- .74
General & Other Science	4.95	5.53	+ .58
Biology	5.45	4.68	- .77
Reading	6.72	7.50	+ .78
Self-Contained K-3	7.71	5.38	- 2.33
Agriculture	8.46	5.16	- 3.30
Music	8.57	5.12	- 3.45
English/Language Arts	8.76	6.39	- 2.37
Industrial Arts	10.24	7.00	- 3.24
Hearing Impaired	10.86	11.79	+ .93
French 7-12	11.06	9.18	- 1.88
Driver Education	11.58	12.00	+ .42
Art	11.69	2.91	- 8.78
Physical Education	12.05	4.69	- 7.36
Health	13.23	6.08	- 7.15
Business Education	13.54	9.26	- 4.28
German	14.00	9.00	- 5.00
Social Studies	15.13	8.00	- 7.13
Home Economics	17.94	8.47	- 9.47
Speech	42.00	96.00	+54.00

Note. From Personnel Needs 1988-89 (p. 8) by North Carolina Department of Public Instruction, October, 1989, and Personnel

Needs 1986-87 (p. 6) by North Carolina Department of Public Instruction, October, 1987.

Table 7

County Rankings on Estimated Difficulty in Attracting Professionals in 1989

<u>County</u>	<u>Rank</u>
Graham	4
Cherokee	9
Yancey	16
Swain	21
Clay	26
Mitchell	40
Madison	43
McDowell	43
Rutherford	51
Macon	60
Jackson	69
Haywood	77
Polk	84
Transylvania	84
Buncombe	91
Asheville City	91
Henderson	94
Hendersonville City	94

Note. From Personnel Needs 1988-89 (pp.4-6) by North Carolina Department of Public Instruction, October, 1989.

Henderson County and Hendersonville City were the only two systems in Region 8 in the top eight counties expected to have the least difficulty recruiting professional staff.

When the schools in Region 8 were surveyed, twelve of the school systems anticipated having problems in obtaining certified personnel in some areas. The greatest concern was in the area of foreign language and several systems specifically mentioned Spanish. The next greatest concerns were in the Arts, art, music, theatre arts or dance, guidance and media/computer personnel.

The Task Force on the Preparation of Teachers also reported that there will be a demand for 17.5% more teachers during the ten years between 1985-86 and 1995-96. They attributed the projected increase mostly to the growth and demand of the BEP. The increase in student enrollment was estimated to only be 2%. Twenty-five percent of all teacher education graduates in 1984-85 in North Carolina became a newly hired teacher in North Carolina public schools in 1985-86. Not all teacher education graduates go into education. Most newly hired North Carolina teachers were not trained in North Carolina institutions. There were 5,618 newly hired teachers in 1985-86 in North Carolina, but only 1,045 or 18.6% had completed a teacher education program that Spring at a North Carolina college or university. The remaining teachers were hired

from North Carolina's surplus of teachers, and 30% had earned education degrees outside North Carolina (pp.40-44).

Although there has been a forecast of shortage of teachers in North Carolina, this was not occurring in Region 8. The delay in implementing the BEP in 1989-90 helped to prevent a shortage of teachers. Reports predicted a shortage of 2,039 teachers between 1986-87 and 1990-91 (Education of Teachers p. 43), but the BEP delayed funding for 1556 teacher positions and 725 teacher support position in 1989-90 (Attachment 2-Page 2 letter Joyce B. Buff).

4. Can trends be discerned among local teacher training institutions to indicate whether the local labor pool will meet the staffing needs of the schools?

Colleges and universities in North Carolina with teacher education programs were contacted for information about the number of graduates they had in 1989 and were asked to project the number of graduates they expected to have in 1990, 1991, and 1992. Only 56%, or 25 of the 45, colleges and universities contacted responded to the request for information. The first four columns of Table 8 show the information received from the 25 colleges and universities.

Complete information about the number of people certified by each college was successfully found in Raleigh at the Division of Teacher Education Services in the State Department of Public Instruction in the report, Candidate for Professional Certification, Data System 1988-89. Institutional Summary Report. The data collected from Part I, Table b is included in the last two columns of Table 8. The numbers do differ because the state department report included information on all individuals that have been certified in an area of education by the college during the year and not just the graduates of the teacher education programs.

A correlation was computed on the information received from the 25 colleges and from the reports in the state department on the same 25 colleges. A correlation of .918 resulted.

However, Carl Dillon, consultant in the Division of Teacher Education Services, indicated that North Carolina was not experiencing difficulty in recruiting teachers but pointed out that some geographical areas had a harder time finding teachers in some speciality areas, particularly dance and Spanish. With additional attention being given to the supply and demand of teachers in certain areas of certification, colleges have encouraged students to go into areas of the greatest need.

Table 8

Teacher College Graduates and Projections

College	Graduates				SDPI	
	1989	1990	1991	1992	1989	After 1989
1	338.00	375.00	425.00	450.00	794.00	641.00
2	753.00	790.00	829.00	870.00	1,073.00	1,325.00
3	55.00	29.00	30.00	30.00	57.00	62.00
4	40.00	50.00	35.00	35.00	281.00	247.00
5					171.00	583.00
6	20.00	28.00	30.00	32.00	208.00	241.00
7					297.00	264.00
8	119.00	133.00	148.00	163.00	354.00	315.00
9	13.00	25.00	25.00	25.00	27.00	43.00
10					367.00	724.00
11					572.00	1,714.00
12	255.00				491.00	1,038.00
13					267.00	198.00
14	130.00	150.00	165.00	175.00	448.00	627.00
15	45.00	53.00	59.00	67.00	67.00	38.00
16					46.00	48.00
17					5.00	0.00
18					14.00	12.00
19	5.00	13.00	14.00	30.00	8.00	16.00
20	47.00	56.00	62.00	66.00	107.00	151.00
21					53.00	51.00
22	2.00	10.00	10.00	10.00	3.00	5.00
23	17.00	22.00	32.00	40.00	15.00	2.00
24	20.00				64.00	79.00
25	256.00	167.00	189.00	120.00	156.00	298.00
26					24.00	15.00
27					11.00	10.00
28	17.00	32.00	35.00	40.00	20.00	18.00

table continues

Table 8

Teacher College Graduates and Projections

College	Graduates				SDPI	
	1989	1990	1991	1992	1989	After 1989
29	16.00	12.00	12.00	18.00	11.00	6.00
30	53.00	60.00	65.00	65.00	77.00	25.00
31	4.00	15.00	20.00	20.00	11.00	5.00
32					94.00	47.00
33	92.00	110.00	125.00	150.00	98.00	109.00
34	44.00	48.00	50.00	50.00	43.00	13.00
35	19.00	9.00	30.00	30.00	18.00	15.00
36	16.00	37.00	20.00	20.00	22.00	16.00
37	9.00	9.00	9.00	9.00	28.00	50.00
38					33.00	30.00
39					5.00	9.00
40					22.00	17.00
41					17.00	0.00
42					31.00	5.00
43					5.00	12.00
44					36.00	52.00

5. Will the funding and recommended staffing ratios/formulas of the BEP be adequate to permit all public school systems in North Carolina to teach all of the minimum requirements of the BEP?

The staffing formulas/ratios of the BEP will allot teachers based on the average daily membership (ADM) of students in grades K-3, 4-6, 7-8, and 9-12. Table 9 shows the projected final ADM for 1991-92 by school system. The allotment of teachers for 1992-93 will be based on these figures.

The 18 school systems in Region 8 will be allotted 4,834.5 certified teachers and support staff. Table 10 shows the breakdown for the total number of teachers, counselors, librarians, vocational teachers, and math, science and computer teachers allotted by the BEP. Counselors and librarians are allotted 1:400, vocational teachers are allotted 1:95, and one teacher per county is allotted for the math, science and computer teacher positions.

Table 11 shows the breakdown of BEP teachers by grades K-3, 4-6, 7-8, and 9-12. These teachers will be allotted 1:20 in grades K-3, 1:22 in grades 4-6, 1:21 in grades 7-8, and 1:24.5 in grades 9-12 and will total 3,975. In addition to these teachers, 1 teacher per county system will be allotted as a math, science, and computer teacher. This brings the total to 3991.

Table 9

Projected Final ADM 1991-92

LEA	Grades			
	K-3	4-6	7-8	9-12
1	6,983.00	5,113.00	3,330.00	5,936.00
2	1,650.00	1,076.00	700.00	1,206.00
3	1,057.00	844.00	561.00	1,119.00
4	314.00	262.00	177.00	338.00
5	355.00	266.00	207.00	339.00
6	2,259.00	1,579.00	1,139.00	2,044.00
7	2,647.00	2,018.00	1,318.00	2,268.00
8	562.00	379.00	210.00	520.00
9	1,038.00	870.00	554.00	1,021.00
10	1,100.00	798.00	548.00	866.00
11	751.00	600.00	411.00	737.00
12	1,878.00	1,441.00	1,026.00	1,739.00
13	730.00	568.00	368.00	651.00
14	603.00	481.00	313.00	457.00
15	3,099.00	2,252.00	1,629.00	2,971.00
16	502.00	381.00	274.00	508.00
17	1,155.00	926.00	638.00	1,255.00
18	773.00	613.00	436.00	815.00

Table 10

Total Teachers and Support Staff Allotted by the BEP

LEA	Teachers	Counselors	Librarians	Vocational	Math/science	Total
1	982.50	54.50	54.50	97.50	1.00	1,190.00
2	213.50	12.00	12.00	20.00	0.00	257.50
3	163.50	9.00	9.00	18.00	1.00	200.50
4	50.00	2.50	2.50	5.50	1.00	61.50
5	54.00	3.00	3.00	6.00	1.00	67.00
6	322.50	17.50	17.50	33.50	1.00	392.00
7	379.50	20.50	20.50	38.00	1.00	459.50
8	76.00	4.00	4.00	7.50	0.00	91.50
9	159.50	9.00	9.00	16.50	1.00	195.00
10	153.00	8.50	8.50	15.00	1.00	186.00
11	114.50	6.50	6.50	12.00	1.00	140.50
12	279.50	15.50	15.50	29.00	1.00	340.50
13	106.50	6.00	6.00	10.50	1.00	130.00
14	85.50	4.50	4.50	8.00	1.00	103.50
15	456.50	25.00	25.00	48.50	1.00	556.00
16	76.00	4.00	4.00	8.00	1.00	93.00
17	181.50	10.00	10.00	20.00	1.00	222.50
18	121.00	6.50	6.50	13.00	1.00	148.00

Table 11

1992-93 Allotment of Teachers by BEP Staffing Formulas

LEA	Grades				Math/science	Total
	K-3	4-6	7-8	9-12		
1	349.00	232.50	158.50	242.50	1.00	983.50
2	82.50	49.00	33.00	49.00	0.00	213.50
3	53.00	38.50	26.50	45.50	1.00	164.50
4	15.50	12.00	8.50	14.00	1.00	51.00
5	18.00	12.00	10.00	14.00	1.00	55.00
6	113.00	72.00	54.00	83.50	1.00	323.50
7	132.50	91.50	63.00	92.50	1.00	380.50
8	28.00	17.00	10.00	21.00	0.00	76.00
9	52.00	39.50	26.50	41.50	1.00	160.50
10	55.00	36.50	26.00	35.50	1.00	154.00
11	37.50	27.50	19.50	30.00	1.00	115.50
12	94.00	65.50	49.00	71.00	1.00	280.50
13	36.50	26.00	17.50	26.50	1.00	107.50
14	30.00	22.00	15.00	18.50	1.00	86.50
15	155.00	102.50	77.50	121.50	1.00	457.50
16	25.00	17.50	13.00	20.50	1.00	77.00
17	58.00	42.00	30.50	51.00	1.00	182.50
18	38.50	28.00	21.00	33.50	1.00	122.00

Table 12 lists all of the positions allotted for teachers by class size limits of 1:23 in grades K-3 and 1:26 in grades 4-12. The BEP will allot 3,465 teachers to these 18 public school units.

For the school systems in Region 8, there was a difference of 241 teachers in the total number of teachers and support staff allotted by the BEP and the number that the region would need to implement the required BEP. Only one school system in the region reported having a surplus of teachers. Thirteen systems, some small and some large, indicated that the staffing formulas would provide within 19 positions the number of needed teachers. Four systems reported a deficit of 31, 38.5, 41.5, and 50.5 positions. Table 13 lists the 18 school systems in Region 8 by projected ADM from the largest to the smallest unit. It also lists the difference in the number of teachers allotted by the BEP and the number of teachers needed by each system.

The allotment for media coordinators provided 218.50 positions. Systems reported a need for 217. The difference in the allotment and the need ranged from -1.5 to +2.5 positions. Table 14 shows the allotment and needs of each system.

The allotment for counselors provided 218.5 counselors for 230.5 needed positions. This suggests a shortage of 12 counselors. Half of the systems received the exact number needed. Table 15 lists the

Table 12

1992-93 Allotment of Teachers by Class Size

LEA	Grades				Total-
	K-3	4-6	7-8	9-12	
1	303.50	196.50	128.00	228.50	856.50
2	72.00	41.00	27.00	46.00	186.00
3	46.00	32.50	21.50	43.00	143.00
4	13.50	10.00	7.00	13.00	43.50
5	15.50	10.00	8.00	13.00	46.50
6	98.00	60.50	44.00	78.50	281.00
7	115.00	77.50	50.50	87.00	330.00
8	24.50	14.50	8.00	20.00	67.00
9	45.00	33.50	21.50	39.50	139.50
10	48.00	30.50	21.00	33.50	133.00
11	32.50	23.00	16.00	28.50	100.00
12	81.50	55.50	39.50	67.00	243.50
13	31.50	22.00	14.00	25.00	92.50
14	26.00	18.50	12.00	17.50	74.00
15	135.00	86.50	62.50	114.50	398.50
16	22.00	14.50	10.50	19.50	66.50
17	50.00	35.50	24.50	48.50	158.50
18	33.50	23.50	17.00	31.50	105.50

Table 13

School Systems by Projected ADM and Difference in the Number of
Needed and Allotted Teachers

ADM	Teachers
21,754	-1.00
4,756	-31.00
3,594	-10.50
1,093	-8.50
1,173	-10.00
7,092	-50.50
8,293	-38.50
1,692	-6.00
3,509	-1.50
3,320	-19.00
2,506	-16.50
6,106	-41.50
2,330	-3.00
1,857	-9.00
10,043	-12.00
1,668	-5.00
3,991	14.00
2,657	-1.50

Table 14

Media Coordinator Allotment and Projected Need

LEA	Grades				Needed	Allotted	Difference
	K-3	4-6	7-8	9-12			
1	17.50	12.50	8.00	15.00	53.00	54.50	1.50
2	2.00	3.00	3.00	4.00	12.00	12.00	0.00
3	2.50	2.00	1.50	3.00	9.00	9.00	0.00
4	1.00	0.50	0.50	1.00	3.00	2.50	-0.50
5	0.50	0.50	1.00	1.00	3.00	3.00	0.00
6	5.00	5.00	4.00	4.00	18.00	17.50	-0.50
7	4.50	4.50	6.00	6.00	21.00	20.50	-0.50
8	1.00	1.00	1.00	2.00	5.00	4.00	-1.00
9	2.00	2.00	2.00	3.00	9.00	9.00	0.00
10	2.00	2.00	1.00	2.00	7.00	8.50	1.50
11	2.00	2.00	1.00	2.00	7.00	6.50	-0.50
12	4.00	4.00	2.00	3.00	13.00	15.50	2.50
13	4.00	1.00	1.00	1.00	7.00	6.00	-1.00
14	1.00	1.00	1.00	2.00	5.00	4.50	-0.50
15	8.00	6.00	6.00	6.00	26.00	25.00	-1.00
16	1.00	1.00	1.00	1.00	4.00	4.00	0.00
17	2.00	2.00	2.00	2.00	8.00	10.00	2.00
18	2.00	2.00	2.00	1.00	7.00	6.50	-0.50

breakdown of the counselor allotment by grades K-3, 4-6, 7-8, and 9-12. The range for the difference in the needs and the allotment was -3.5 to +1.5.

The vocational teacher allotment provided 406.5 teachers for 420 positions. Table 16 lists the needs and the allotment of vocational teachers for each system. The range of the difference in the two was -8.5 to +7.

When a correlation between the number of needed teachers and the difference in the allotted teachers and the needed teachers was computed, a non-significant correlation of $-.175$ resulted.

However, when a correlation was computed between the allotted teachers and the needed teachers there was a near perfect positive correlation of $.998$.

SUMMARY

Chapter IV contained a presentation of the results in this study. This chapter contained the information collected from the individual school systems about the number of teachers needed to provide the minimum course offerings of the BEP. A comparison was made between the number of teachers allotted by the staffing formulas of the BEP and the teachers needed by the 18 school systems in the Western Education Region of North Carolina.

Table 15

Guidance Allotment and Projected Need

LEA	Grades				Needed	Allotted	Difference
	K-3	4-6	7-8	9-12			
1	17.50	13.00	8.00	19.00	57.50	54.50	-3.00
2	2.00	3.00	3.00	4.00	12.00	12.00	0.00
3	2.50	2.00	1.50	2.50	8.50	9.00	0.50
4	1.00	0.00	1.00	1.00	3.00	2.50	-0.50
5	0.50	0.50	1.00	1.00	3.00	3.00	0.00
6	4.50	4.00	6.00	4.00	18.50	17.50	-1.00
7	4.50	4.50	6.00	9.00	24.00	20.50	-3.50
8	1.00	0.50	0.50	2.00	4.00	4.00	0.00
9	2.00	2.00	2.00	3.00	9.00	9.00	0.00
10	2.00	2.00	1.00	2.00	7.00	8.50	1.50
11	1.50	1.50	1.00	2.50	6.50	6.50	0.00
12	5.00	4.00	2.50	4.50	16.00	15.50	-0.50
13	1.00	1.00	3.00	2.00	7.00	6.00	-1.00
14	0.50	1.00	1.00	2.00	4.50	4.50	0.00
15	7.00	6.00	6.00	9.00	28.00	25.00	-3.00
16	1.00	1.00	1.00	2.00	5.00	4.00	-1.00
17	3.00	2.00	2.00	3.00	10.00	10.00	0.00
18	1.50	1.50	1.00	2.50	6.50	6.50	0.00

Table 16

Vocational Teacher Allotment and Projected Need

LEA	Grades			Needed	Allotted	Difference
	4-6	7-8	9-12			
1	4.00	9.00	83.00	96.00	97.50	1.50
2	2.00	5.00	13.00	20.00	20.00	0.00
3	0.00	2.00	16.00	18.00	18.00	0.00
4	0.00	1.50	7.00	8.50	5.50	-3.00
5	1.00	1.00	4.00	6.00	6.00	0.00
6	0.00	11.00	31.00	42.00	33.50	-8.50
7	0.00	6.00	30.00	36.00	38.00	2.00
8	0.00	1.00	7.00	8.00	7.50	-0.50
9	0.00	5.00	12.00	17.00	16.50	-0.50
10	0.00	2.00	15.00	17.00	15.00	-2.00
11	0.50	2.50	12.00	15.00	12.00	-3.00
12	2.00	6.00	22.00	30.00	29.00	-1.00
13	0.00	3.00	7.50	10.50	10.50	0.00
14	0.00	2.00	8.00	10.00	8.00	-2.00
15	0.00	6.00	43.00	49.00	48.50	-0.50
16	0.00	1.00	10.00	11.00	8.00	-3.00
17	0.00	5.00	8.00	13.00	20.00	7.00
18	0.00	2.00	11.00	13.00	13.00	0.00

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This chapter presents a summary of the study in the areas of related literature, methodology, and analysis of the data collected for the study. Discussion of the results, conclusions and recommendations for further research are provided.

SUMMARY OF THE STUDY

The primary purpose of this study was to examine the staffing formulas/ratios of the North Carolina Basic Education Program. School districts were studied to determine if there would be an adequate number of teachers allotted to individual school systems when the BEP is fully funded in order to offer all students the required courses of the Standard Course of Study.

A review of the literature was conducted in three interrelated areas: educational change, recent national educational reform proposals, and regulations and precedents of educational reform in North Carolina. The review of educational change revealed that educators did not operate in a vacuum but acted and reacted in a complex society of individuals and organizations. Success of reform

movements depended on coordination and interaction among all the parties involved.

A number of groups have studied the status of the public school and published reports, studies, and proposals making recommendations for improvements and changes in the educational system. Five nationally recognized reform-oriented documents, The Paideia Proposal, A Nation at Risk, Action for Excellence, High School: A Report on Secondary Education in America, and A Place Called School, among others, have shaped the actions of educators and legislators concerning the Basic Education Program.

State law and history bound leaders and lawmakers in North Carolina and caused them to examine the precedents and regulations in the state. The North Carolina Constitution mandated free public schools with equal opportunities for all students. The North Carolina Elementary and Secondary School Reform Act of 1984 directed the State Board of Education to develop a standard course of study for every child in North Carolina public schools, and the State Board responded to this directive with the Basic Education Program.

DISCUSSION OF THE RESULTS

The Basic Education Program was proposed in October 1984 and contained a variety of resource allocation formulas that would

assure that suitable wherewithal would be provided to every school system in the state to offer a standard course of study. Adopted by the 1985 Session of the General Assembly, the BEP was designed to provide a basic program of instruction to all children in North Carolina.

The most important recommended resource allocation ratios are the staffing formulas/ratios for classroom teachers. Prior to the beginning implementation of the BEP in 1984-85, class size maximums were 1:26 in grades K-3, 1:29 in grades 4-6, 1:33 in grades 7-8, and 1:34 in grades 9-12. The BEP specifies that the appropriate class size is 1:23 in grades K-3 and 1:26 in grades 4-12. In 1984-85, teachers were allotted 1:26 for grades K-6, 1:30 for grades 7-8, and 1:31 for grades 9-12. The BEP staffing formulas/ratios for teachers are 1:20 in grades K-3, 1:22 in grades 4-6, 1:21 in grades 7-8, and 1:24.5 in grades 9-12.

The difference between the BEP's recommendation concerning class size and allotment formula is to allow administrative adjustments among schools within a district or among classrooms within a school. If allotted positions coincided exactly with class size recommendations, insurmountable problems would occur when a system's total enrollment in a grade was not exactly divisible by the maximum allowable class size. The BEP recommends classes of no

more than 23 pupils in grades K-3 but allots teachers on the basis of one position for 20 pupils. The difference between recommendation and allotment allows some leeway for administrators at the local level in assigning pupils to a particular classroom group. It also determines the number of additional teachers a school system will receive to teach the extra BEP course offerings such as foreign language, physical education, and the arts.

The BEP establishes formulas/ratios for support staff such as counselors, library/media specialists, and vocational teachers. Local school systems are allowed to determine which of these support staff positions will be added during any one year but must have them all in place when the BEP is fully implemented.

The original intent of the 1985 General Assembly was to fund the BEP fully by July 1, 1993. The completion date is now 1994-95. As of July 1, 1990, only 56 percent had been funded. In 1989 and 1990, the General Assembly departed considerably from the original schedule of resource allocations and funded only teachers and instructional support personnel (SDPI, 1991, p. 22).

Students in local school systems have already experienced benefits of the BEP. Class size has been reduced and course offerings have been expanded across grade levels. Many students are receiving physical education, foreign language, music, art, dance,

and drama for the first time. Counselors and media coordinators have strengthened the support programs of schools and are providing new services to students. Additional money has enabled school systems to purchase computers, laser disc players and programs, VCRs, and needed materials and supplies. Summer school has allowed students to receive further remediation and has reduced the number of students being retained.

Parents have responded favorably to the benefits of the BEP. They have become accustomed to the enhanced course offerings and guidance services in the schools. They have supported fewer interruptions in the school day and have been elated as student test scores improved.

Teachers, once concerned about what to teach, have expanded their subject matter by following the Standard Course of Study. Staff development monies have provided the opportunity for new and additional training, and some teachers have even returned to college to seek advanced degrees. Greater emphasis on testing has emphasized the need to cover required subject matter. Additional money for materials and supplies has enabled school systems to update science laboratories and provide more manipulatives for hands-on activities in math and science.

With additional teachers, materials, and supplies, administrators

have been able to implement changes in the quality of course offerings. The addition of assistant principals has improved the supervision of students and teachers.

The BEP has created some problems for schools. Teachers, in fact, have often talked negatively about the BEP saying that the instructional day has become too fragmented. They are critical of student pull-out programs and the interruptions by teachers of foreign language and the arts. Administrators need to work with teachers and both need to learn how to schedule personnel more effectively. It is not necessary to hire specialists for every class of art, dance, and music. Regular classroom teachers can incorporate these things into the regular school day.

Administrators, teachers, parents, and students need to cooperate in seeking common goals. All need to realize that the BEP has not only provided new money and services; it has also created an urgent need to examine and re-evaluate tradition. Although the concept of isolated individual classrooms was challenged years ago by the arrival of paraprofessionals and the inclusion of exceptional children in school programs, many made minor adaptations to new demands while clinging tenaciously to the basic idea that classroom groups should move uninterrupted through basic texts in traditional subjects. The BEP has shattered a notion which had already begun to

crumble.

It is important that policy makers and administrators assist teachers and public education patrons in agreeing upon and in articulating goals which reflect the potential advantages of the BEP. All should realize that today's students do not fit the prototypes they might envision. Many school patrons of the 1990s do not live in single family dwellings with two biological parents. It is quite possible the student was born in a distant city, will reside in more than one school district during public school years, or will ultimately live in a cultural setting very different from the one into which he was born. It is likely that in any given classroom there are students who are adjusting to separation, divorce, or re-structured family units and need the professional expertise of a guidance counselor. Others can best be served by exceptional child specialists, and still others may be disadvantaged and need remediation. In addition to those whose need is apparent, there are potential musicians or artists whose talents may lie forever dormant unless discovered in the public school classroom.

Each of the aforementioned groups--administrators, teachers, parents, and students--bring different, but interrelated perspectives to the goal setting task. The most pressing concerns for administrators are hiring staff, arranging work schedules, and

allotting space. The BEP has in some cases created demand for certain specializations almost faster than colleges prepared candidates for the jobs. Supervisors have found themselves responsible for directing unfamiliar areas, and new programs have exerted unexpected impact on tradition: a music room adjoining a traditional classroom or paint pots and dripping brushes of a visual arts class in a nicely carpeted facility which previously housed a third grade.

Classroom teachers, perhaps the most credible voices to the public, have some genuine concerns about the impact of the BEP. They are keenly aware that newspapers report standardized test results and that state-mandated retentions are based on academic performance. Their logic and their innate concern for children tell them that special education students really do need the "least restrictive environment" of a regular classroom, that disadvantaged pupils need remediation but catch up only very slowly, and that academics should not preclude cultural arts. Yet, realizing the importance attached to test scores, they insist that traditional group instruction be maximized.

Parents and students--the ultimate consumers--applaud legislative generosity; new staff members and greater inventories of equipment and supplies are universally approved. But they, too,

evaluate education with a tradition-notched yardstick: education is an activity which should occur during 180 six-hour days; homework should be minimal; and summers should be unencumbered.

As has been pointed out earlier in this document, and as many of the references attest, schools do not operate in a vacuum. A local school is the focal point for many points of view. Attitudes and demands from a multitude of sources impinge on day-to-day activities. School employees at every level must endeavor to apply both the largess and the restraints of the BEP to local problems and opportunities in a way that is responsive to assorted pressures, pressures from as near as the local PTA or as remote as the Office of Education in Washington.

Reilly was correct when he stated that "educational systems do not determine their own goals" (1989, p. 23). They can, however, influence them by gathering and sharing data which will help policy makers to base their enactments and which will help the public to react on the basis of informed opinion.

CONCLUSIONS

1. The staffing formulas/ratios will not provide adequate staff to school systems to offer all of the required course offerings in the Standard Course of Study. However, the study revealed that the

largest school systems will have the least difficulty implementing the BEP according to the current staffing formulas. Medium size school systems with 4,700 to 8,300 students will have the greatest difficulty implementing the BEP with the current formulas.

2. Knowledge of shortages in certain areas of certification appear to be helping colleges to direct students into areas of greatest need. The ratios in supply and demand are diminishing. Delaying the full implementation of the BEP is also helping to alleviate the immediate need for more teachers.

3. A variety of factors will influence the way systems implement the BEP staffing formulas. Total enrollment, distance between schools, availability of work stations, and community characteristics are some of the factors which will guide local administrators in utilizing staff positions.

4. Many educators perceive problems as well as potential in the matter of utilizing new BEP positions. Some of the perceived problems spring from customary anxiety related to change and are inconsequential; others are real.

RECOMMENDATIONS

I. In order to implement the BEP using the current staffing formulas, it will be necessary for teachers and principals to work

together planning schedules and integrating the various programs of the BEP. Administrators and teachers should cooperatively agree on guidelines which would enable all teachers, whether traditional or specialists, to achieve their goals. For instance, principals should schedule in such a way that classes have an agreed upon minimum of uninterrupted teaching time, and specialists should understand that teaching stations are not always ideal. Principals should coordinate the efforts of all staff members to create schedules which are most beneficial to students. Flexibility at the school level will be essential.

2. Specialists do not have to be hired in order to teach the course offerings of the Standard Course of Study. A specialist hired for a system should work with individual teachers in order to implement the course offerings. For example, a physical education could teach a class once a week and leave plans for the regular classroom teacher to work with the students the other four days in the week. Classroom teachers can teach art or music in their individual classroom. It is not necessary to just have art in the art room with a certified teacher. School board policy should reflect the flexibility that would free administrators to offer cultural arts and elementary physical education by means other than direct instruction by a certified teacher in every area of specialization.

3. School systems should work together to offer speciality areas of the BEP. For example, arrangements could be made to teach physics in one system and chemistry in another and bus students across county lines to take the courses. School systems could also share a certified teacher in specific areas such as dance or drama. Such informal arrangements between systems already exist. Neighboring superintendents could work out solutions appropriate to their population and geographical area.

4. School systems should intensify inservice opportunities for all staff. Experienced personnel need the opportunity to voice their concerns about change and to broaden their vision about potential. New staff need exposure to program features which should be protected and maintained and they need orientation to areas of weakness which can be improved. Funds are appropriated to every system for staff development, and each system now has a designated staff development coordinator. Staff development necessitated by the impact of the BEP should be under the direction of the same coordinator.

5. School personnel should share information enthusiastically with groups such as PTA's and civic clubs. Community perceptions of change are more likely to be positive when based on sound understanding. All school systems have a state funded community

school coordinator. In most systems this staff member already has in place procedures to share information with all segments of the community. The school community coordinator could use the existing organization to mold accurate perceptions of the BEP.

6. Administrators should conscientiously strive to schedule personnel effectively. A casual approach to assigning pupils to “pull out” staff can seriously impair teaching time for classroom teachers. Principals often prepare schedules under pressure, and some have greater skill in this area than others. A central office administrator should be specifically assigned to generally oversee schedules and should assist principals who may have unique problems in creating a usable schedule.

Recommendations for Future Study

1. The public school systems in the other seven education regions in North Carolina should be studied to determine if there will be an adequate number of teachers provided by the staffing formulas/ratios of the North Carolina Basic Education Program to offer all of the courses in the Standard Course of Study. Results should be compared for the eight regions, and if similar results are found, recommendations for changes in the staffing formulas for the BEP should be made to the North Carolina Department of Public

Instruction. If some systems appear to have divergent needs, an investigation of the demographics should be done to determine if there are specifics that make a difference in the allotment of teachers.

2. Additional studies should be conducted using an interview technique for the purpose of gathering data. This method would lessen the chances of misinterpreting questions and statements. At the same time it would provide the opportunity for making more accurate interpretations of the responses, even though it would be more time consuming.

3. A study similar to this one should be conducted with projected allotments to individual grade levels, not by grouped grades K-3, 4-6, 7-8, 9-12. This method would provide the opportunity for making more accurate predictions about the number of teachers needed in schools with various grade levels.

4. Studies should be made to determine if there will be adequate numbers of teachers available in various areas of certification to meet the staffing needs of school systems as they implement the North Carolina Basic Education Program.

5. A study should be conducted with the colleges/universities with teacher preparation programs to determine if suggestions and guidance are available to help students select degrees and areas of

certification that will enhance their changes for employment.

6. Similar research should be conducted after the Basic Education Program has been fully implemented to determine and compare the differences which occur.

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APPENDIX A
LETTER TO SUPERINTENDENT

Dear

I am a doctoral student at the University of North Carolina Greensboro completing a dissertation on the North Carolina Basic Education Program.

I am interested in knowing if you can offer ALL of the minimum required courses of the BEP using only state allotted teachers and state vocational teachers. I am providing information to you on the projected number of teachers you will receive through the BEP for 1992-93. This number is based on your projected average daily membership and the staffing ratio/formulas of the BEP. A list of the required course offerings for grades K-5, 6-8, and 9-12 are attached. Pay special attention to the courses required in each area.

Please complete the following two sheets projecting how many teachers you will need to fully implement the BEP in your system in 1992-93. Assume that all of the minimum required courses will be offered K-12.

Your prompt completion of this questionnaire will be greatly appreciated.

Sincerely,

Mary Margaret Ingle
Director of Instruction

APPENDIX B
QUESTIONNAIRE

If there are curriculum areas or grade levels in which the number of teachers needed is greater than the number of state teachers you will receive, how will you handle the differences?

- Locally paid teachers
- Will not be able to implement the BEP unless more state teachers are available
- Other. Explain. _____
- _____
- _____

Do you anticipate any problems in allotting teachers as a result of number, size, or grade levels in your system? _____

What alternatives will you use to offer a required class to five or less students? (Choose all that apply to you.)

- Ti-In Network
- Regular teacher
- Independent study
- Community colleges
- Itinerant teacher serving several schools
- Other (Specify) _____
- _____

Do you anticipate having problems in obtaining certified school personnel to implement the BEP? _____ If so, in which areas? (Choose all that apply to you.)

- The Arts (art, music, theatre arts, or dance)
- Communication Skills (English)
- Health/Physical Education
- Media/Computer Personnel
- Mathematics
- Science
- Foreign Language
- Social Studies
- Vocational Education
- Guidance

What problems do you perceive with implementing the Basic Education Program? _____

Are there any other aspects to the BEP not covered in the questionnaire you would comment on? _____

KINDERGARTEN THROUGH GRADE FIVE

ARTS EDUCATION

Dance
Music
Theatre Arts
Visual Arts

COMMUNICATION SKILLS

Listening
Speaking
Reading
Writing
Viewing
Study Skills

GUIDANCE

Positive attitude toward self
Life-planning skills
Responsible social skills
Lifelong learning

HEALTHFUL LIVING

Health
Physical Education
Safety

LIBRARY/MEDIA & COMPUTER SKILLS

Orientation and organization
Selection and Use
Comprehension and application
Production and presentation
Enrichment
Computer awareness

MATHEMATICS

Numeration
Whole Numbers
Fractions
Decimals
Measurement
Geometry
Probability and statistics

SCIENCE

Life Science
Physical Science
Earth Science

SECOND LANGUAGE STUDIES

Listening
Speaking
Pre-reading
Reading
Writing
Culture

SOCIAL STUDIES

Anthropology
Economics
Geography
History
Political Science
Sociology

GRADE SIX THROUGH EIGHT

ARTS EDUCATION (Student required to take one per year)

Dance
Music
Theatre Arts
Visual Arts

SCIENCE

SECOND LANGUAGE STUDIES (Student choice)

COMMUNICATION SKILLS (Required)

SOCIAL STUDIES (Required)

GUIDANCE (Required)

VOCATIONAL EDUCATION (Student choice)

HEALTHFUL LIVING (Required)

Health
Physical Education
Safety

Prevocational Education
(Grade 7,8)

Business & Office Education
(Grade 7,8)

Home Economics (Grade 7,8)
Industrial Arts (Grade 7,8)

LIBRARY/MEDIA & COMPUTER SKILLS (Required)

MATHEMATICS (Required)

REQUIRED SUBJECTS GRADE NINE THROUGH TWELVE

(Minimum Requirements that must be available)

ARTS EDUCATION

Art I	Theatre Arts
Art II	Theatre Arts II
Art III	Theatre Arts III
Dance I	General Music
Dance II	Vocal Music
	Instrumental Music

COMMUNICATION SKILLS

English I	English III
English II	English IV

HEALTHFUL LIVING

Health Education
Safety Education
Physical Education

MATHEMATICS

General Mathematics	Algebra I
Consumer Mathematics	Geometry
Introductory Algebra (Part 1)	Algebra II
Introductory Algebra (Part 2)	Advanced Mathematics

SCIENCE

Physical Science	Biology
Earth Science	Chemistry
Physics	

SECOND LANGUAGE

Second Language I	Second Language III
Second Language II	Second Language IV

SOCIAL STUDIES

United States History
World History, World Cultures, or World Geography
Economics and Government and
At least one elective from designated courses

VOCATIONAL EDUCATION (Must include offerings in at least three of the following)

Prevocational Education	Health Occupations
Agriculture Education	Home Economics Education
Business & Office Education	Industrial Arts Education
Marketing & Distributive Education	Trade & Industrial Education

LIBRARY/MEDIA & COMPUTER SKILLS

GUIDANCE

APPENDIX C
LETTER TO COLLEGE OR UNIVERSITY

Dear

I am a doctoral student at the University of North Carolina Greensboro completing a dissertation on the North Carolina Basic Education Program.

I am finding that there is concern among superintendents about the number of teachers that will be available to fill the new positions required by the Basic Education Program. Teachers certified in certain curriculum areas of the BEP appear to be in short supply in some geographical areas of the state.

As a college/university with a teacher education program, I would like to know how many graduates you had with education degrees in 1989, and how many you expect to have with degrees in education in 1990, 1991, and 1992.

Your prompt response will be greatly appreciated.

Sincerely,

Mary Margaret Ingle
Director of Instruction