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Cover Photo: Schoolchildren clean the schoolyard (early 1900s). This issue concentrates on North Carolina's school system. The photos come from the Department of Archives and History, Raleigh, from the Superintendent of Schools, Burke County (Jim Hedrich, photographer), and from the architectural firm of Wilber, Kendrick, Workman, and Warren (Gordon H. Schenck, Jr., photographer).

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Current Issues in Education

Duane Brown and Gary Stuck

If educational topics and issues were rated in terms of public interest and educational relevance, the authors believe the following issues would rank quite high on both scales: (1) classroom discipline; (2) mainstreaming; (3) reading instruction; (4) career education vs. traditional education; (5) discovery learning vs. reception learning; and (6) open education vs. traditional education.

Obviously, it is not possible to provide an in-depth treatment of each of these issues here. Rather, our purpose is to give an overview of each of these topics. For each issue, important concepts will be defined, the major controversies and confusions discussed, and related research findings and educational implications presented.

For the sake of brevity and readability, it has been necessary to generalize more than may be desirable and to keep references and citations to a minimum.

Issue: Approaches to Classroom Discipline

On January 22, 1975, the U.S. Supreme Court outlined in the *Goss v. Lopez* decision the procedural steps for schools to take when suspending students up to ten days. The Court held that students must be given oral or written notice of charges levied against them and must have an opportunity to state their side.

Other federal decisions have affirmed the right of teachers and administrators to administer corporal punishment as a disciplinary measure. While these decisions have helped to clarify teacher and student rights in the disciplinary process, concern about the disruption of classroom activities by unruly student behavior continues. Indeed, George Gallup's annual poll conducted to determine attitudes toward education found that parents and students alike regarded *lack of discipline* as the number one problem in American schools today.[1]

While there is agreement that discipline is a major problem, there is little agreement about the best solution to it. Perhaps the major subissue is the argument about corporal punishment. On the one hand, teachers maintain that without the deterrent of corporal punishment, an already difficult situation would become much worse. Anticorporal punishment forces point out that school children are the only members of our society who can be beaten or physically abused without violating their civil rights. (No one can paddle a convicted criminal without fear of litigation.) There is also concern that corporal punishment alienates students from school, causes psychological damage, and teaches students to solve problems using violent means. Perhaps an argument could be made for the latter charge, but no substantial evidence exists to support the idea that corporal punishment leads to alienation or causes students psychological damage. However, classrooms that are tense with the threat of harsh disciplinary procedures, including corporal punishment, ridicule, and other demeaning practices, could undermine the students' mental health.

Perhaps the most forceful argument against corporal punishment is that it isn't working. With this in mind, many school districts have turned to modern psychology for alternative approaches to discipline, particularly behavior modification. The mere mention of behavior modification is enough to anger some people, since for them behavior modification means that students will be manipulated so they will blindly conform to a set of rules. While it is true that some educators have misused the technology of B. F. Skinner and others, the majority have not. Such harsh measures as the use of electroshock to control autistic children, or the placing of elementary children in isolated "time-out rooms" are rapidly disappearing from the educational scene.

What has arisen is a behavior modification approach that stresses helping students learn to manage their own behavior. Humanistic behavior modification specialists stress that their goals are the same as all psychologists'—to free the individual from maladaptive behavior so that he can participate more fully in society, including school. Still the specters of *Clockwork Orange* and *Walden Two* loom in the minds of many, and for them, behavior modification in any form is hard to accept.

Suspension is also widely advocated as a means of control-

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1. *Phi Delta Kappan* 41 (1976), pp. 13-22.

ling behavior. Suspensions are of two types: definite and indefinite. A definite suspension lasts for a specified period of time, usually from one to five days. Indefinite suspensions may remove the student from school permanently, particularly if the student has passed the mandatory age limit for schooling. More likely, however, a student would be suspended until certain conditions have been met (e.g., parent agreements about future behavior or perhaps payment for property that has been destroyed).

Suspension as a disciplinary measure has come under fire from two sources—the U.S. Office of Education and some educators. Certain staff members of the Office of Education charge that members of minority groups are more likely to be suspended than white, middle-class Americans. Other educators have questioned suspension as a disciplinary technique, pointing out that taking students out of school is a poor way to motivate them to behave well in school. In fact, some contend that suspension actually rewards misbehavior. Neither of these arguments has been substantially supported. Nevertheless, suspension as a disciplinary tool is used more cautiously now than in the past.

The number of disciplinary problems is going up, according to most observers. The question that must be asked is, "What is the impact upon the educational process?" While it can be readily asserted that there can be no learning without order, increased numbers of discipline problems have not been linked to lower academic achievement, at least not at this time. It is certain that teachers' morale is lower because of their inability to exercise adequate control, and this may have indirectly influenced achievement in some schools. Increasingly, attempts to improve students' in-school behavior will focus on involving parents in the disciplinary process, for parents seem to hold the answer to this complicated problem. Most of us remember our parents' admonishment, "Get a spanking in school and you'll get another one when you get home." While many educators would like to see parents return to this policy, most would probably settle for better cooperation between parents and teachers in coping with disciplinary problems.

Issue: Mainstreaming

It is traditional in American society to isolate deviants, to put them "out of sight and out of mind." To be sure, isolation of criminals is and will continue to be a necessity. However, the policy of institutionalizing the emotionally ill for long periods of time has proven counterproductive as a treatment strategy, and now every attempt is being made to return the mentally ill person to society as quickly as possible. Similarly, we are now recognizing that our policy of placing the intellectually deviant—particularly those at the lower end of the continuum—has not borne the fruits we had anticipated: higher self-esteem and increased academic achievement.

Recent court cases have held that all students, including the physically and mentally handicapped, have a right to full educational opportunities. Further, courts have ruled that approaches labelling individuals as deviants and placing them in isolated classroom situations do not insure equal educational opportunity. Indeed, research findings demonstrate that one group, the mentally retarded, do less well on achievement test scores when placed in special classrooms than they do in regular classrooms. There has also been concern about the psychological impact of the isolation of the special student from "normal" students. Consequently, courts and legislatures have stipulated that, whenever possible, exceptional students should be educated within the context of the regular classroom. Thus, mainstreaming has emerged as an educational issue that is perhaps second only to that of classroom discipline.

Teachers in regular classrooms are perhaps the most upset by the movement to mainstream. They assert, with some justification, that they have not been adequately prepared to cope with the educable mentally retarded student, the student with minimal brain damage, the hyperactve child, or the myriad of other children with special problems. In fact, teachers contend that they have enough difficulty dealing with the heterogeneity of the students that they have been teaching, let alone a more diverse population. Finally, teachers maintain that some students, particularly those who are slow intellectually, develop lower self-concepts when they are placed in the regular classroom than when they are in special classes.

Teachers' concerns seem to be in two specific areas. First, they see their already hectic lives being further burdened by the presence of special students in their classrooms. Second, they are concerned about the educational life of these special students. Some contend that both of these problems could be handled if class size were reduced substantially. However, available data do not seem to support this argument.

Those who favor mainstreaming point out first of all that special students in the regular classroom have higher levels of achievement. Their explanation of this phenomenon, and it seems valid, is that special students learn a great deal from other students even in the absence of well-developed teaching strategies. Proponents of mainstreaming also suggest that the lower self-concept special students develop in the regular classroom may be in large part due to the teacher's techniques. In fact, preliminary analyses of data appear to support this hypothesis, but the data are far from conclusive.[2] It is certain that students can be extremely cruel to other students, particularly to those with lesser ability, and this undoubtedly contributes to lower self-concepts in these students. However, even this sort of behavior may be at least partly under the control of the classroom teacher. Thus, some of those conditions that contribute to lower self-esteem among special students in regular classrooms may be at least partially ameliorated.

Proponents of mainstreaming also note that the regular classroom teacher has a wide range of resource persons available for help if he or she is unable to cope with the problems of the special child. For example, school psychologists provide psychodiagnostic services, counselors assist students with emotional adjustment problems, and home-school coordinators attempt to involve parents in the educational process.

Perhaps the most telling argument put forth by the advocates of mainstreaming is that school is not for teachers but for students. In school all students should have an opportu-

2. Personal communique from Marlys Mitchell, a University of North Carolina researcher.

nity to experience a microcosm of society. To isolate certain groups from others is to detract from the educational opportunities of all groups involved. According to this argument, teachers who are unable to participate in and maximize this learning experience should probably be replaced.

One concern that has not been addressed is a question raised by parents of students with average or above average intelligence, "Will the achievement of my child be hindered by the presence of less intellectually able students in the classroom?" While there is little hard data on the subject, based on available knowledge it appears that bright students will not be held back by mainstreaming. There are, of course, other unanswered questions regarding mainstreaming. What will ultimately be the influence of mainstreaming on teacher morale? If it is negative, will this be reflected in their teaching and ultimately in student achievement? Can resource persons adequately provide the support that teachers need to deal with special students? Without answers to these questions, it is difficult to forecast the total impact of mainstreaming of the groups involved.

Issue: Reading Instruction

The importance of reading is attested to by the fact that several hundred studies have been reported on it. Most of the early studies were done by reading specialists and educational psychologists. More recently, however, research related to reading has also been done by professionals from many other disciplines such as medicine, linguistics, and sociology. Needless to say, there has been a tremendous increase in the availability of printed materials in our society. None of the alternative communication media—television, radio, or films—have threatened the status of printed materials for communicating and transmitting the knowledge and skills so essential today. Reading remains the basic process of education in every country.

Reading research has dealt with almost every imaginable psychological and sociological factor. This paper is concerned with the practical implications of such research. More specifically, the question of interest is, "What can the teacher do to maximize the efficiency of reading instruction?" We are also interested in knowing how children today compare with those of the past in reading ability. It appears, based on available evidence, that children today read as well as or better than earlier generations.[3]

Although research on learning how to read has been extensive, a large number of these studies have not produced the expected results. (Many of these studies have been done with college students, probably because the researchers have been located in university settings.) The focus of this article is on the public school-age child and younger. Studies with these children tend to show that instruction that emphasizes letter sounds and names (code emphasis) is more effective than methods that place the major emphasis on meaning.[4] This finding is most relevant to beginning reading instruction although the major benefits do not necessarily appear until the third or fourth grades. When compared on a short-term basis, there generally have not been consistent differences between analytic and synthetic methods. One study has proposed a conceptually based information processing model that emphasizes the meaning approach.[5] This model has been well accepted in the last few years.

Not surprisingly, research shows that young children do not benefit appreciably from extremely long study periods in one skill area such as reading. Another study found that children who receive 40 to 50 minutes of reading instruction per day do just as well as students who receive 60 to 78 minutes of such instruction per day.[6] The research findings related to other practical considerations have not been too consistent. One researcher found no difference in the reading performance of students taught in groups of slightly more than 30 from the performance of those taught in groups of slightly more than 20.[7] However, another researcher found significant differences favoring groups of fewer than 30 over groups of more than 30.[8]

Although findings related to grouping practices are somewhat mixed, there is little question that pupils and teachers favor reading groups. Group membership is usually based on a combination of intellectual abilities and acquired reading skills. Individualized reading instruction has also been compared to group instruction and has generally produced no significant differences.[9]

There is evidence that improved reading skills resulting from reading instruction do not necessarily transfer to a particular subject matter field.[10] It appears that teachers in subject matter fields must provide additional support and assistance if the improved reading performance is to benefit reading in their areas. Studies have also shown (and teachers believe there are) considerable differences between teachers' understandings of the reading process and how best to facilitate it and those of reading specialists. Teachers have indicated in surveys and expressed in other ways that they need assistance in teaching reading.

Primarily as a result of a study done in Denver in the early 1960s, there has been a tendency to move formal reading instruction down to the kindergarten and preschool ages.[11] This study revealed that all children who had participated in the special reading program benefited immediately. However, only those who had received especially adapted instruction in the early elementary years maintained their reading superiority. Bruner has reported this same general finding

3. Arthur I. Gates, *Reading Attainment in Elementary Schools: 1957 and 1937* (New York: Institute of Language Arts, Teachers College, Columbia University, 1961).

4. See, e.g., J. S. Chall, *Learning to Read: The Great Debate* (New York: McGraw-Hill, 1967).

5. Fred Smith, *Understanding Reading* (New York: Holt, Rinehart and Winston, 1971).

6. Oscar T. Jarvis, "Time Allotment Relationships to Pupil Achievement," *Elementary English* 42 (1965), pp. 201-04.

7. Herbert T. Spitzer, "Class Size and Pupil Achievement in Elementary Schools," *Elementary School Journal* 55 (1954), pp. 82-86.

8. Jack. R. Frymier, "The Effect of Class Size Upon Reading Achievement in First Grade," *Reading Teacher* 18 (1964), pp. 90-93.

9. See, e.g., Richard Wilson and Robert Harrison, "Skill Growth With Individualized Reading," *Elementary English* 40 (1963), pp. 433-35.

10. William S. Gray, "Reading," in Chester W. Harris, ed., *Encyclopedia of Educational Research*, 3d ed. (MacMillan, 1960), pp. 1086-1135.

11. Joseph E. Bryeinski, "Beginning Reading In Denver," *Reading Teacher* 18 (1964), pp. 16-21.

for learning geometry, and it has also been demonstrated in many early intervention studies. The desirability of teaching reading or giving reading-related instruction at such early ages is a controversial topic.

As reading instruction is being extended to younger children, there is also a growing demand for secondary reading specialists. Such persons are now being trained in many institutions, and persons being certified as secondary teachers will, in the future, have had some preservice training in teaching reading.

Consistent with the increased emphasis on reading-related instruction during preschool and kindergarten years is a greater emphasis on preparing parents to provide the appropriate conditions and assistance to their young children.[12] The importance of parental attitudes and the home environment can hardly be overemphasized for reading and other school-related skills. As more and more parents are learning to assist in educating their children, the role of the classroom teacher is changing. Another factor that has influenced the classroom teacher's role in teaching reading is the development of complete reading systems by commercial publishers. The teacher may very well become more of a systems manager than the stereotypic classroom instructor.

We would be remiss if we did not at least mention the North Carolina Primary Reading Program. This program differed from the traditional program in matched comparison classrooms in that the Primary Reading Program provided $5.70 per student for additional supplies and materials, and provided teacher aides, staff development, volunteer services, and increased consulting services for reading. The teachers' approaches were quite eclectic, and all teachers decided for themselves on the instructional methods they felt were most appropriate for each child. The reading tests from the Comprehensive Test of Basic Skills (CTBS) and the Prescriptive Reading Inventory (PRI) were used to ascertain the relative effects of the Primary Reading Program as compared to the traditional method. The results for grade levels one, two, and three favored the Primary Reading Program pupils.[13] The results of this program are very encouraging and the program is being enthusiastically supported by Governor Hunt.

Although there does seem to be justification for expanding the Primary Reading Program, a longitudinal study of its effects should be carried out. The long-term benefits of such a program show its ultimate success and these cannot be known without such a study. Further, researchers should find out which components were responsible for the differences between the Primary Reading Group and the comparison group. Another question that should be answered has to do with the relative effectiveness of different methods with the additional financial aid provided in the Primary Reading Program—that is, the cost effectiveness of several different instructional methods. And above all, the relative effects of the different approaches for different students should be investigated. If there is anything the research tells us, it is that the effectiveness of a particular approach is likely to depend on the characteristics of the learners and the kind of outcome emphasized. Thus, the most commonly reported conclusion in reading research is that there is no one best method for teaching reading.

Durham High School

Issue: Career Education vs. Traditional Education

In the late sixties, largely through the efforts of Sidney Marland, then Commissioner of Education, the General Assembly passed amendments to the 1963 Vocational Education Act providing funds to initiate career education programs. At that time there was little opposition to career education, but as the movement gained momentum, the opposition did also.

It is important to understand at the outset that career education is a comprehensive approach to education and not a teaching strategy or educational technique. The North Carolina version of career education has three components: learning to live; learning to learn; and learning to make a living. It is hard to imagine anything that falls outside the purview of these areas except dying, and that may be a part of learning to live. Not only is career education comprehensive in that it covers all aspects of education, it also emphasizes that education should be life-long, or as one educator put it, "a womb to tomb" approach.

12. One tremendously successful program of this type is reported in F. C. Niedermeyer, *Parent-assisted Learning,* Report No. ED042-588 (Englewood, Calif.: Southwest Regional Educational Laboratory, 1969).

13. Department of Public Instruction, *Primary Reading Program Evaluation* (Raleigh, North Carolina, 1976).

Those who advocate career education assume that one major role of education in our society is to prepare students for productive, fulfilling work. If this is to be achieved, schools must provide educational experiences that will help individuals develop the skills necessary to function both in and out of a work setting, learn information about careers and about themselves so they can make choices, and develop interpersonal and decision-making skills they need for a happy productive life. Finally, individuals need job skills, whether they are in medicine or auto mechanics, that lead to productive employment.

Advocates of career education divide the school years K through 12 into three phases: awareness; exploration; and choice/implementation. In grades K through 6 emphasis is on organizing curricula so that the subject matter relates to the real world, particularly to the world of work. Children need to know, according to this point of view, how mathematics relates to various careers and to leisure time activities as well. This and other correlations between subject matter and real life are made by taking field trips to view careers that require mathematics, bringing in persons such as engineers who use mathematics daily, and by planning class activities that focus on the mathematics skills needed by members of many occupational groups. In addition to relating subject matter to careers and leisure activities, an attempt is made to break down occupational stereotypes (e.g., all doctors are men), to help children develop an appreciation for all types of work, good attitudes, and an information base about careers.

While the awareness stage opens up the world for the child, the exploration phase (grades 7-9) starts the adolescent on the process of assessing his own attitudes and academic skills in relationship to specific career fields. Should I be a scientist if I do not like systematic approaches to investigation? Should I be a machinist if I have poor ability to visualize objects in three dimensions? Should I go into sales if I cannot persuade people to accept my point of view? These and other questions are addressed by: (1) relating subject matter to careers; (2) career counseling; (3) field trips that emphasize more in-depth looks at careers.

Most students make a tentative career choice and plans to implement that choice during grades 10-12. No student should choose law without spending some time with a lawyer, just as no student should choose to be a weaver in the textile industry without first directly observing the job and having contact with weavers. During high school, internship programs and part-time job experiences can permit in-depth exploration. Again, subject matter areas can be related to careers and curricular barriers reduced so that students can try their hands in various areas.

Traditional approaches to education have focused on the development of academic skills at all school levels and placed very little emphasis on career exploration until high school. Further, traditional education has been oriented toward learning for learning's sake rather than toward designing relevant educational experiences for students. Traditional educators argue that such subjects as philosophy, art, and literature have little relevance for making a living but are valuable in human development.

Traditional educators contend that career education is inappropriate for a variety of reasons. Perhaps the foremost reason is that time spent during the elementary school years visiting and studying occupations will take time that should be spent on the three R's. Another major concern is that career education will funnel students into vocational education curricula, thus weakening the academic tradition of American schools. This concern probably arose because initial funding came through the Vocational Education Act, although the law's intention was to promote career development for all students, not just those enrolled in vocational education programs. A third concern raised by traditional education advocates is that career education perpetuates the work ethic—it stresses that to be a worthwhile person one must be a productive worker. Of course, there is divided opinion about whether this is good or bad.

Some of the traditionalists' arguments against career education are simply matters of opinion and therefore cannot be positively refuted; you agree with one side or the other. However, the charge that career education results in lower academic competency can be addressed because there are data available in this area. First, whenever traditional and career education approaches have been compared on the basis of academic competencies, neither program has consistently demonstrated superiority. However, whenever one group of students has shown superior academic achievement, it has usually been a group in a career education program. It is also worth pointing out that students in career education programs have in many instances a lower absentee and drop-out rate than other students.

Our conclusion is that schools need to do more to stimulate career exploration, particularly in this time of high unemployment. Whether this should be done with career education programs is not clear. However, it should be noted that during 1976 Congress reaffirmed its interest in career education by granting the National Institute of Education $200 million for the next five years, and established career education as a funding priority. As new programs are developed, the impact of career education on all aspects of student development should be assessed.

Issue: Discovery Learning vs. Reception Learning

There is little doubt that the learner is the most important ingredient in the learning process. Research has shown that the teacher and his or her approach are also very important factors. One instructional approach that has had wide popular support over the last half-century is the inductive discovery technique. Two well-known proponents of discovery methods of teaching are Jerome Bruner and Richard Suchman. This approach is often contrasted to expository teaching or the reception learning method, whose chief spokesman is David Ausubel.

In discovery learning, the material to be learned is not given but must be discovered by the learner, whereas in reception learning the content is structured by the teacher and presented to the learner in final form.[14] One important

14. David P. Ausubel, *Educational Psychology: A Cognitive View* (New York: Holt, Rinehart and Winston, 1968).

consideration is that regardless of whether the learner acquires the content by discovery or reception, he must internalize it and relate it to his existing system of knowledge and skills. Whether new content is meaningfully or rotely learned depends solely on how the learner incorporates it into his existing knowledge structure. This consideration is implicitly ignored by the discovery learning enthusiasts in their zeal to spread the good word. To them, discovery learning is meaningful learning while reception learning is rote.

There are many varieties of discovery and reception learning approaches. No responsible educator would advocate pure discovery learning. This would be the most chaotic and inefficient process imaginable. The major learning differences between the various discovery learning approaches is the amount of learning guidance they recommend. There is little research evidence (other than single instances of learners observed under certain situations) to substantiate the advantages of discovery learning in general or of the specific varieties.

Little attention has been directed to the functions best served by discovery learning. Discovery learning proponents particularly have imposed their own values on the schools in specifying the desired outcomes of learning. Although they acknowledge the need for students to learn such material as verbal propositions and admit that this is most efficient when expository methods are used, they relegate this type of learning to such a low level that it seems un-American to encourage it. Any teacher who expounds subject matter rather than promoting problem-solving abilities is called an authoritarian. Expository teaching is described as stifling the learner's creativity and critical thinking. And finally, as the claims go, discovery learning is intrinsically motivating and self-rewarding.

This article does not intend to deal with these claims. However, we do feel that it is unfortunate that claims supported by conjecture and subjective judgments have mistakenly led some teachers and administrators to place unquestioning faith in discovery learning approaches. A more sensible way to compare discovery and reception learning approaches is to consider them in terms of the desired outcome, e.g., problem-solving skills or verbal knowledge, and relevant learner characteristics. Since few preschool and elementary-age children can benefit from much abstract verbal learning, guided discovery learning is probably best for this group. However, even at early ages a child profits from some expository teaching. With higher levels of intellectual maturity, he can profit more and more from this type of teaching.

By the time most learners reach junior high school, they have acquired sufficient knowledge and skills (cognitive structure) to deal with abstract content (cognitive maturity) and are no longer so dependent upon empirical experience with concrete materials. It is reasonable to assume that the primary function of secondary schools is to enhance the acquisition of subject matter content and to provide opportunities for learners to apply the subject matter to real or simulated problem situations. It may be argued that this use of problem-solving tasks is not really discovery learning. However, it does seem logical that such experience would broaden the learner's understanding, and by actively involving him in the learning process, enhance his interest and motivation.

In their desire to promote their own instructional approaches, both discovery and reception learning proponents have failed, we believe, to acknowledge society's charge to the schools, the characteristics of the students, and the implicit features of particular learning situations. Learning researchers should no longer ask the simple question, "Which type of learning, discovery or reception, is best?" We have to ask the additional question, "best for what kind of learning outcomes?" We know that the various kinds of learning goals, e.g., concept-learning, rule-learning, or problem-solving, can be achieved by both discovery and reception processes, but not with equal efficiency. We know too that discovery learning takes more time than reception learning. Thus, the major question is, "Can the additional time required for discovery learning be justified in terms of the quality and quantity of learning outcomes?" The basic argument made by the proponents of discovery learning is that this process results in *qualitatively better* and *more valuable* outcomes. They do not argue that it leads to a greater quantity of learning. Rather, they contend that discovery approaches teach problem-solving skills that are meaningful, generalizable and transferable, intrinsically motivating, and highly resistant to extinction. Discovery learning proponents either state explicitly or imply that these skills are exclusively acquired by discovery learning.

Does the evidence support the claims of discovery learning proponents? Most of the research on discovery learning has been conducted in situations only vaguely resembling actual classroom situations. The researchers have generally selected naive pupils for their studies and have seldom dealt with large amounts of subject-matter content.[15] In many studies, expository methods were found to be superior to discovery methods, and in most studies reporting results supporting the discovery method, the researchers failed to

Glenwood Elementary School, Chapel Hill

15. For a discussion of these and other methodological problems, see Merlin C. Wittrock, "The Learning by Discovery Hypothesis," in *Learning by Discovery*, Shulman and Keisler, eds. (Chicago: Rand McNally and Company, 1966), pp. 33-75; and Ausubel, *Educational Psychology*.

control critical variables. All in all, there is little evidence to support the claims of discovery learning proponents.

In addition to the laboratory-like studies of discovery learning, evaluations have been made of several large projects that have incorporated the techniques of discovery learning. Examples of such projects include the American Institute of Biological Sciences (AIBS) project, the School Mathematics Study Group (SMSG) project, the Chemical Education Material Study (CHEM) project, and the University of Illinois Committee School Mathematics (UICSM) project. These projects highlighted the problems of using nontraditional measures of achievement. Students in innovative programs often did less well on traditional tests but better on criterion-referenced tests than students in traditional programs.

In conclusion, it appears that neither logic nor research supports many of the claims made on behalf of discovery learning. It may be fortunate that more secondary teachers advocate discovery methods of teaching than practice them. Obviously, no teacher should rely entirely on either method. The research does show that there is a definite need for good expository teaching, not for monotonous lectures that require only recitatory participation on the part of the learners. The evidence also shows that discovery learning is beneficial for young children and, on a more selected basis, for secondary students. Teachers of secondary students should use discovery techniques to promote the acquisition of problem-solving skills and enhance the generalizability and retention of these skills. Since problem-solving skills cannot be learned until after some principles and rules have been learned,[16] discovery techniques should supplement expository techniques.

Issue: Open vs. Traditional Approaches to Education

An issue quite related to "discovery learning" is "open education." The assumptions underlying the progressive education movement were important in the development of both of these ideas. Many people view open education as a setting in which discovery learning should be promoted, since both open education and discovery learning emphasize concrete experiences for the learner. Too often, open versus traditional approaches to education have been equated with the open-space classroom versus the self-contained class, but there are many other characteristics that define each.[17] In classrooms using the open approach, teachers generally work in teams and seldom have responsibility for all subject-matter areas. There are several learning centers or stations, and the children frequently group themselves for instructional purposes. They also have responsibility for directing and evaluating their own learning. The open classroom teacher is seen as a facilitator, as one who assists rather

Freedom High School, Burke County

than directs. The teacher encourages the student to investigate, explore, and take risks. In open classrooms, the major focus of instruction is the learning process rather than the product of learning. Students are encouraged to develop problem-solving skills, self-assessment skills, self-critical abilities, and independence in problem solving.

In contrast, teachers of traditional classes follow a time schedule and a strictly prescribed curriculum, and control student activities. Students in traditional classes are generally assigned on the basis of age or intellectual ability and usually work on the same activities at the same time. The use of textbooks and didactic instruction are also characteristic of traditional classes.

The open education movement in the United States is the stepchild of this movement in England. Although they have presented little evidence, the British have made great claims for the open education approach.[18] In the 1960s, the American public was receptive to this new idea because traditional education had failed in many ways. The lecture-discussion approach, with its routinized subject-matter presentation, had turned many students off. Unfortunately, we attempted to *adopt* rather than *adapt* the open education approach. It is even more unfortunate that, in education, something new and different is often accepted as better, ipso facto, than what it replaces. Open education, with its ambitious and wishful objectives, was very appealing in the 1960s, and its proponents played on this educational *zeitgeist* (spirit of the times). Loaded with rhetorical cannons and very little research evidence, school administrators across the country sold open education to parents who were generally unhappy with the traditional approach. As is so often the case when practices are implemented without adequate planning and preparation, school administrators were unable to deliver what they had promised, and often had to pay the price.

Although a great deal has been written about open education, very few research results are available. Due to a variety of methodological problems that have plagued research in

16. Robert M. Gagne, *The Conditions of Learning* (New York: Holt, Rinehart and Winston, 1970), pp. 214-36.

17. The characteristics of open and traditional approaches reported in this article are adapted from those reported in a recent doctoral dissertation done at the University of North Carolina (1975) by Susan Forman, "Divergent Production and Achievement in Open and Traditional Self-Contained Classrooms," pp. 27-28.

18. For a rather thorough report of research on formal (traditional) and informal (open) education in British elementary schools, see a new book by Neville Bennett et al., *Teaching Styles and Pupil Progress* (Cambridge, Mass.: Harvard University Press, 1976).

South Elementary School, Mooresville

this area, we know even less about the effectiveness of these classroom types than is suggested by the amount of research data available. Most of the early studies and some of the later ones simply solicited the opinions and perceptions of teachers and students about open education, without considering the possibility that any variables other than the type of classroom would influence the subjects' responses. The proponents of open education have argued, with justification, that traditional tests are not appropriate measures of the objectives of open education. Most traditional achievement tests emphasize subject-matter acquisition, and the open education proponents claim that their approach emphasizes problem-solving skills, decision-making abilities and self-reliance. Research on the two approaches shows that teachers and students usually prefer the open approach. The teachers generally indicate that they believe students learn more, acquire more important skills, and enjoy school more in the open classrooms. However, studies on pupil performance characteristics have found that students in traditional classrooms score as high or higher on standardized achievement tests. That is, when significant differences on pupil performance measures have been found between the two groups, they have tended to be in favor of traditional classroom students. On the other hand, students in classrooms using the open approach generally score higher on measures of creativity and participation.

It may be that the failure of many of the studies to attribute significant differences to classroom type has been due to the fact that the researchers have simply compared grade averages of the learners without regard to other characteristics. This problem was addressed in a recent study that considered the performance of different types of children in different types of classrooms.[19] It found that the effect of a particular type of classroom, open or traditional, was dependent upon such learner characteristics as prior achievement, preferences, motives, and orientation. It also reported that "each type of class tended to produce outcomes consistent with its emphasized activities and goals—academic task performance in traditional classes and active involvement, creativity, and cooperation in open [classes]."[20] In conclusion, the study stated that "there appear to be some children who perform about as well (or poorly) in one type of class as the other, while others do better in open, and still others in traditional classrooms in terms of particular outcomes."[21] It suggests that the relevant attributes of learners be identified and considered when students are assigned to classrooms.

Although our knowledge about the effects of open and traditional approaches to instruction is still quite limited, some light has begun to shine through the cracks. It is imperative that, in the future, educational administrators explain to their constituencies the probable effects these different approaches are likely to have on various desired educational outcomes. It is also imperative that the characteristics of the learners be considered in future assignments of students to open or traditional classrooms. Parents should agree with school administrators on the importance of the outcomes that are likely to be enhanced by a particular approach. They should also understand why their child is likely to benefit from the suggested instructional approach.

Although open education has been somewhat disappointing to its proponents, it may be that by taking into consideration learner characteristics and educational outcomes likely from the open approach, and by improving the methodology for studying its effects, this approach will eventually fulfill some of the promises of its supporters.

ONE OBSERVATION WE SHOULD MAKE in summary is that on the basis of past experience we can expect that some practices now in vogue (e.g., mainstreaming) may within a relatively short period of time become obsolete, only to be later revived as current educational practice. This pendulum effect exists in part because little empirical evidence is available to guide educational practice. This is at least partially true because the issues confronting educators today are extremely complex. It is also probably accurate to say that some educators have not been greatly interested in generating research findings that could direct educational practice.

It seems likely that key issues such as reading instruction will receive greater attention by educational researchers because of the pressure being put on schools to improve in such vital areas. It also seems likely that educators will try to involve parents more in the educational process as a means of decreasing discipline problems, making instruction more effective, and having them as resources in the career education program.

Finally, it appears that educators will have to become more aware of learner characteristics, particularly as they affect classroom organizational patterns and instructional modes. The increasing diversity of the student in the regular classroom demands that these characteristics be considered so teachers can maximize their teaching effectiveness. □

19. Daniel Solomon and Arthur J. Kendell, "Individual Characteristics and Children's Performances in 'Open' and 'Traditional' Classroom Settings," *Journal of Educational Psychology* 68 (1976), pp. 613-25.

20. *Ibid.*, p. 620.

21. *Ibid.*, p. 623.

On the Governance of Public Elementary and Secondary Education in North Carolina

Carl J. Dolce

ALL OVER THE NATION, people are becoming aware that the governance of public elementary and secondary education is passing from local control to state-level control, and they have some concern about the administrative structure for handling this new state-level responsibility. Several states have already changed the structure of their arrangements for governance of public education, and others are contemplating changes in their arrangements. In North Carolina, this discussion will tend to become more explicit and more heated as a result of the General Assembly's action in June 1975 requiring the State Board of Education to propose revision of the state's public school laws. The Commission on Public School Laws, which was created by the General Assembly, has made the following recommendations[1] to the State Board of Education.

1. Change the method of selecting State Board members. Board members are now appointed by the Governor and confirmed by the General Assembly. The proposed method calls for the Governor to appoint four members from the state at large, subject to confirmation by the General Assembly; the General Assembly will appoint eleven members (one member from each congressional district) from a list of nominees by local boards of education.
2. Change the method of acquiring a Superintendent of Public Instruction to appointment by the State Board of Education rather than by popular election.

The Commission also recommended that a separate board be created to supervise and regulate community colleges and technical institutes (at present a single board supervises and regulates both elementary and secondary schools and community colleges and technical institutes). This third recommendation will not be discussed in this article.

It may be helpful to put the questions about how education is governed into a historical context. Education has been regarded as a function of the states because the United States Constitution does not explicitly assign it to the federal government. Although public education is legally a state function, its operation has been largely a local responsibility. In the early years, local taxes provided most of the funding for elementary and secondary schools, and most decisions were made at the local level. The state education agency and the state board of education, with a few notable exceptions, restricted themselves to developing broad policies.

Because Americans have traditionally distrusted government, a unique political mechanism for the governance of education arose in the United States, i.e., the board of education, composed of nonprofessionals. People have also felt that education is so important that it should be governed separately and differently from other public activities. In other words, education should be insulated from having to make immediate responses to the demands of partisan politics. For that reason, staggered terms have been provided for board of education members.

These same feelings about the governance of education continue today. In a recent poll, 67 per cent of the people questioned indicated that local boards of education should have greater responsibility in running the schools.[2] The deep-rooted sentiments toward nonprofessional control of policy-making appear to be reinforced currently by increasing disputes between organized professionals and the citizens at large as represented by boards of education.

Today every state except Wisconsin has both a state board of education or its equivalent and a chief state school officer. Although they share a common tradition in the governance of education, the states have different methods for selecting these officers and board members. Thirty-two states em-

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1. "Report of the Commission on Public School Laws to the State Board of Education" (Raleigh, N.C., December 2, 1976).

2. George H. Gallup, "Eighth Annual Gallup Poll of the Public's Attitude Toward the Public Schools," *Phi Delta Kappan* 58, no. 2, (October 1976), p. 195.

power the governor to appoint state board members, and twelve provide for elected board membership (Table 1). In twenty-seven states, the chief state school officer is appointed by a state board; in all the rest, he is elected or appointed by the governor (Table 2). The most frequently used combination of arrangements for selecting the state board and the chief state school officer is appointment of state board members by the governor and subsequent appointment of the chief state school officer by the board; fifteen states use this combination (see Table 3). The second most common combination is appointment of the board members by the governor and election of the chief school officer; twelve states use this system.

BUT DESPITE the historical trends in the governance of education, changes are occurring. Despite popular sentiment, the state is becoming more and more involved in operating the schools and the local level less and less involved—largely because of the federal government's activities in the area of education. The federal government set out to strengthen the capabilities of state education agencies by allocating funds specifically to achieve this goal. As a result, state education agencies have increased in staff, expertise, and sophistication. Furthermore, Congress frequently requires that each state develop a state plan to carry out specific federal legislation—for example, the Vocational Education section of Public Law 94-482 and the Education of All Handicapped Children Act, Public Law 94-142. As the state has been required to develop state-level plans for implementing these laws, the practical result has been that it has become more involved in all aspects of school operations.

In the last two decades, the United States Office of Education has changed its orientation from study, data-gathering, and publishing to active efforts to influence the course of events in education in the states. Its budget increased from $497 million in 1962 to $5.5 billion in 1972.[3] With this increased funding has come an increase in power and influence. These funds have been channeled largely to and through the state education agencies, thus increasing the operating functions of those agencies in implementing federal legislation. Whether or not by design, federal actions have caused state education agencies to become more consolidated and stronger as they discharge their responsibility for carrying out policies undertaken at the federal level.

Another reason for this shift in decision-making from the local to the state level is that more and more of the local school operating budgets come from the state. In most states, education is becoming a state responsibility financially as well as legally.[4] With the power of the purse inevitably comes the power to decide.

A third factor in the shift in decision-making from the local to the state level is that the people who are paying the bills want to know how well their money is being spent. Since more and more operating funds for education are appropriated by state legislatures, the legislatures tend to look to the state education agency for an accounting of how effectively the appropriated funds are used. Because education is the costliest item in the budget of virtually every state, both the executive and legislative branches look very carefully at how the money is spent and may feel free to intervene in spending it. As costs of public education continue to climb even despite declining enrollments, state officials will increasingly ask for greater accountability. Further, people who are discontented with the public schools tend increasingly to go to the state level for redress rather than to the local level. Perhaps they sense that basic decision-making is being assumed more and more by the state. These appeals to the state level in turn make the state education agency tend to assume an even larger proportion of decision-making.

The fourth reason why the state is increasingly becoming involved in the operation of the schools is that special-interest groups are concentrating on state-level decision-

Table 1
How State Boards of Education Are Selected

Appointment by Governor (32)

Alaska	Missouri
Arizona	Montana
Arkansas	New Hampshire
California	New Jersey
Connecticut	North Carolina
Delaware	North Dakota
Georgia	Oklahoma
Idaho	Oregon
Illinois	Pennsylvania
Indiana	Rhode Island
Iowa	South Dakota
Kentucky	Tennessee
Maine	Vermont
Maryland	Virginia
Massachusetts	West Virginia
Minnesota	Wyoming

Elected (12)

Alabama	Nebraska
Colorado	Nevada
Hawaii	New Mexico
Kansas	Ohio
Louisiana	Texas
Michigan	Utah

Appointed by State Legislature or by Legislative Delegation (2)

New York	South Carolina

Other (4)

Wisconsin—no state board of education.

Florida—board composed of commissioner of education, governor, attorney-general, secretary of state, commissioner of agriculture, insurance commissioner, state treasurer, and comptroller.

Mississippi—board composed of state superintendent of education, secretary of state, and attorney general.

Washington—board selected by local boards of education.

3. Michael W. Kirst, "Governance of Elementary and Secondary Education," paper delivered at the Aspen Institute for Humanistic Studies, 1976, p. 2.

4. In North Carolina in 1974-1975 the state provided 67 per cent of the operating budgets of local school districts.

Table 2
How Chief State School Officers Are Selected

Appointed by State School Board or Board of Regents (27)	
Alabama	Missouri
Alaska	Nebraska
Arkansas	Nevada
Colorado	New Hampshire
Connecticut	New Mexico
Delaware	New York
Hawaii	Ohio
Illinois	Rhode Island
Iowa	South Dakota
Kansas	Texas
Maryland	Utah
Massachusetts	Vermont
Michigan	West Virginia
Minnesota	
Elected (18)	
Arizona	Montana
California	North Carolina
Florida	North Dakota
Georgia	Oklahoma
Idaho	Oregon
Indiana	South Carolina
Kentucky	Washington
Louisiana	Wisconsin
Mississippi	Wyoming
Appointed by Governor (5)	
Maine	Tennessee
New Jersey	Virginia
Pennsylvania	

making. Advocates of handicapped children, for example, lobby for special education. Also, teachers' organizations tend to direct their efforts at the state level, so that they will not need to repeat their actions numerous times at the local level. Organized teachers have sought through state legislatures such policies as tenure regulations, collective bargaining, and sick-leave provisions, as well as salary increases. When these activities work, one effect is to decrease local decision-making and expand the boundaries of state-level decision-making.

This trend toward centralizing decision-making shows up at all levels of education. For example, the newly constituted University of North Carolina, with its sixteen constituent campuses, reflects this trend. Four states[5] are moving toward even greater centralization by creating an office of secretary of education in the executive branch to develop a system that includes elementary and secondary schools, two-year post-secondary institutions, and higher education. (The third governance recommendation of the Commission on Public School Laws—i.e., the creation of a separate board for the community colleges and technical institutes—runs counter to this trend toward greater coordination and centralization.)

Those who are working on the problem of how elementary and secondary education should be governed should be fully aware of this trend toward greater decision-making at the state level. This broader range of state-level decision-making comes at a time when the decisions to be made are becoming more and more complex. Greater breadth and complexity of issues, in turn, are taxing the capabilities of state boards of education to perform their legitimate functions. Agendas have become endless, and supporting materials for them have become mountainous. However hard they try, many state boards are finding that they simply do not have enough time to consider all this material, and they rely more and more on their chief state school officer.

WE HAVE BEEN describing a fundamental change in how public schools are governed—a shift from local-level to state-level decision-making and a growth in the complexity of the decisions to be made. North Carolina's system, with its appointed board and elected superintendent, seems to be ill suited structurally to respond to this phenomenon. The State Superintendent of Public Instruction is chosen in a statewide popular election, and the Board of Education is appointed by the Governor, subject to confirmation by the General Assembly. There are, then, two bases of power and authority, so that avoiding conflict and pinpointing responsibility are difficult. Although the State Constitution says that "[t]he State Board of Education shall supervise and administer the free public school system and the educational funds provided for its support"[6] and stipulates only that "the Superintendent of Public Instruction shall be the secretary and chief administrative officer of the State Board of Education,"[7] the fact that the State Superintendent is elected by the people gives any incumbent of that office an independent base of power.[8] The State Superintendent therefore has considerable authority that is not formally vested in that office by the Constitution. Such extralegal authority, at a time when the State Board is relying more and more heavily on the administrative staff (for information, definition of policy issues, delineation of alternatives, and projection of consequences of alternatives), could result in a situation in which there is board governance in form but not in substance. The current structure is also not suited to meeting the new demands for accountability.

Several basic questions need to be answered before any decisions are made about governance:

1. Should education continue to be governed differently from other public activities? That is, should basic policy decisions still be made by a board composed primarily of nonprofessionals?
2. Should education continue to be insulated from having to make *immediate* response to pressures from both the executive and legislative branches of state government and from the demands of organized special-interest groups?
3. Should more responsibility for education decisions be vested at the state level to facilitate accountability?

5. Virginia, Pennsylvania, Massachusetts, and South Dakota.

6. *Constitution of the State of North Carolina*, Article IX, section 5.
7. *Ibid.*, Article IX, section 4 (2).
8. Section 115-15 of the North Carolina General Statutes seems to confirm the definition of the state superintendent's role through the use of the phrase "under the direction of the Board" and through a specification of duties that are administrative rather than policy-making.

One answer to the question of how schools will be governed is to continue the present system. But there is little evidence that conflicts will be reduced. Rather, it seems likely that given both a state board that seeks to discharge its legal responsibilities and a strong state superintendent, conflict situations will tend to increase and to become more dysfunctional. Although operating from different bases of power does provide a form of checks and balances, such checks and balances are gained at the expense of pinpointing responsibility and, in the face of current complexities, at the expense of a true exercise of power by a policy-making board.

A second alternative is to follow the model developed by the State of Wisconsin—that is, abolish the state board and elect the state superintendent. This approach is not in keeping with the tradition of governance by a board of nonprofessionals, but it does make it easy to establish responsibility and accountability.

A third alternative is to provide for the state board of education to appoint the state superintendent. This alternative clearly vests decision-making in the state board. Although the board would increasingly rely upon the administrative staff, there would be only one power base and the ultimate authority of the board would be clear. This third alternative appears to be in keeping with American traditions of education. And there are other reasons for choosing this alternative. A state needs the ablest person it can secure as its chief education administrative officer. While the elective process can indeed provide very effective and able chief school officers, on occasion it has provided people of only second-rate ability. Furthermore, the costs of running for statewide office are high, so high that many very capable professional educators are unwilling to be candidates. The first cost is personal, in terms of time and energy. The second is financial. The incumbent state superintendent spent $29,566 during the first primary election in 1976. His opponent in that election spent $38,463.[9] Counting his expenditures in the general election also, the incumbent spent a total of $41,512 to be re-elected in 1976. Many professional educators are either unable or unwilling to raise such sums. This fact suggests that the elective process significantly reduces the field of capable education administrators who might serve the state as superintendent of public instruction. The elective process also precludes selecting a capable nonresident. (An interesting sidelight that perhaps reflects the tendency toward greater professionalism among appointed chief state school officers is that appointed officers receive significantly higher salaries than elected officers.)[10]

A common argument against appointment of the state superintendent by a state board of education that is also appointed is that the state system would be less directly responsible to the people. This concern seems to have considerable merit. Yet those states that have this double-appointive system do not show evidence of decreased responsiveness. There is some evidence that whether they are appointed or elected, members of state boards of education tend to be professional people with above average incomes who are not representative of the society at large.[11] Nonetheless, it is to be admitted that the elective process does at least provide an opportunity for greater representation and responsiveness.

The most clearly articulated argument against popular

(continued on page 34)

Table 3
Combination of Arrangements for Selecting of State Boards and Chief State School Officer

Board Appointed by Governor–Chief State School Officer Appointed by Board (15)

Alaska	Minnesota
Arkansas	Missouri
Connecticut	New Hampshire
Delaware	Rhode Island
Illinois	South Dakota
Iowa	Vermont
Maryland	West Virginia
Massachusetts	

Board Appointed by Governor–Chief State School Officer Elected (12)

Arizona	Montana
California	North Carolina
Georgia	North Dakota
Idaho	Oklahoma
Indiana	Oregon
Kentucky	Wyoming

Board Elected–Chief State School Officer Appointed by Board (11)

Alabama	Nevada
Colorado	New Mexico
Hawaii	Ohio
Kansas	Texas
Michigan	Utah
Nebraska	

Board and Chief State School Officer Appointed by Governor (5)

Maine	Tennessee
New Jersey	Virginia
Pennsylvania	

Other (7)

Florida—board constituted by state elected officials, chief state school officer elected.
Louisiana—board elected, chief state school officer elected.
Mississippi—board constituted of state elected officials, chief state school officer elected.
New York—board appointed by legislature, chief state school officer appointed by regents.
South Carolina—board appointed by legislative delegation, chief state school officer elected.
Washington—Board selected by local school boards, chief state school officer elected.
Wisconsin—no board, chief state school officer elected.

9. Expenditures were obtained from reports filed with the North Carolina State Board of Elections.

10. The Council of Chief State School Officers and the Education Commission of the States, *Fifty Education Chiefs*, April 1976, p. 1.

11. Gerald P. Stroufe, "Recruitment Process and Composition of State Boards of Education," paper presented at an American Educational Research Association meeting in 1969, cited by Kirst, "Governance of Elementary and Secondary Education," p. 9.

Public School Finance

C. Donald Liner

Two principles have guided public school finance policies during North Carolina's first two centuries. The first principle, that public school finance is a legitimate function of the state, was firmly established in the first State Constitution of 1776 and has been reaffirmed and broadened by subsequent constitutions, laws, and actions. Early in its history the state assumed a role of leadership in fostering and financing, through direct state aid, a system of free public schools, and later, rather than see the schools close due to the financial exigencies of the Depression, the state broadened this principle by assuming the obligation to finance a full school term. The second principle, also established early in the state's history and followed consistently thereafter, is that public schools throughout the state should be uniform or equal at least to the extent that they provide a prescribed minimum standard of education.

Schools financed by the state

The State Constitution of 1776 merely called for establishment by the legislature of a school or schools "with such Salaries of the Masters paid by the Public, as may enable them to instruct at low Prices." (Art. XLI). But efforts began early in the nineteenth century to establish a state program of financial support for local public schools and led to creation of the Literary Fund in 1825.[1] Several sources of state revenue, including dividends from state-owned stock in banks, navigation, and canal companies and taxes on sales of spirituous liquors, were set aside for endowment of the fund. The proceeds were to be distributed among the counties in proportion to the free white population. The Literary Fund was ineffective for several years, however, and 1839 is generally regarded as the year when the system of state-supported free common schools was established. [Thus North Carolina offered free public schools several decades before Vermont (1864), New York (1867), Rhode Island (1868), and New Jersey (1871).][2] In that year the General Assembly enacted a law that required each county electing to have common schools to levy a tax to raise $20 for each school district, which would be matched by $40 from the Literary Fund.[3] Sixty-one of 68 counties elected to have schools, and by 1846 every county had one or more public schools.[4]

The Civil War left the Literary Fund and the schools in very poor condition, but the Constitution of 1868 strengthened the basis of state support with the provision that "the General Assembly, at its first session under this Constitution, shall provide by taxation and otherwise for a general and uniform system of public schools . . . " and further provided that county commissioners would be subject to indictment for failing to provide at least one school in each district for a term of at least four months. (Article IX, Sections 2 and 3). The legislature acted immediately and forcefully to implement the constitutional provisions. It established an elected school committee in each township that was to be responsible for providing schoolhouses, maintaining all schools for an equal length of time (at least four months), and for reporting to the county commissioners the amount of money needed to support a four-month term.[5] In the same act the legislature levied a statewide capitation or poll tax, designating 75 per cent of the proceeds for public schools, and also made the first state school appropriation from the State Treasury. After the Treasurer failed to meet the appropriation of $100,000 due to insufficient funds, in the next session the legislature enacted a special property tax for schools which, along with the poll tax, was to be increased several times in subsequent years.[6]

The strong effort to rebuild the school system was largely thwarted, however. Racial problems, the political strife of Reconstruction, and ineffective tax collection were partly responsible, but the most important obstacles were North Carolina Supreme Court rulings that school expenditures were not a "necessary expense," and therefore school taxes were subject to the constitutional limitation of 66⅔ cents per $100 valuation. Many counties could not support the minimum term within the constitutional tax limitation, and they could not levy special school taxes, which required a

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1. N.C. Sess. Laws, 1825, Ch. 1.

2. Hugh T. Lefler and Albert R. Newsome, *North Carolina, The History of a Southern State,* rev. ed. (Chapel Hill: University of North Carolina Press, 1963).

3. N.C. Sess. Laws, 1839, Ch.8.

4. Lefler and Newsome, *North Carolina*, p. 351.

5. N.C. Public Laws, 1868-69, Ch. 184.

6. N.C. Public Laws, 1869-70, Ch. 229.

vote of the people, due to apathy and general aversion to taxation.

Progress was very slow until 1901, when a new era of support for public schools was initiated through the leadership of Governor Charles B. Aycock, who launched a statewide campaign to generate interest in public education. At that time only $1.78 per child of school age was being spent compared to the national average of $9.50 per child of school age.[7] Only thirty districts, all urban, were levying special school taxes.[8] Under Aycock's leadership popular interest was revived. The number of special tax districts multiplied, rural libraries were supported by state funds, a system of rural high schools was established by state appropriation, the Literary Fund was revived as the "State Literary Fund" to provide loans for building and improving schools, and new teacher training schools were established.[9] More than 3,000 schoolhouses were built and nearly a month was added to the school term.[10] Local taxation for schools increased after the 1907 reversal of the 1885 *Barksdale v. Commissioners* ruling that expenditures for schools were not a necessary expense. The progress initiated during the Aycock administration carried over into the next two decades, until by 1930 the constitutional minimum term had been extended to six months, and an eight-month term had been provided through local taxation in three-fourths of the state.[11]

The revival of interest in public schools in the early 1900s represented an increased acceptance of the principle of state responsibility for leadership and finance of public schools. But the state's role during this period was not essentially different from what it had been during the previous 60 years. The first years of the Depression profoundly changed the state's role. Before 1931 the state had attempted to fulfill the constitutional provision for a uniform school system with a minimum term by working through counties and districts. But the state's leverage was weak. It could distribute state funds, require local oversight of expenditures, mandate local taxes up to the constitutional limit to support the minimum term, offer incentives (as it did in its distribution of Peabody funds) to encourage local financial support, and use its funds to partially equalize local tax effort (through the Equalizing Fund, described below). But these measures were seriously hampered by the constitutional tax limit, together with State Supreme Court rulings that school expenses were not "necessary," and more basically by the wide variation in income and property tax bases. In 1931 the state took full responsibility for financing the minimum standard of education in the public schools. Achieving the minimum standard no longer depended on local effort.

By 1929 rising costs and decreasing revenues had begun to jeopardize the school system. Threatened by the closing of practically all rural high schools, the 1929 legislature responded by providing a "tax reduction fund," which kept the high schools open for two months beyond the six-month minimum term. By 1931, with many counties defaulting on their obligations and many teachers unpaid, the schools were in worse trouble. But the state responded again. The 1931 legislature decided to underwrite the operating expenses of the minimum six-month term and to increase the annual appropriation for support of the extended eight-month term. The state levied a statewide property tax and cut costs by increasing teaching loads and reducing teachers' salaries. Still, by 1933 the situation had worsened, the state was finding it difficult to balance the budget, and some people were proposing that the schools be suspended for a year or two or that the school term be reduced to six months.[12] But the 1933 legislature chose instead to take over the support of public schools for a minimum term of eight months throughout the state.[13] All existing local school taxes were abolished, the state sales tax was enacted, and the State School Commission was created to control use of funds.

A minimum standard of education

The second principle of school finance is that an equal or at least minimum standard of education (as defined by level of funding or length of term) should be provided throughout the state. This principle was followed consistently beginning in 1825 when the Literary Fund was established to distribute state funds to all counties on a per capita basis. When the legislature established the system of common schools in 1839, it apparently intended that all school districts spend the same amount, for it set the local contribution at a flat $20 per district, which was to be matched by state funds of $40 per district. The principle was first stated explicitly in an 1840-41 law authorizing counties to levy a school tax limited to half the Literary Fund proceeds, "it being the true intent and meaning of the Act to make all the Counties, favorable to one system of Common Schools, as nearly equal as possible."[14] The public school law of 1856-57 required that Literary Fund proceeds and county tax proceeds be divided among districts "in such a way as to secure as far as possible equal facilities for education among all the white children of the county in proportion to the number of white children in said district,"[15] but the next legislature, by deleting the last phrase, required funds to be distributed to achieve equal facilities for all white children.[16]

After the State Constitution of 1868 required the state to provide a uniform system of schools and a minimum four-month term, the policy of promoting equal facilities was abandoned, and state laws attempted to require counties to provide sufficient funds in addition to state funds to support the minimum four-month term. After the Constitution was approved, the next legislature passed an act requiring each county to levy sufficient taxes to support a four-month term, but this and subsequent efforts were largely thwarted by

7. From a report of the U.S. Commissioner of Education, as quoted in "A Declaration Against Illiteracy," adopted at a conference called by the Southern Education Board, February 13, 1902.

8. R. D. W. Conner and Clarence Poe. *The Life and Speeches of Charles B. Aycock*, pp. 114-115, as quoted in Edgar E. Knight, *Public School Education in North Carolina* (Boston: Houghton-Mifflin Company, 1916).

9. Knight, *Public School Education*, Ch. 15.

10. Leffler and Newsome, *North Carolina*, p. 557.

11. *Biennial Report of the Superintendent of Public Instruction*, 1933-34 and 1935-36, Part 1, p. 88.

12. *Ibid.*

13. N.C. Public Laws, 1933, Ch. 562.

14. N.C. Sess. Laws, 1840-41, Ch. 7.

15. N.C. Sess. Laws, 1856-57, Ch. 11.

16. N.C. Sess. Laws, 1858-59, Ch. 27.

Supreme Court rulings that educational expenses were not "necessary" expenses, and therefore all school taxes had to be approved by popular vote. Although the Constitution required a four-month school term, the constitutional limit on the property tax rate of $66\frac{2}{3}$ cents, together with general apathy and aversion to taxation, left many counties without the means to support a four-month term. Even without the constitutional tax limitation, the inequality of local tax bases produced wide variations in the tax rate necessary to raise sufficient revenues for a four-month term.

At the beginning of this century, the legislature appropriated funds directly from the Treasury and passed legislation that would be considered progressive even today—and which, in fact, is the type of legislation now being proposed by many advocates of school reform to reduce inequality in school finance. The 1901 legislature made a second school appropriation equal to the regular school appropriation.[17] The regular appropriation was to be apportioned as before on a per capita basis. The second appropriation, known later as the Equalizing Fund, was to be distributed only to school districts that had reached the constitutional tax limit but still could not support a four-month term. These funds could be used only to extend the term to four months. Special school taxes were excluded from consideration in order not to penalize those counties that had voted to go beyond the constitutional tax limit but still did not have a four-month term in every district. Another act required counties to distribute one-sixth of all school funds among their districts to be used only for reaching a four-month term, and to distribute other funds to achieve the same length of term in all districts.[18]

The Equalizing Fund was used first to increase the term to four months in all districts and later to increase the term to six months as required by a constitutional amendment effective in 1919. Since the Equalizing Fund could be apportioned only to those counties that could not support the minimum term within the constitutional tax limitation, many counties received several times as much from the Equalizing Fund as from the regular per capita apportionment.

At first, the purpose of the Equalizing Fund was to help poor districts provide the minimum term within the constitutional tax limit. The problem remained, however, that the tax rate necessary to support the minimum term varied considerably due to differences in local property tax bases. In 1927 the legislature enacted a law that carried the principle of equalization to a level still considered progressive. This law, whose stated purpose was "more nearly to equalize both the tax rates for schools and the school advantages in different counties," established a State Board of Equalization to distribute to counties the amount they still needed to finance the six-month term after having levied a tax of 40 cents per hundred-dollar valuation, the valuation being certified by the Board.[19] Thus, the tax rate necessary to achieve the minimum school term was equalized at 40 cents regardless of the size of the local tax base.

In 1931, when the state assumed complete financial support for operating expenses, the principle of equality reached its highest form. In the words of A. T. Allen, then State Superintendent of Public Instruction:

> The principle of complete support carries with it, not only primary responsibility to pay the whole bill, but also a fundamental responsibility for the kind and quality of educational opportunity to be furnished in every community in the State. It no longer matters whether a child lives on a sand dune or on top of a gold mine so far as his educational opportunities are concerned. His rights are the same in every case. Eventually he must have the same opportunity at the hands of the State. The accident of residence or birth no longer affects him. A district line cannot exclude him. He can no longer be confronted with a tuition bill, and restricted in his educational opportunity because his neighbors are unprogressive.[20]

Allen failed to foresee, however, that complete support was only temporary—that school districts would levy new taxes to improve their schools above state standards, and therefore where a child lived would again affect his educational opportunities. The state's policy had always been to provide a minimum level of education, defined by length of school term, number of teachers, and necessary costs, but after 1868 the state encouraged local expenditures beyond the minimum level. Although the legislature abolished existing local school taxes in 1933, it still promoted local initiative by authorizing special school taxes to support schools with higher standards than the state's requirements. As counties and districts began levying special school taxes, the fundamental problem of achieving equality or uniformity reappeared: if local initiative is permitted, the poor counties and districts need higher tax rates than do wealthier counties and districts to obtain the same amount of revenue. A uniform system of schools would then require a larger tax effort in poor areas than in wealthy areas. In this sense the present system of state finance is inferior to the system that existed from 1903 to 1931. Today's system finances the minimum standard through state revenues, relieving counties and districts from taxation to achieve the required minimum standard, and therefore is a vast improvement over the former system, but today's system does not provide any means, such as an Equalizing Fund or special appropriations for rural high schools and libraries, to equalize tax effort and improve the level of education. Indeed, the present system has no financial provisions for encouraging local initiative, as the former system did (beginning with the matching provisions of the Peabody Fund apportionment in 1868).[21]

School finance issues

The school finance issues of today are not essentially different from those of the past, and the two fundamental principles that have guided previous school finance policies are still relevant. The state's obligation to fully support a minimum term at state standards is unquestioned, but what those standards should be, how much the state should spend,

17. N.C. Public Laws, 1901, Ch. 543.
18. N.C. Public Laws, 1903, Ch. 435.
19. N.C. Public Laws, 1927, Ch. 256.
20. *Biennial Reports of the Superintendent of Public Instruction*, 1930-31 and 1931-32.
21. Knight, *Public School Education*, Ch. 8.

and how state funds should be spent are basic issues that must be addressed during each legislative session. The issue of equality in school finance is perhaps the paramount school finance issue throughout the country. The present State Constitution, ratified in 1970, requires the General Assembly to maintain "a general and uniform system of free public schools" with a minimum term of nine months, but reserves the right to the General Assembly to "assign to units of local government such responsibility for the financial support of the free public schools as it may deem appropriate." (Art. IX) Local units have the responsibility to provide buildings and maintenance, but are authorized to spend as much as they wish to support local schools above state standards as long as they meet legal restrictions on taxation.

The ability of local districts to provide additional financial support varies widely—in 1973 per capita income varied from $2,752 in Northampton County to $5,405 in Mecklenburg County, and appraised value of property per student in average daily attendance varied from $22,176 in Jones County to $68,850 in Mecklenburg County.[22] Poor counties have to have a higher property tax rate than wealthier counties to raise the same amount of revenue. For example, on the basis of 1973 appraised values, to raise revenue equal to ten per cent of average state expenditure per student in average daily attendance, Jones County would have needed an effective tax of 28.4 cents per hundred-dollar valuation while Mecklenburg County would have needed a rate of only 9.2 cents. In 1973-74 Jones County actually had an effective countywide rate of 43.9 cents, which produced a total levy of $97 per student, while Mecklenburg County's rate was 61.1 cents, about 40 per cent higher, which produced a total levy of $320 per student, more than three times the levy in Jones County. Guilford County, with an effective countywide school tax rate of 11.8 cents, had a levy of $117 per student while Bertie County, with a rate of 48.1 cents, had a levy of only $109 per student.[23]

The wide variations in local finance resulting from variations in income and property tax bases have been illustrated in recent studies and statistics.[24] Local expenditures per student in 1974-75 ranged from $56 to $460. Since local districts must finance building and maintenance costs before they can contribute to other activities, the range of local expenditures per student for instruction was even wider — from $3 to $234.

These variations in local expenditures per student are offset somewhat by federal expenditures for programs to aid the poorer districts or disadvantaged children. Federal programs do not necessarily equalize expenditures, however, and variations still exist.[25] In Northampton County, with the lowest per capita income, a total of $581 per student was spent for instructional services in 1974-75 compared with $822 per student in Mecklenburg County, the county with the highest per capita income. Although part of the additional expenditures in Mecklenburg County went to pay higher teacher salaries, they were also associated with lower pupil-teacher ratios and a higher proportion of teachers with graduate degrees. In Mecklenburg County the elementary school pupil-teacher ratio was 18.4 to 1, and 23.4 per cent of classroom teachers had graduate degrees, whereas in Northampton County the elementary school pupil-teacher ratio was 20.9 to 1, and 11.2 per cent of classroom teachers had graduate degrees. (The highest elementary school pupil-teacher ratio was 24 to 1, the lowest 17 to 1.)

Several issues arise from these disparities in school finance. Should the state try to equalize school finance? Can the state afford to adopt equalization programs? What is the best approach to equalization if the state should decide to adopt equalization programs? As previously discussed, the principle of equalization is not a radical idea but rather a principle that has consistently guided state policies since 1839. Whether North Carolina can afford equalization depends on its ability to support the minimum term at present state standards and to spend additional funds to assist counties and districts in improving local schools above existing standards. In the remainder of this article, this question will be considered as well as some possible methods for equalization that have been proposed in this and other states.

How much the state spends to support public schools depends essentially on two factors. First, the state must decide the standard of quality it is willing to support. The standard of quality has many dimensions. It involves the length of term, the ratio of pupils to teachers, the salary level necessary to attract good teachers, the particular types of educational programs, and so forth. Since almost everyone would prefer good schools to poor schools, the critical question is how much the state is willing to pay for higher standards of quality, because to achieve higher standards revenues that would finance other worthwhile programs must be used or taxes must be increased. The second factor that determines the amount of state spending, given the standard of quality adopted, is the number of students and growth in student enrollment.

Both factors have been important in determining the level of state school support since the state began to support the minimum term at state standards in 1931. Since that time the state has increased the minimum term from six months to nine months and has steadily raised state standards in the face of unprecedented expansion in the school-age population. In the early thirties the schools had only eleven grades, the pupil-teacher ratio was about 40 to 1, textbooks were provided by the student, and there were no school lunch programs or special education for handicapped, mentally retarded, gifted, or preschool children. Since then the pupil-teacher ratio has been reduced by half, and teacher salaries have increased steadily. In 1960 North Carolina ranked thirty-ninth in average salaries of the instructional

22. Except where noted, the data in this and the following two paragraphs are from *Statistical Profile–North Carolina Public Schools,* Department of Public Instruction, 1975 and 1976 eds.

23. North Carolina Department of Revenue, *Statistics of Taxation* (Raleigh: North Carolina Department of Revenue, 1974), Tables 85, 88, and 89.

24. *Statistical Profile:* William A. Campbell, Charles D. Liner, John M. Payne, and Robert E. Phay, *Report on North Carolina Finance: Responses to Serrano-Rodriguez,* (Chapel Hill: Institute of Government, 1972); Betsy Levin, Thomas and William Scanlon, *Schools and Taxes in North Carolina* (Washington: The Urban Institute, 1973); and *A Resource for Planning and Decision-Making,* Division of School Planning (Raleigh: North Carolina Department of Public Instruction, 1976).

25. See Joel S. Berke, *Answers to Inequality* (Berkeley: McCutchan Publishing Corporation, 1974), pp. 164-66 and Ch. 5.

staff.[26] In 1975 North Carolina ranked twenty-second. (Between 1964-65 and 1974-75 only one state, Hawaii, increased teacher salaries more than North Carolina.) Over the years the state expanded vocational education, initiated a free textbook program (1937-38), school lunches (1943-44), several school construction bond programs, special programs for handicapped, mentally retarded, and gifted children, and added a statewide kindergarten program.

Several remarkable facts are associated with this steady increase in the state standard of quality. First, the increase was financed within the existing tax structure after the sales tax was enacted in 1933. The only exception was the addition of food sales to the sales tax base in 1961, which was done to increase expenditures for public schools. Second, the expansion was made at the same time that the state made major expansions in other areas, including higher education, community colleges, health and welfare, corrections, and so forth. Third, the expansion occurred during a period of high birthrates and a very large increase in the school-age population.

The birthrate had fallen steadily for many decades, reaching historic lows during the 1930's. However, it began to increase during World War II, producing a "baby boom" that lasted until about 1958, when the birthrate began to fall again. Chart 1 shows these changes in the birthrate and the related changes in school enrollment. (For a discussion of long-term school enrollment trends in North Carolina, see Rosenberg's article, p. 20.) Enrollment began to increase in 1946, six years after the birthrate went up in 1940, and continued to increase until 1968. By 1975-76 enrollment (excluding kindergarten) had fallen 4.9 per cent below the 1967-68 level. Projections based on average daily membership predict a further drop of 4.8 per cent by 1980-81 (including kindergarten).

These aggregate figures do not adequately demonstrate the magnitude of changes that are occurring or will occur in the near future. Table 1 shows projected changes in total, elementary, and high school average daily membership by school district. Only 21.6 per cent of the school districts are expected to have increases in total membership between 1975-76 and 1980-81, and only 6.3 per cent are expected to have increases of 5 per cent or more. Decreases are expected in 78.4 per cent; more than 50 per cent will have decreases of 5 per cent or more, and more than a fourth will have decreases of 10 per cent or more. The projected drop in elementary school membership is even greater—85.6 per cent of the school districts are expected to lose membership during this period, and 29.6 per cent will lose more than 10 per cent. Between 1975-76 and 1985-86 more than half the school districts will lose 10 per cent or more of high school membership, more than a fourth will lose 20 per cent or more, and 8 per cent will lose at least 30 per cent.

These trends have significant implications for North Carolina school finance. Declining enrollments mean that the state, as well as local districts, can improve quality standards without increasing expenditures (other than to account for inflation in costs), or alternatively that the state can

26. North Carolina Department of Public Instruction, *How North Carolina Ranks Educationally Among the 50 States* (Raleigh: North Carolina Department of Public Instruction, 1975).

Table 1

Projected Changes in Average Daily Membership by School District (percentage of all districts)

% Increase or Decrease	Total % Daily Membership 1975-76 to 1980-81	% Daily Membership, Grades 1-6, 1975-76 to 1980-81	% Membership, High School, 1975-76 to 1985-86
Increase:			
30 or more	0.0%	0.0%	2.1%
20 to 30	1.4	0.7	0.0
10 to 20	1.4	0.0	3.5
5 to 10	3.5	4.8	5.6
0 to 5	15.3	8.9	9.0
Decrease:			
0 to 5	22.9	28.3	8.3
5 to 10	27.8	27.6	16.0
10 to 20	27.7	29.0	27.8
20 to 30	0.0	0.6	19.4
30 or more	0.0	0.0	8.3

Source: Based on projections by the Department of Public Instruction

finance existing standards with lower expenditures, freeing resources for additional programs. For example, in 1974-75 the pupil-teacher ratio was 21 to 1 (based on those teachers financed by state funds) and the state expended $773 million for current expenses, or $712 per student in average daily attendance. If the state put the number of teachers at the 1974-75 level, the pupil-teacher ratio in 1980-81 would fall to 18.5 to 1: the state would need 6,625 fewer teachers in 1980-81 to maintain the pupil-teacher ratio of 1974-75 (these estimates assume that the relationship between average daily attendance and average daily membership will not change between 1974-75 and 1980-81). Similarly, if the state set total expenditures at the 1974-75 level, expenditure per student would rise to $744 in 1980-81, or if the state maintained the level of spending per student, total state expenditures in 1980-81 would be almost $33 million less than in 1974-75 (again, not taking into account inflation in costs).

In short, the drop in the birthrate is presenting the state with an opportunity to increase the quality of the school system without increasing the level of expenditures or at least without a major increase in expenditures. It also presents an opportunity for the state to undertake equalization programs.

Approaches to fiscal equalization. While North Carolina has been concerned about inequality since the early nineteenth century, in most other states this issue has come to the fore only in the last decade. Only since 1971, when the California Supreme Court rendered its decision in the *Serrano v. Priest* case and other courts followed with similar rulings, has the issue received nationwide attention. In recent years many states have adopted programs for at least partially equalizing the fiscal resources of local units.

Generally speaking, there are four approaches to fiscal equalization. One approach is for the state to provide a higher "foundation" program—a level of state support guaranteed regardless of the fiscal resources of local units. North Carolina's system is essentially a foundation program in that the state finances the nine-month term, and local units are permitted to increase expenditures above this level.

A second approach is to use percentage equalizing or power equalizing finance methods. Under percentage equalizing the state would set some standard or key level of expenditures and guarantee that local units, with either a maximum or an equal tax effort, would be able to achieve this level of expenditures.[27] For example, if the state sets the standard at the highest level of expenditures in the state, all school districts would be able to achieve this level of expenditures with the same tax effort since the state would make up the difference between the amount of revenue raised locally and the standard. Thus, the fiscal resources available for education would be equal for all districts. By setting the standard at some lower level the state would guarantee that local units could achieve the standard level of expenditures with some maximum tax effort. The equalizing plan adopted in North Carolina in 1927, as described earlier, was essentially a percentage equalizing plan in that it guaranteed poor counties the resources to finance the six-month term as long as they had a tax rate of at least 40 cents per $100 valuation. Power equalizing is similar to percentage equalizing except that it requires richer school districts to contribute tax revenues to poorer districts, a feature which presents serious legal problems.[28]

Full state funding is a third approach to equality. Under this approach the state would entirely finance an equal school system, and districts would either be prohibited from spending additional amounts or the amount they could spend would be limited. As we have seen, North Carolina adopted full state funding in 1933 but did not limit the amount that districts could spend, which has led to the disparities described above.

Finally, a state can try to achieve equality through school district reorganization. District lines could be redrawn to equalize as much as possible the assessed valuation available per student. Of course, this would be difficult to do, not only for political reasons, but also because it may be impossible to draw school district lines that would equalize assessed valuation per student. Even if it were possible, the lines would have to be changed from time to time. Although this approach does not seem promising in North Carolina, it may be possible to achieve more equality by consolidating districts and schools. Larger districts and schools might lead to economies of scale and a more complete program of education, especially for high schools.

The Governor's Study Commission proposal. In 1968 the Governor's Study Commission on the Public School System of North Carolina proposed a major change in the North Carolina public school finance system.[29] By incorporating different aspects of these approaches, the proposal would revive the pre-1934 policy of equalizing the tax effort necessary for poor counties and districts to improve schools, and provide incentives for local units to increase financial support of schools.

The Commission recommended the adoption of a "minimum basic program" that would "consist of the consolidation of local, state, and federal funding which is sufficient to achieve an average expenditure for each pupil that assures equitable education opportunity for all pupils in the State," and an additional "incentive support program" to reward districts exceeding the mandated local share of the minimum basic program. The Commission's recommended system was similar in concept to the 1927 equalization system. The minimum basic program would be established and its total cost determined. Districts would be required to contribute to the minimum basic program according to their ability to pay. The Commission recommended that the required local tax effort be set at the median local school tax levy. In addition, each district would be required to levy a one-half cent retail sales tax to support the schools (this particular recommendation is not essential to the plan). The balance necessary to finance the minimum basic program would come from recurring federal funds, which the Commission recommended be consolidated as much as possible, and from state funds, which the Commission recommended be distributed more flexibly than under the current complicated and rigid formula system. Thus, each district would be assured that the minimum basic program would be financed as long as it met the minimum tax effort requirements, regardless of its tax base or per capita income. Districts that met the tax effort provisions under the minimum basic program could also participate in the "incentive support program," which is designed to promote school improvement by encouraging, but not requiring, districts to supplement the basic program. The incentive provided by the state would vary with the appraised valuation per student and per capita income in the county. The state would establish a certain amount for each student to be included in the incentive support program, and the district share of this amount would be determined by formula according to the appraised valuation per pupil and per capita income. The share of the wealthiest districts would be large; the share of the poorer districts would be small, but all districts except the wealthiest one would receive the additional amount per student as long as they contributed their share.

Thus, under the Commission's proposed system, each district would be assured of achieving the minimum basic program as long as it was willing to adopt the required level of tax effort, and presumably the state would maintain foundation support if the district chose to adopt a lesser tax effort. In addition, districts' efforts to raise additional revenues would be at least partially equalized, and they would have an incentive to increase their tax effort above the required minimum.

27. See John E. Coons, William H. Clune, III, and Stephen D. Sugarman, *Private Wealth and Public Education* (Cambridge, Massachusetts: The Belknap Press, 1970), Ch. 5.

28. Power equalizing is described in Coons, et al., *Private Wealth and Public Instruction*, Ch. 6. For a discussion of the legal problems, see Campbell, et al., *Report on North Carolina Finance*, Ch. 2.

29. "Report of the Governor's Study Commission on the Public School System of North Carolina" (Raleigh, 1968).

Current allocational formulas

In addition to the school finance issues discussed above, there are two additional issues that deserve mention. The first issue is the rigidity of the current state formulas for distributing state funds. The second issue is whether the property tax is a suitable tax for financing education.

The present system of allocational formulas was devised when the state assumed complete support during the early thirties. In assuming this responsibility the state had to solve two problems: it had to devise a method of distributing its funds to achieve equality throughout the state; and it had to reduce costs in order to finance the minimum term within the financial resources available. This required a set of formulas for determining what state funds each district and school would receive. These formulas were based on the number of pupils per teacher, salaries, necessary costs, and so forth. In later years, as new programs were initiated, new budget line items were added, and more formulas devised to allocate the additional funds for new programs. Today's formula system is very complex and rigid. It involves ten funds and more than thirty categorical allotments.[30]

The problems created by this complex system were recognized by the Governor's Commission of 1968, which recommended that line-item categorical budgeting be replaced by four general appropriations: personnel; materials, supplies, and services; research and development; and auxiliary services. Districts would then be freer to formulate their own plans according to their particular priorities and circumstances. After the state approved the local plans, the districts would receive lump-sum payments. The state would maintain control through audits rather than through complex accounting procedures.

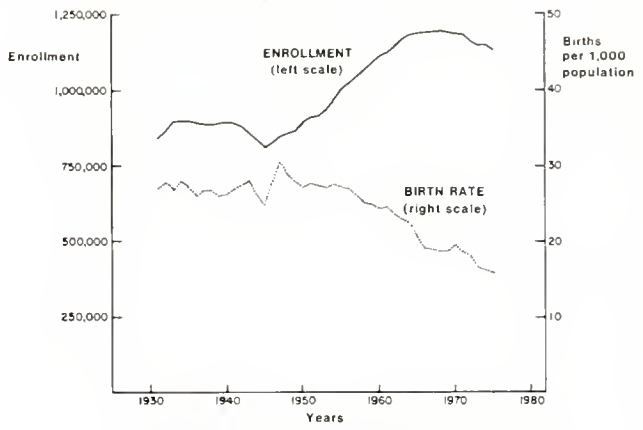
The same problems were also recognized in a more recent report by the Fiscal Research Division of the Legislative Services Commission.[31] This study found that the present allocation system results in excessive accounting and reporting procedures, "unnecessary expenditure of State funds and inefficient use of the education dollar," centralization of program and operational decisions at the state level, inhibition of local initiative in adopting new teaching methods, and a bias against poorer districts, which must use their funds for necessary expenditures, such as plant maintenance and operation, that state formulas do not cover. The report recommended a new system that would increase local flexibility in use of funds, relate to the needs of students as well as to their numbers, and take into account local ability to pay and local tax effort.

Property taxes to finance schools

The use of the local property tax as a major source of revenues presents two fundamental issues. First, as discussed earlier, differences in local property tax bases lead to inequality in educational expenditures, tax effort, or both. The problem is not with the property tax itself—use of a local income tax or sales tax to finance education would lead to the same inequality—but with differences in local income and wealth. The only way to get around this problem entirely is to have full state funding with no local contributions, or equalizing allocation systems. Of course, as discussed earlier, the inequality can be reduced by partial equalizing systems. The second issue is the fairness, or equity, of the property tax compared with other taxes that could be used, in particular, income and sales taxes. The question of whether the property tax is equitable is complex and controversial.[32] A few years ago the general consensus was that the property tax was a regressive tax and therefore unfair, but in recent years more critical attention has been devoted to the issue, and this conclusion has been challenged. In any event, the equity of the property tax in North Carolina is not as serious an issue as it is in states where the property tax supports a larger proportion of school expenditures and property tax rates are much higher. The state and the federal government together finance over 80 per cent of total school expenditures in North Carolina. Most of these funds are derived from income and sales taxes. Local governments rely on the property tax for revenues much less than they did just a few years ago because of federal revenue sharing, the local-option sales tax, and increases in the amount of revenues shared by the state. Furthermore, the property tax is the only major revenue source that local governments can administer, and it has the unique feature that the rate can be determined locally to produce the precise amount needed to finance the expenditures chosen through the local budget-making process.

Thus, for North Carolina the critical issue is not the property tax itself, but rather the disparities in value of property, wealth, and income that exist across the state and the resulting inequalities in school expenditures and tax effort. □

Adjusted Birth Rate in North Carolina and Public School Fall Enrollment, Grades 1–12, 1931–1975



Sources: Biennial reports of the State Superintendent of Public Instruction; Charles A. Creech, How North Carolina Ranks Educationally Among the Fifty States (State Department of Public Instruction, 1975); C. Horace Hamilton, North Carolina Population Trends, Volume Two (Chapel Hill: Carolina Population Center, 1975), Table 7.1.

30. For a description, see Campbell, et al., *Report on North Carolina Finance*, Ch. 1.

31. *Management Review of North Carolina Public Education*, Fiscal Research Division (Raleigh, 1975), pp. 34-38.

32. For an introduction to this issue, see Henry Aaron, *Who pays the Property Tax?* (Washington: The Brookings Institution, 1975).

Long-Term School Enrollment Trends in North Carolina

Harry M. Rosenberg

Enrollment in North Carolina's elementary and secondary schools has changed considerably in the past 25 years, creating great challenges for school planning, administration, and financing. The changes are in large measure associated with identifiable shifts in both population and enrollment patterns. Understanding how these factors have shaped recent enrollment trends in North Carolina will help us predict what may happen in the next quarter of a century. We believe that in the future enrollment trends will permit an increasing emphasis on the quality of education in our state rather than, as in past years, on accommodating rapid numerical growth.

Major influences on school enrollment

The major influences on elementary and secondary school enrollment are demographic, that is, related to population—to its size, growth rate, age structure, and geographic distribution.

The author is Senior Research Associate with the Carolina Population Center. Judith Kovenock, Research Services Unit, Carolina Population Center, provided programming assistance, and Philip Olmstead, Management Information Systems, North Carolina Department of Public Education, provided unpublished historic data on school enrollment for this article. Allen J. Borwick and Francine J. Ewing, Research and Development, North Carolina Division of Budget and Management, offered useful suggestions. This article is a summary of a report in preparation of the same name.

The size of population changes from year to year is due to three factors: (1) the number of children born every year; (2) the number of deaths among different age groups; and (3) the number of people coming into and leaving North Carolina every year. As these three "components of population change" vary from year to year, so too do the state's growth rate and the number of children eligible for school enrollment.

Another important factor in how many children attend school is non-demographic— the enrollment rate, which is the proportion of children of any age actually enrolled in school and attending. The enrollment rate is influenced by such factors as the nature of the school system, for example, its quality and its accessibility. Other influences appear to be related to the population from which the students are drawn—for example, the social and economic characteristics of their households and prevailing attitudes toward school attendance—and finally to such general factors as the state of the economy.

Together these demographic factors and enrollment patterns account for the size of the student population in North Carolina's elementary and secondary schools. We can examine the importance of these respective factors.

Births. Most newborns become first graders six years later. Thus, most children born in 1977 will enter elementary school in 1983. Some of them will not, however; about three to four per cent will probably die before reaching the age of six years.[1] Others will leave the state with their families, but are likely to be "replaced" by children of about the same age coming into North Carolina from other states. As of 1970, about 17 per cent of North Carolina's population had been born in other states, and about 25 per cent of the persons born in North Carolina have moved to other states.[2]

The size of the current school-aged population in North Carolina reflects birth trends during the past 18 years. The two most significant features of these birth trends, which North Carolina has shared with most other states, are the very high birthrates of the late 1950s followed by sharp declines thereafter. During the Depression, in 1936, the national birthrate stood at 18.4 births per 1,000 persons; it reached a high of 25.3 in 1957 but plummeted to 14.9 in 1975—even

1. National Center for Health Statistics, U.S. Department of Health, Education, and Welfare, *U.S. Decennial Life Tables, 1969-71*, Vol. 1., No. 1; Division of State Budget and Management, North Carolina Department of Administration, *North Carolina State Government Statistical Abstract, 1976*, Raleigh, N.C., 1976, p.11.

2. *U.S. Census of Population, 1970*, "State of Birth," Tables 5-7 and 13, reproduced in C. Horace Hamilton, *North Carolina Population Trends: A Demographic Sourcebook*, Vol. II, p. 169, Chapel Hill: Carolina Population Center, University of North Carolina. (These volumes provide the data base for much of the analysis in this report.)

below the Depression level.[3] Comparable figures for North Carolina were 25.9 (1936), 26.1 (1957), and 14.9 (1975).[4] It appears unlikely that birthrates will increase much above current levels in the foreseeable future.[5] We can trace the impact of these changes in birth trends on North Carolina school enrollment, as Figure 1 shows.

Most of the children currently enrolled in elementary school were born during the period 1964-71 when national and state birthrate declines were well underway. Compared with the size of earlier groups, the number of children now in our elementary schools is relatively small. Based on numbers of children already born but younger than school age, we can anticipate reductions in the total size of the state's elementary school population for at least five to ten more years.

As for high school enrollment, most of the students now in school were born during 1960-63 when births were at high levels. In fact, annual numbers of births then were only slightly below the state's record birth years of 1951-55. Based on birth trends, it appears unlikely that high school enrollment will in the foreseeable future exceed the most recent levels by very much.

Future school enrollment trends in our state will reflect numbers of children either too young to be attending school now or not yet born. Data in Figure 1 show some birth trends we can anticipate. These trends represent three series of "illustrative projections," based on assumptions by the U.S. Bureau of the Census about how many children are likely to be born in future years.[6] The future trends in Figure 1 also assume that birth trends in North Carolina will continue to parallel those for the United States as a whole as they have in recent years.

If these assumptions hold, and if trends are between the low and medium series—which seems likely based on current birth levels—then we can expect that annual births in North Carolina during 1975-80 will be about 81,000, representing a low point in relation to past as well as future levels. We can expect an increase for the following ten years until births reach a peak in the range of 95,000 to 105,000 annually. This peak will be associated with the relatively large number of persons in the child-bearing ages, adults who were born during the "bounteous" birth years, 1955-60. From 1985 to the year 2000, annual births should gradually decline again, reaching a level of 80,000-90,000 births annually.

Migration. Birth trends alone would be an excellent predictor of future school enrollment, except for the complicating factor of migration. Depending on the numerical balance between persons leaving North Carolina and those entering, the size of each birth group depicted in Figure 1 can increase or decrease.

Migration patterns for North Carolina, as well as for other states, have fluctuated considerably in response to social and economic factors. For many years, we lost a portion of our population every year because more persons left North Carolina than came in from other states, as shown in Table 1.[7]

For example, for the decade ending with 1940, the "Great Depression," North Carolina experienced a net migration loss of about 80,000 persons, or about two per cent of its population size at the end of the decade. Net migration losses continued through at least the mid-1960s when North Carolina stopped being a "net exporter" of its population. Between 1960 and 1970 our net population loss through migration was only one per cent, and by 1975, the "turn-around" was complete. During 1970-75, about 139,000 persons were *added* to our population through migration.

This shift from exporting to importing people is not limited to North Carolina. Indeed, it appears to be part of a larger regional phenomenon that began earlier in some states, such as Florida. This change in regional migration patterns, a demographic manifestation of the "New South," has been described in a recent report.[8] During 1965-70, the South added 657,000 persons to its population through migration from other parts of the country. Five years later, the number attracted was three times as great—1.8 million, which is the difference between 4.0 million in-migrants and 2.2 million out-migrants.

In the future it seems likely that the social, technological, and economic forces that have contributed to the economic and demographic burgeoning of the region and of North Carolina will continue, inducing net in-migration to North Carolina at the 1970-75 levels. This might add about 5,000 children annually to the numbers of births projected in Figure 1.

Enrollment rates. North Carolina has lagged behind the country as a whole in enrollment rates, that is, the proportion of its young people enrolled in or attending elementary and secondary schools.[9] Figure 2 illustrates where we stand in relation to the entire nation, and where we might be by the end of the century if our levels of enrollment converge with the national level.

3. National Center for Health Statistics, U.S. Department of Health, Education, and Welfare, *Vital Statistics of the United States*, "Natality" (annual).

4. Division of Health Services, *North Carolina Department of Human Resources*, North Carolina Vital Statistics (annual).

5. Harry M. Rosenberg, "Trends of the U.S. Birth Rate," *Science* 191 (February 6, 1976), p. 4226.

6. Bureau of the Census, U.S. Department of Commerce, *Current Population Reports*, series P-25, No. 601, "Projections of the Population of the United States: 1975-2050," October 1975. (The "high" series assumes that couples will complete their families with an average of 2.7 children per family; the "medium" series, with 2.0; and the "low," with 1.7 children.)

7. Hamilton, *North Carolina Population*, II, p. 188; Bureau of the Census, U.S. Department of Commerce, *Current Population Reports*, Series P-26, No. 75-33, "Estimates of the Population of North Carolina Counties, and Metropolitan Areas: July 1, 1974 and 1975," June 1976. (For years 1940, 1950, 1960, and 1970, migrants are persons ten years old and over; for 1975 migrants are all ages.)

8. Bureau of the Census, U.S. Department of Commerce, *Current Population Reports*, Series P-20, No. 292, "Population Profile of the United States, 1975," March 1976.

9. "Percentage enrollment" represents that percentage of an age group that is in either elementary school or high school. Thus, for grades 1-8, the percentage represents children aged 6-13 years enrolled in school; for grades 9-12, it is the percentage of children aged 14-17 years. The percentages are "unweighted," a procedure that frees comparisons, particularly between geographic areas or between time periods, from distortions due to changes or differences in the age structure of areas or for different time periods.

FIGURE 1. REPORTED AND PROJECTED BIRTHS FOR NORTH CAROLINA, 1950-2000

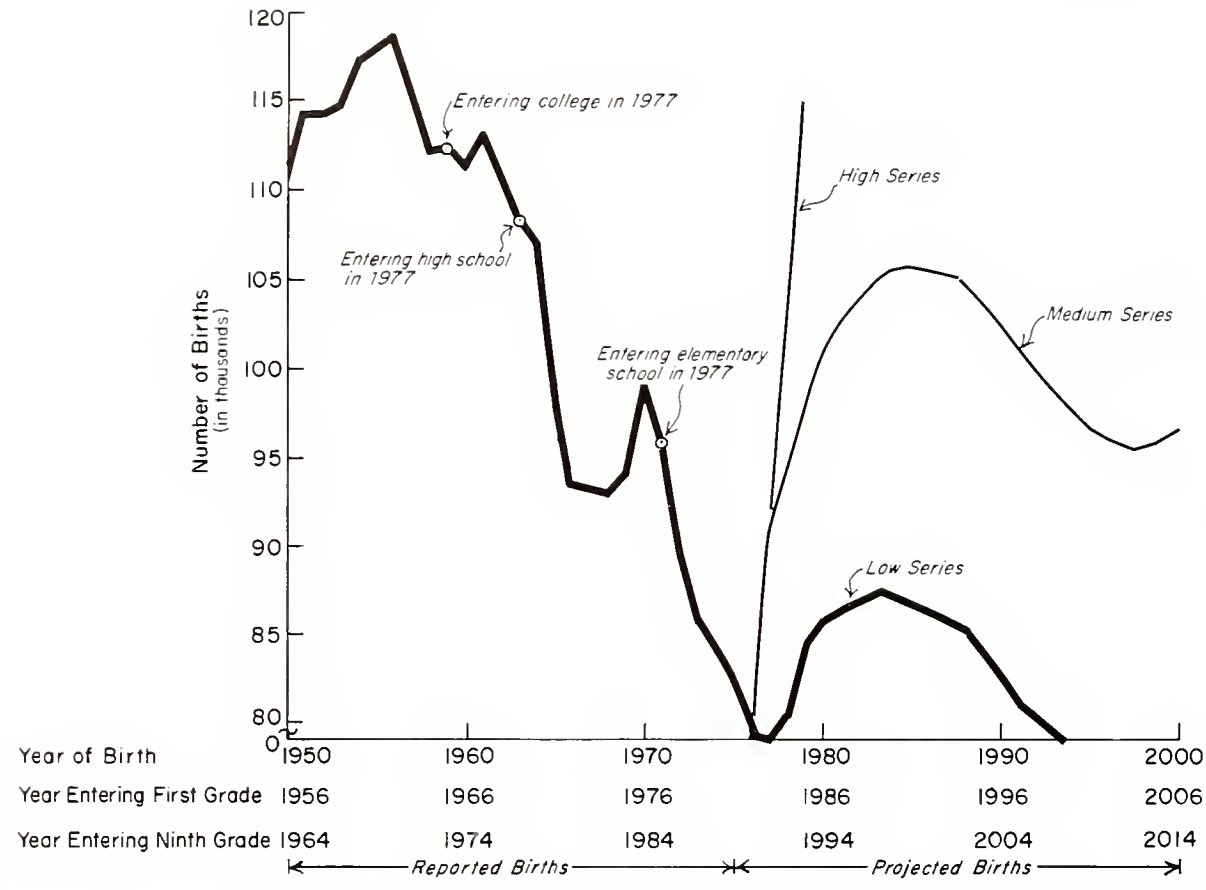
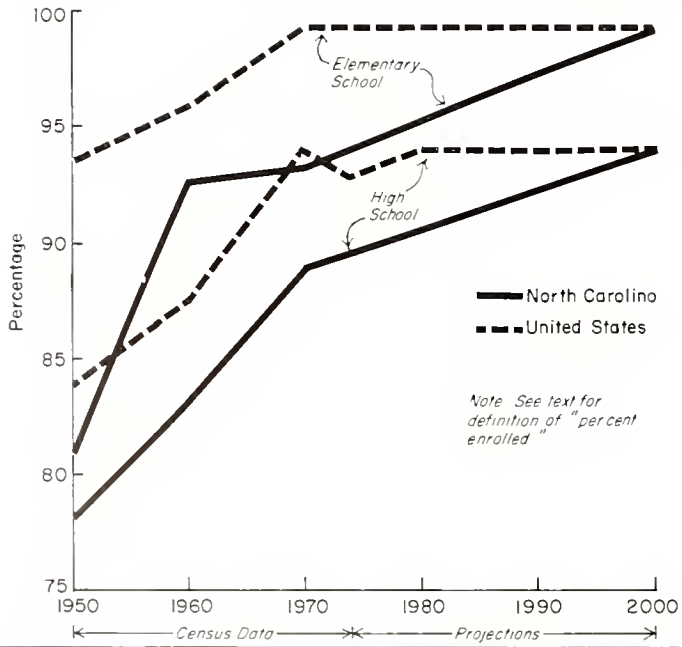


FIGURE 2. ENUMERATED AND PROJECT PERCENTAGE ENROLLED IN SCHOOL FOR NORTH CAROLINA AND THE UNITED STATES, 1940-2000



As of 1950, North Carolina's enrollment rates were considerably behind those of other states. Only 84 per cent of our elementary school-aged population were attending school compared with 93 per cent for the rest of the country. This gap narrowed substantially, from twelve to three points, during the period 1950-60; it widened again to a six-point spread during the next ten years.

For the population of high school age, improvements in North Carolina parallel those of the country as a whole, increasing about ten points during the period. Nevertheless, by 1970 only 89 per cent of our population of high school age was enrolled in school compared with 94 per cent for the entire nation.

We have made some optimistic assumptions about North Carolina's future enrollment trends, assumptions that nevertheless are possible based on

historic trends. The projections imply that enrollment among the elementary school-aged population will increase at rates greater than those during 1960-70, but less than those recorded during 1950-60. For students eligible to attend secondary schools, the rates of increase would be only slightly above those recorded during the past 20 years. The national benchmark figures are treated as fairly stationary at recent levels, despite some declines in high school enrollment in the most recent period.

Color and sex. Rates of enrollment differ between males and females and between students from white and nonwhite populations for the period 1960-70 as shown in Table 2.[10] In North Carolina and the rest of the United States, proportionately more females than males are enrolled (in relation to those eligible to be in school); more whites are enrolled than nonwhites. The differences, particularly between whites and nonwhites, narrowed considerably during the ten-year period.

The figures in Table 2 allow us to compare changes in North Carolina with those in the nation during 1960-70. In North Carolina the greatest gains in enrollment were made at the high school level, where improvements are most striking for the nonwhite population. This gain of almost nine points between the censuses narrowed considerably the differential that existed between white and nonwhite students ten years earlier. For high school-aged students, increases in enrollment in North Carolina essentially paralleled those for the United States as a whole. Nevertheless, we continue to lag behind the country in all categories.

At the elementary school level, North Carolina's record was worse than the nation's. Our improvements during 1960-70 were below those of the United States in all categories of the population. The figures in Table 1 show that nonwhites in North Carolina led all other categories in enrollment increases in elementary school, but the improvements were only one-fifth of those for the entire country.

Table 1

Influence of Migration on
Total North Carolina Population

	1940	*1950*	*1960*	*1970*	*1975*
Total Population (in thousands)	3,572	4,062	4,556	5,082	5,441
Net Migrants from Previous Date (in thousands)	-80	-225	-270	-51	+139
Migrants as Per Cent of Population . . . . %	-2.2	-5.5	-5.9	-1.0	+2.6

Public and private school enrollment. Most of North Carolina's elementary and secondary school students attend public rather than private schools, in fact, in much greater proportions than for the nation as a whole. In 1970, about 98 per cent of our students were enrolled in public schools compared with about 89 per cent for the entire country.[11] The concept of publicly supported education in the United States is well established, particularly in the South. However, there is evidence from the most recent censuses that North Carolina attendance has shifted measurably toward privately financed schools although the actual numbers involved are quite small. As Table 3 shows, enrollment in public elementary schools decreased in absolute terms during the period 1960-70, from about 815,000 to 812,000. It grew in private elementary schools from 12,000 to 20,000—an increase of over 40 per cent. Growth in private high school enrollment, similarly, exceeded that of the public schools. Thus, North Carolina's private and public enrollment trends during 1960-70 differed from that of the country as a whole, where public schools continue to account for a growing share of total enrollment.

Enrollment trends in North Carolina

The total number of students currently enrolled in North Carolina's schools, both public and private, is an estimated 1.124 million, down by about seven per cent from 1970 levels.[12] Most of the recent changes in enrollment are concentrated in the elementary grades, where enrollment has declined from 854,000 to 834,000 during the years since the last census, as shown in Figure 3. During the same period, high school enrollment increased somewhat, though not as dramatically as during 1960-70, when a sharp rise in enrollment put considerable strain on existing school facilities and resources. Data in Figure 3 show that while current levels of enrollment are down somewhat from 1970, they are well above those of 25 years earlier.

Much of the enrollment change since 1940 can be ascribed to changes in the number of births during this period. The importance of this demographic factor is apparent in Figure 3, which

10. 1960 and 1970 Censuses of Population for North Carolina and the United States. Comparable information for previous years is not available. Sources of enrollment data are as follows: For North Carolina and the U.S., 1950, 1960, and 1970, *U.S. Census of Population*, "Detailed Characteristics," 1950, 1960, and 1970. For the U.S., 1974, U.S. Department of Commerce, *Current Population Reports*, Series P-20, No. 286, "School Enrollment," November 1975.

11. Hamilton, *North Carolina Population*, III, p. 211. Due to differences in definition and coverage, the Census Bureau recorded a total of 827,000 students in elementary school in 1970, compared with a more complete figure based on North Carolina school records of 854,000 (adjusted from public school enrollment to total enrollment).

12. Numbers of students enrolled in this report are equivalent to what the North Carolina Department of Public Education calls "average daily membership," that is, the average number of students actually attending school per day. It is similar numerically to the Census Bureau definition of "school enrollment." For example, average daily membership in the school year 1969-70 numbered 1.171 million, compared with the Census Bureau enumeration as of April 1, 1970, of 1.159 million, a difference of about one per cent.

All enrollments in this report refer to total enrollment, both public and private. Where average daily membership has been used as a basis for the figures, as in 1940, 1950, 1960, 1970, and 1970-77, it has been adjusted to total enrollment using information on public and private enrollment from the respective censuses of population.

shows numbers of previous births corresponding to subsequent school enrollment. Using elementary school enrollment in 1950 as an example, Figure 3 shows that there were approximately 770,000 births in the years corresponding to 1950 elementary school enrollment, grades 1-8; these would be children born during 1937-44. Actual enrollment for 1950 is estimated at 695,000 in North Carolina schools, public and private, about 75,000 less than the number of corresponding births. The difference is attributable to a number of factors, including deaths, net out-migration from the state by families with young children and withdrawals from school. On careful examination, Figure 3 shows that the difference between the size of the birth cohorts and the number of children subsequently enrolled in our schools has gradually diminished over the years. This reflects the combined impact of lower mortality levels, higher school retention rates, and reduced out-migration from the state. Attrition due to these combined factors has been reduced to one half of what it was 25 years ago and may be eliminated entirely if net in-migration in North Carolina persists.

Geographic patterns. Of considerable importance for school administration and planning are the size of the administrative districts and their growth rates. In North Carolina and elsewhere, these districts vary considerably, presenting a continuously changing geographic distribution of school enrollment. This makes it difficult to develop administrative units that are neither so small that they restrict educational resources and opportunities, nor so large that they are unwieldy.

Demographic variations in size of cities and communities are shown below in relation to the size of potential school enrollment, based on 1970 census data. Table 4 shows that North Carolina is a state of considerable contrasts in terms of the size of its communities. At the time of the 1970 census, almost 18 per cent of our population—about one of every five Carolinians—lived in relatively large cities (50,000+), of which there were eight in the state. On the other hand, over half of our citizens lived "out in the country" and in very small towns with fewer than 2,500 persons. This variation has direct implications for the potential number of students in each area.

Table 2

Percentage Enrolled in School by Color and Sex for North Carolina and the United States, 1960-70

Period	Grades 1-8				Grades 9-12			
	Male	Female	White	Non-white	Male	Female	White	Non-white
	— North Carolina —							
1970	93.0	93.2	93.5	92.2	88.8	88.7	89.3	87.5
1960	92.5	92.8	93.3	91.3	82.4	83.6	84.8	78.8
1970-* 1960	0.5	0.4	0.2	0.9	6.4	5.1	4.5	8.7
	— United States —							
1970	99.1	99.4	99.2	99.3	94.8	93.3	94.4	91.7
1960	95.7	95.9	96.1	93.8	87.9	87.3	88.3	82.0
1970-* 1960	3.4	3.5	3.1	5.5	6.9	6.0	6.1	9.7

NOTE: See text for definition of "percentage enrolled."
* 1970 percentage minus 1960 percentage.

Table 3

Growth in School Enrollment, 1960-70 (in percentages)

	N.C.	*U.S.*
Total	15.3	24.1
Public Schools	12.5	25.4
Private Schools	50.8	16.3
Elementary Schools	0.6	12.7
Public	-0.4	15.5
Private	41.5	-8.0
High Schools	28.2	33.0
Public	27.9	37.9
Private	38.8	23.7

Thus, taking the largest cities in the state as a group, the average number of persons of school age, that is, 6-17 years old, was 27,000; this number would constitute a large school district. In comparison, the next city size class would have an average school-aged population of about 5,000 students. The implications of these geographic variations in population size for school district organization have recently been examined in a report of the North Carolina Department of Public Instruction.[13]

Variations in the distribution of North Carolina students and population across the state are accompanied by variations in growth rates over time. At the county level, the largest areas in recent years have also been the fastest growing areas, as shown in Table 5. The nine largest counties in the state grew an average of 23 per cent per area during 1960-70, or twice as fast as the state as a whole and four times as fast as an "average" county. For smaller counties, growth rates were progressively less, reaching negative growth (absolute population decline) for the class of counties with less than 10,000 people. Declining population was observed even among the larger counties; indeed one-third of our counties had smaller populations in 1970 than in 1960. Preliminary data for 1970-75, when the state experienced a relatively high growth rate due to net in-migration, show that the number of counties with

13. Division of School Planning, North Carolina Department of Public Instruction, *A Resource for Planning and Decision-Making* (Raleigh, November 1976), pp. 68-97.

declining populations was only seven during that period.[14]

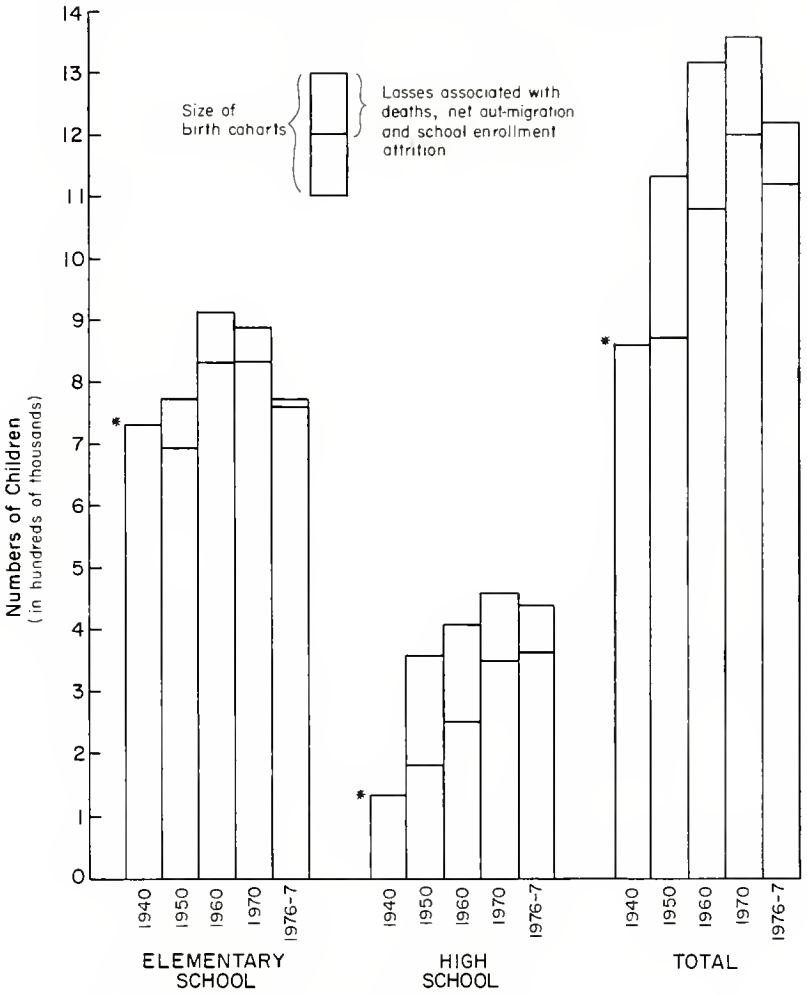
Differential growth rates among geographic areas such as counties, when sustained over a long period, lead to general shifts in population concentrations. This has happened in North Carolina since its early settlement. These shifts have been associated in large part with changes in our economic base, particularly in the relative importance of employment in agriculture as compared with employment in manufacturing. In the most recent period, the mechanization of agriculture has shifted many people from farm employment to manufacturing; there has been a concomitant shift in geographic patterns away from rural and toward urban areas. This has been well documented for the United States as a whole. The best example of this phenomenon in North Carolina is the growth of the Piedmont, in which many of the largest and fastest growing counties in the state are found, as shown in Figure 4. Industrial and commercial growth in this area has increased its relative share of the state's population from about 20 per cent in 1920 to almost 40 per cent by 1970.

Variation in population growth of North Carolina's counties has two direct implications for school planning and administration. First, population change influences the total size of the taxable resources on which public school financing is locally based. For example, those areas that have experienced unusually high growth rates in recent years are also areas that, in general, have the greatest capital investment, business growth, and employment expansion. They also usually have the highest per capita income. Thus in 1970, the average per capita income of the nine largest metropolitan counties was 10 per cent above the state average; for some of the counties, incomes were as much as 30 per cent greater than the state average.

The second implication of population change for school planning is its direct relationship with changes in school enrollment. Areas of rapid population growth also experienced rapid expansion of the school-aged population. In fact, school enrollment tends to grow proportionately faster than overall growth because migrants tend to be young adults, often with children of school age.[15]

14. Bureau of the Census, U.S. Department of Commerce, June 1976.

FIGURE 3. SCHOOL ENROLLMENT AND SIZE OF CORRESPONDING BIRTH COHORTS FOR NORTH CAROLINA, 1940, 1950, 1960, 1970, AND 1976-77



* *Birth data for children attending school in 1940 is incomplete.*

Future enrollment trends. Based on what we have learned about the components of population change in North Carolina and the patterns of school enrollment, we can make some predictions about population and enrollment changes over the next two or three decades. Clearly, our predictions will not be much better than the assumptions on which they are based, but hopefully they will provide useful guidance for planning.

In assessing possible "futures" for our school systems in terms of enrollment size, there are several demographic changes that should be taken into acount. (1) The declining birthrate (as depicted in Figure 1) will very likely continue to be the major factor shaping future enrollment, possibly even more so than in the past. It is clear, for example, that the impact of the small birth cohorts of 1975-80 will be felt in our elementary schools in the years immediately after 1980 and in the high schools soon after 1990. (2) Enrollment will also be influenced by

15. A statistical analysis of the relation between enrollment and population for North Carolina counties during 1960-70 indicates that on the average, enrollments expanded about nine per cent faster than population, as expressed in the relationship: Relative Enrollment Change, 1960-70 = -0.11 + 1.09 Relative Population Change, 1960-70. Adj. R^2 = 0.66, N=100, F=193. Relative change is defined as county change in relation to state change during the same period.

changes in our migration patterns; the shift toward net in-migration to North Carolina means that the size of our birth cohorts will no longer be depleted through sustained out-migration. In the most recent period for which we have data, 1970-75, the state gained 139,000 persons through migration; if 20 to 25 per cent of these were of school age (as in the rest of the population), then the school system would have to accommodate an additional 30,000 students, a measurable—though not formidable—addition to the current school-aged population of over 1.1 million. (3) The third influence is changing enrollment rates. Assuming that trends in North Carolina move toward convergence with the country as a whole (as suggested by Figure 2), total enrollment would be increased in the state.

We have, therefore, attempted to project the future size of North Carolina's school enrollment, taking into account the simultaneous impact of declining birthrates, changing migration patterns, and increasing enrollment rates, using two methods: (a) a demographic projection technique; and (b) an administrative records technique. The results of the different approaches shown in Figure 5 are quite similar.[16]

The projections show that the declining birthrate will have considerable consequences for elementary school enrollment. By 1980, total enrollment in grades 1-8 may decline by as much as seven per cent from current levels. Thereafter, it is projected to increase modestly to the year 2000, when it will be at approximately the same level as in 1970.

High school enrollment will essentially mirror elementary school trends, but with a ten-year lag. The "high" demographic series projects high school enrollment to reach about 400,000 by the end of the century compared with 350,000 in 1970.

In terms of the geographic distribution of future enrollment, our own level of confidence in our projections diminishes as the size of the city or community under consideration decreases. At the county or city level, migration patterns can shift considerably over short periods of time, making assumptions about sustained patterns untenable. Generally, however, we can say that some basic shifts, certainly at the regional level in North Carolina, have such economic and institutional momentum that they seem unlikely to stop or reverse during the next 25 years. These include, for example, the high rates of growth in the Piedmont compared with other areas and the relatively slower growth in many parts of the eastern and far western counties of North Carolina. Unless deliberate ef-

Table 4

Distribution of Cities and Communities by Total and School-aged Population

Size of Place	Number of Places	Total Population	Proportion of State Total	Average Number of Persons Aged 6-17 Years per Place
State Total	—	5,082,059	100.0	
Cities of 50,000 or more	8	901,973	17.7	27,000
Places of 10,000-49,999	32	665,823	13.1	5,000
Places of 2,500-9,999	94	439,861	8.7	1,000
Places of 1,000-2,499	149	250,749	4.9	400
Other places	—	2,823,833	55.6	

Table 5

Distribution of North Carolina Counties by 1970 Population Size and 1960-70 Population Growth Rates

Growth Rates, 1960-70	Population Size, 1970						
	Total	100,000 or more	75,000-99,999	50,000-74,999	25,000-49,999	10,000-24,999	Less than 10,000
Total	100	9	8	17	23	30	13
20 per cent or more	13	4	3	2		4	
10 to 19.9	18	5	2	3	5	2	1
5 to 9.9	18		1	5	4	5	3
0 to 4.9	17		1	2	7	6	1
-0.1 to -4.9	15		1	4	3	4	3
Less than -4.9	19			1	4	9	5
Average growth rate, 1960-70 (percentage)*	5.7	23.3	13.1	7.4	3.6	2.4	-1.8

*Unweighted averages

16. The "demographic method" for enrollment projection is based on numbers of births in individual calendar years, taking into account the impact of mortality by using appropriate life table survival factors for North Carolina. The difference between the "high" series and the "low" series reflects two net migration assumptions: (1) the low series assumes no future net migration; and (2) the high series assumes net in-migration to North Carolina birth cohorts at a rate of about 0.05 per cent per year.

The "administrative records" method of enrollment projection is based on changes in average daily membership per grade in the public schools. It is also known as the "grade retention" method. The series in this report assumes that 1977-78 ratios developed by the North Carolina Department of Public Instruction will prevail throughout the projection period.

FIGURE 4. POPULATION GROWTH RATES BY COUNTY FOR NORTH CAROLINA, 1960–1970

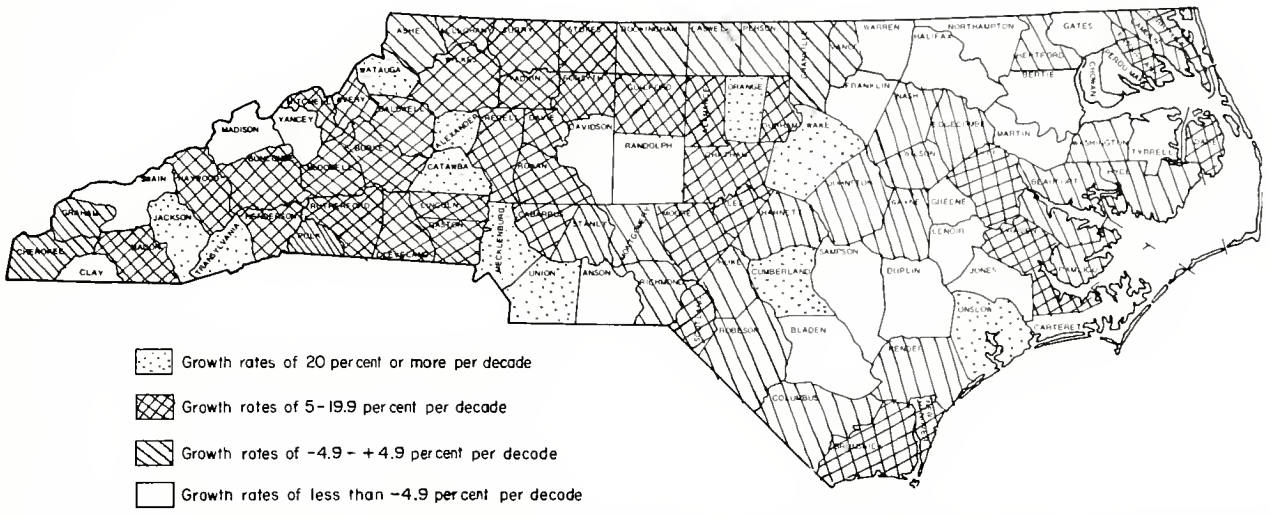
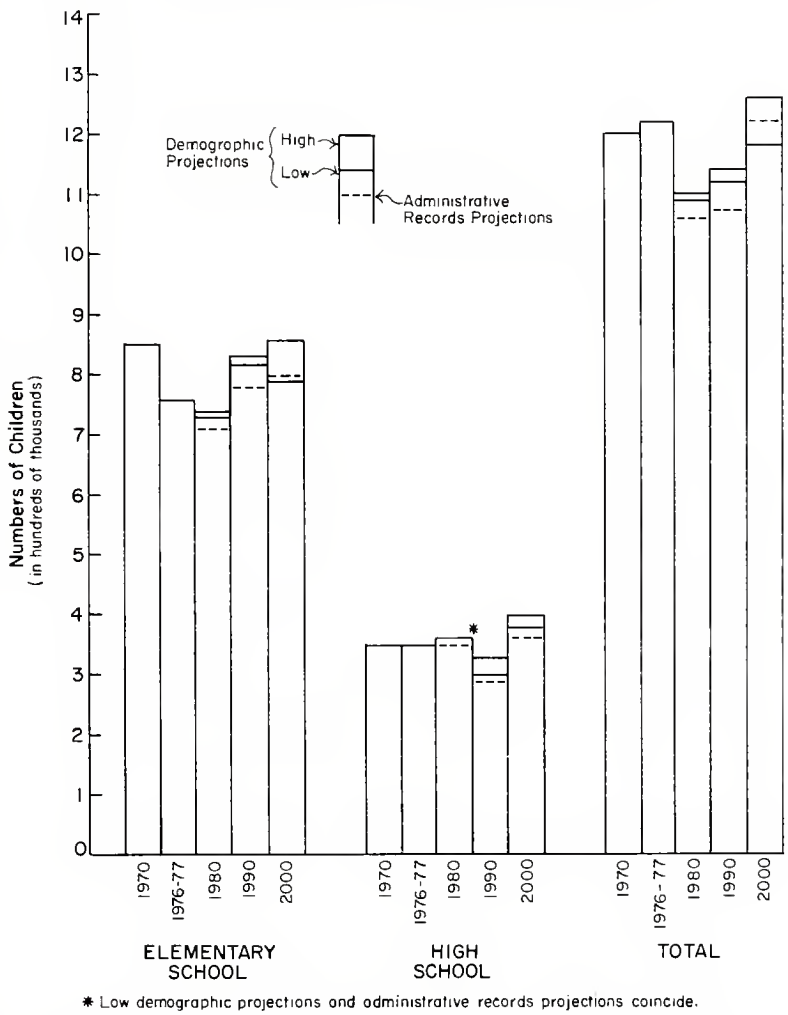


FIGURE 5. SCHOOL ENROLLMENT FOR NORTH CAROLINA, 1970 AND 1976–77, AND PROJECTED FOR THE YEARS 1980, 1990, and 2000



forts are made to modify these growth trends, which are responses to strong economic forces, these demographic patterns will persist, and will be reflected in future county enrollment trends. In the Piedmont, this growth will amplify state trends, and in other parts of North Carolina will dampen the trends described in Figure 5.[17]

Implications

School enrollment trends in North Carolina have been shaped in large measure by demographic factors, most notably by birthrates and migration patterns. As numbers of births per year have fluctuated, and as the number of persons moving into and out of our state has changed, school enrollment has changed. Changes in demographic factors, and indirectly in enrollment, are responses to continuing changes in our social and economic environment, in our behavior and attitudes. These forces are difficult to comprehend, much less to predict.

We have nevertheless attempted to use our existing understanding of these forces, in combination with known projection techniques, to assess possible future enrollment changes for our state. These analyses seem to portend future

(Continued on page 34)

17. Illustrative county enrollment projections will be included in the full report with the same title as this paper.

Standardized Tests and the Schools

Richard H. Coop and Kinnard White

PUBLIC CONCERN ABOUT THE QUALITY of education is reflected today in increasing interest in "accountability"—that is, judging schools and teachers on the basis of how well their students learn—and standardized testing has been touted as a means of discovering how well they are learning. Also public schools are using standardized tests to determine whether students have learned what they are intended to learn. Annual reports of achievement test scores for many school systems appear in local newspapers, and editorial comment on the implications of those scores usually follows. Some form of intelligence or aptitude testing is used by almost every school where students are selectively admitted to classes and programs. Some state legislatures are even passing laws requiring statewide testing programs. Indeed, it is a rare student today who has not taken some standardized test, and often that test plays a big part in determining where that student finally fits into society.

These developments have not occurred without debate. The National Education Association (NEA) has called for a moratorium on testing and the executive director of this organization has compared tests to "a lock on the mind, a guard at the factory gate."[1] One education journal, *The National Elementary Principal*, has taken up this cry, devoting an entire issue to a criticism of standardized testing in America.[2] The California legislature has twice voted to prohibit group mental testing in schools, on the grounds that the effect of these tests is to limit the education of black children. (The governor vetoed the bill.) However, the same California legislature that voted for this bill later instituted a new statewide standardized test of mental ability for first graders, designed to provide data for evaluating reading instruction. Ralph Nader, in a recent speech to the American Psychological Association, criticized tests for their narrow scope and for their influence on the allocation or misallocation of human talent.[3] Finally, the United States Supreme Court has dropped a caution flag on testing, ruling in *Griggs v. Duke Power Company*[4] and *Washington v. Davis*[5] that Title VII of the Civil Rights Act of 1964 prohibits the use of a test that disproportionally discriminates against minorities unless the test predicts peformance on the job or in a job training program.

What is a standardized test?

Testing, of course, is old hat; teachers have always tested their students to see how they are doing. What makes standardized tests different from the ones we are all familiar with is that they are usually given to a much bigger group than one teacher's class (they may be given to a whole school, school system, state, or nation), they are written by someone other than the teacher whose students are being tested, and they have been developed experimentally to assure that they are actually testing the skill they are supposed to test.

Standardized tests have been specifically designed to meet one or more of the following objectives:

1. *To make sure that performance is judged objectively*—Teachers are constantly called upon to assess the progress of their students. Of course, a teacher's own observations can be unduly influenced by personal whims and prejudices. Standardized tests are designed to overcome this problem of subjectivity.

2. *To make sure that conditions of the tests are known and equal for all students*—Consider for a moment the problems of

Both authors are members of the School of Education faculty of the University of North Carolina at Chapel Hill.

1. Terry Herndon, "Standardized Tests: Are They Worth the Costs?" Address to the Commonwealth Club, San Francisco, Cal., Dec. 19, 1975.

2. "Standardized Testing in America," *The National Elementary Principal* (July-Aug. 1975), p. 14.

3. "Nader Chides Researchers, Scores Testing," *APA Monitor*, (Nov. 1976).

4. 401 U.S. 424 (1971).

5. 44 U.S.L.W. 4789 (June 7, 1976).

making observations under uncontrolled conditions. For example, a teacher regularly assesses a student's performance based on his homework. Note, however, that a student's performance on homework can be influenced by several factors unknown to and uncontrolled by the teacher—the extent to which the student received help, how much the student was distracted while doing his homework, and the amount of time available to the student to do homework. Furthermore, these factors may vary from occasion to occasion, affecting a single student's performance differently on each occasion. Standardized tests are designed to equalize the conditions that influence performance, by controlling such factors as the time allowed for the student to respond, the physical setting in which the test is taken, and the directions given to the students.

3. *To make sure that the full range of skills being considered are tested*—People do not daily demonstrate all of their skills and accomplishments in ways that are immediately evident. A standardized test systematically samples the skills and achievements considered important, asking the person to demonstrate his ability to perform a representative sample of these skills. Thus, standardized tests expose each person to a common set of stimuli. In observing behavior in daily life we can systematically control neither the stimuli presented to each person nor the conditions of their presentation.

4. *To provide a yardstick of performance*—In addition to simply noting what things a person can do, we are usually interested in gauging his performance, especially after he has received instruction in a particular skill. Standardized tests can provide a way of interpreting a person's performance, by comparing his score either to the performance of other people taking the test or to some predetermined criterion.

Standarized tests are often used to make decisions about educational programs and practices. They are appropriately used for three different types of educational decisions:

1. *Selection and placement*—Tests are used to assist students, parents, and educators in matching students' abilities with available educational opportunities. Educational decisions of this type most often occur in post-secondary education and training, although students' test scores may also be used to place them in junior high or high school courses.

2. *Diagnosis*—Tests are used to find out in what subjects individual students fall short so instruction can be prescribed to remedy the problem.

3. *Evaluation*—Tests are used to assess various educational programs in order to help school administrators and educational policy-making bodies decide what programs to pursue and how much to spend on them. (For example, do students learn to read better or faster if they have a special reading instructor?)

Selection and placement tests. Standardized tests used for selection and placement are referred to variously as aptitude, ability, or intelligence tests. (Although there are some technical differences implied by these terms, for our purpose it is most useful to regard them as synonymous.) The term "aptitude test" will be used most frequently in this article because we think it best describes the nature of the test.

Any aptitude test, whether or not it is called an intelligence test, measures some interaction between a person's "basic" or "innate" abilities and what he has learned through experience. It is impossible to directly measure a person's innate ability separate from the abilities he has acquired through learning experiences. From the results of these aptitude tests, an effort is made to draw conclusions about the person's ability to learn the skills tested; the idea behind the tests is that a person who has achieved more in a certain area after a given period of time is likely to have more aptitude or ability for learning (or at least for learning quickly) in that area than a person who has achieved less in the same period of time and with similar experiences. (To the extent that all of those tested have not had the same time and the same experience, the idea will not work. This problem contributes to bias in testing, discussed later in this paper.)

Even in the areas of the basic skills — reading, writing, language, and mathematics — there is substantial disagreement over what achievements should be expected.

Since many of these aptitude-type tests are called "intelligence" tests, it is important to be clear about what we mean by intelligence. If all we mean by intelligence is "mental ability"—which is one of the ways Webster's Dictionary defines it—then it is wrong to think we have anything close to an intelligence test. A very large number of different mental abilities have been identified, and no test purports to measure all of them. The tests usually called intelligence tests are able to identify only some of these mental abilities. The abilities measured by these tests are those found in people who do well in this country's high prestige and high pay jobs: vocabulary skills; abstract reasoning; attentiveness; and related abilities. But there are many other mental abilities that might be of equal or greater importance in other kinds of jobs or societies. (Our "intelligence tests" have their heritage in tests developed in the last century by Binet to predict students' performance in the rigorous French secondary schools, which stressed such subjects as Greek, logic, and higher mathematics.)

The fact that aptitude tests are more limited and may present more problems than are popularly recognized does not mean that these tests are unimportant or useless. Aptitude tests are widely used in schools. The average child takes three to five aptitude tests between kindergarten and high school graduation. These tests are primarily used to aid in selecting persons for vocational and educational programs. Although these tests are by no means perfect, they are the best way we have to predict future performance in these programs. When more people apply for a vocational or educational program than there are openings, aptitude test scores are a sensible way to choose among the applicants. Aptitude tests are widely used in making admissions decisions by colleges and universities, by specialized training programs, and by graduate and professional schools.

Diagnostic Tests. Diagnostic testing attempts to pinpoint what a student has *not* learned so that steps may be taken to remedy that deficiency. Generally, diagnostic tests measure

highly specific skills. We anticipate that for any one student only a few of these measures will suggest a deficiency, and the results of the tests will show the student's particular learning difficulty. This use of standardized tests suggests the "medical model" of diagnosis and prescription. The diagnosis (testing) indicates the precise nature of the ailment (difficulty in learning) and then a remedy (some form of specialized training or education) is prescribed to overcome the specific problems that have been diagnosed. There are few learning difficulties for which we have clearly understood and well-documented "treatments." Indeed, it is rare in education that the results of a diagnostic test suggest specific instructional treatment. Certainly, the technical development of diagnostic testing in education has a long way to go before such tests can be as useful as medical diagnostic tests.

Diagnostic tests take a great deal of time to administer to students. This is because they must provide scores on a wide variety of skills and each score must be very accurate. A common mistake in the use of diagnostic testing is the tendency to give diagnostic tests, like achievement tests, to all students in a class. Diagnostic testing is not necessary for most students since most progress normally. Diagnostic testing should be administered on a referral basis after the teacher has narrowed a student's learning problem to a specific area. Even then diagnostic testing is appropriate only if the school has provisions for carrying out the instructional prescriptions that could be called for by the test results. Although diagnostic tests in education are currently at a rather unsophisticated level, this area of testing promises to be one of the most significant breakthroughs ever for education. The major obstacle is that we do not yet know enough about what to prescribe as remedies for problems diagnosed.

Evaluative tests. A variety of statistical indicators of social conditions are available today, for example, the consumer price index and the unemployment rate. But we have no direct indicators, at either the national or state level, of how much students have learned. If we are to have such indicators in the future, surely standardized tests will play a major role.

In recent years local school systems and state educational agencies have been working to develop a means of assessing the quality of schooling. (In almost every state, some type of testing program for evaluating the schools is under development.) Certainly both the process and the organization of schooling is coming under closer scrutiny by taxpayers, parents, citizen groups, school boards, and legislatures. These groups want to know the answers to such questions as, "Is the ability to read declining?" and "Can students compute as well as they used to?" and "Have we taught the students what we set out to teach them?" Standardized achievement tests are usually relied on for the basic data to answer these questions.

Using evaluative tests requires, of course, knowing what the objectives of an educational program are. For example, it makes no sense to test students' typing if the school never intended to teach them typing, and even if typing were taught in the school, it makes little sense to judge the school solely on the results of students' typing tests, when many other and more important kinds of learning were intended.

If a school, school system, or state has specified objectives for schooling—predetermined levels of skills and achievements for students to accomplish—then the selection of evaluative tests becomes rather straightforward. Unfortunately, all too frequently schools have not clarified their objectives and, consequently, have not selected standardized achievement tests by matching test questions against objectives. Failure to take this systematic approach to test selection invariably leads to criticisms of standardized testing, particularly when students do not score as well as expected.

Although evaluative testing highlights the need to specify measurable objectives for educational efforts, it is a time-consuming task, and agreement on statewide goals and objectives is difficult. Even in the areas of the basic skills—reading, writing, language, and mathematics—there is substantial disagreement over what achievements should be expected. Statewide testing programs cannot progress until there is some agreement reached on these goals.

"Criterion-referenced" and "norm-referenced" tests

There is an important difference between evaluative tests that must be recognized in order to use them properly—there are "criterion-referenced" tests and "norm-referenced" tests. The criterion-referenced test is aimed at determining whether students have learned the skills that the schools are trying to teach them; the norm-referenced test compares one group's skills with another's.

An example will demonstrate the difference. A typing course might be designed to teach students to type at least 50 words a minute. A criterion-referenced test would be used to determine how many of the students have reached that goal. On the other hand, a norm-referenced test would try to find out how well a student was typing in relation to other students; the significance of the result of a norm-referenced test lies in comparing the performance of a student or group of students with other students.

In other words, the standard for doing well on a criterion-referenced test is defined ahead of time by the person giving the test, while the standard for doing well on the norm-referenced test is determined by what turns out to be the "normal" score on the test. As a general rule it seems that teachers are more concerned with the results of criterion-referenced tests, while parents are often more interested in norm-referenced results.

Because criterion-referenced tests must be pegged to the very specific goals of a school or teacher, they commonly must be adapted for the specific use of that school or teacher. On the other hand, standardized norm-referenced achievement tests are designed to survey the skills that the schools across the United States have identified as being *generally common* outcomes of their instructional programs. However, the content of norm-referenced tests frequently does not coincide *exactly* with a school's curriculum. This does not mean that the data from such tests are not useful in decision-making at specific schools. If the sample of the test items is *representative* of the content of the school's curriculum, then a valid inference can be made from the test

scores of how students in that school system compare to students in other school systems.

Although the theoretical difference between these two types of tests is clear, a practical problem often arises that tends to obscure the difference—there is a tendency to set the standard for a criterion-referenced test on the basis of the "normal" score. This misses the point of a criterion-referenced test. Standards based on achievement of the average student may not be reasonable and attainable for everyone. It has been observed that the amount of time it takes individual students to reach the established standards of criterion-referenced tests is quite variable. If the research of Bloom and others is correct (Bloom, 1972),[6] in indicating that it takes 1½ times as long for the slowest student to achieve a standard as it does for the average student, standards based on "normal" achievement are not realistic. For example, if the attainment of a high school education is defined by a criterion-referenced test with the standard set by what the average student has learned after 12 years of school, we can anticipate that it would take the slowest student 18 to 24 years of study to get a high school diploma. Given present financial and social constraints, this is not a feasible expectation.

Current issues in testing

Cultural bias in testing. The effect of cultural bias in testing particularly in intelligence and aptitude tests, is one of the most widely discussed and controversial aspects of testing. Most intelligence and aptitude tests assume that all test-takers have had basically similar experiences and equivalent opportunities to develop the reasoning abilities demanded by the questions. To the extent that some groups taking the tests have had different experiences and more opportunities than others, there is cultural bias. Many people contend that the opportunity to develop the knowledge and skills required to answer the test questions is not uniformly available to members of all ethnic and socioeconomic groups in our society. They point out that, for instance, the test questions and directions are written in highly formal, abstract English, and that many of those who take the tests are not familiar with this language. Some critics argue that, in effect, some students are forced to take standardized tests written in a "foreign" language.

Lack of equal familiarity with the language is not the only problem. Students from different ethnic groups and social classes have greatly different backgrounds. Many students from a big city, for example, have little opportunity for contact with the world of animals, plants, and growing seasons, which rural and perhaps suburban students take for granted. On the other hand, students from rural areas may be equally mystified when asked questions about taxi cabs, subways, and elevators.

There have been a number of attempts by test makers to develop a "culture-free" test that would eliminate the biases. However, these attempts have not been successful. It is probably impossible to separate the cumulative effects of one's experiences from his performance on tests of intellectual skill. For instance, the ability to listen to instructions, to follow directions precisely, to avoid distractions during the test, and to pay sustained attention to the right parts of the test questions grow from students' past experiences. Each of these skills is crucial to high-level performance on tests of intelligence and aptitude.

Accountability. The idea behind accountability is that individual teachers, schools, or school systems are judged on the basis of what they produce—this usually means the skills the students are supposed to be learning in school. A very critical aspect of accountability is deciding what educational outcomes teachers and school officials are to be held accountable for. A second question is who is to make the decision regarding those outcomes. Third, how do we determine if the teachers and schools have achieved the outcomes set for them?

Many critics . . . suggest that one of the major causes of mediocrity or inferiority in our schools is the fact that teachers and other school officials are not held accountable for their products.

Accountability is a very emotional issue. Many critics of current educational practices suggest that one of the major causes of mediocrity or inferiority in our schools is the fact that teachers and other school officials are not held accountable for their products. These critics claim that since teachers get paid the same amount whether they produce good students or poor students, the teachers have little sense of responsibility for their students' learning. The proponents of accountability suggest that certain teachers' behaviors and/or student outcomes be specified in advance and that teachers be evaluated and remunerated based on how well these objectives are met. Many teachers and school officials have voiced concern about this idea, stating that it is impossible to equate all the factors that might influence the achievement of these objectives. For example, one teacher may have a particularly bright group of students who achieve their learning outcomes in spite of the teacher, while another teacher may have an unusually slow group of students who fail to reach the criterion level of achievement despite the teacher's best efforts.

It has been assumed that most teachers are generally unsympathetic to accountability. A recent study of over 300 teachers and student teachers in North Carolina, Missouri, Texas and California indicates that this might be more myth than fact, however.[7] This study indicated that over 79 per cent of those surveyed were generally positive toward the concept of accountability with only minor reservations.

6. B. S. Bloom, "Time and Learning," *American Psychologist* 29:9 (1974), pp. 682-88.

7. T. Good, R. H. Coop, M. Dembo, J. Denton, and P. Limbacher, "Teachers' View of Accountability: An Empirical Survey," *Phi Delta Kappan* (November, 1974).

These teachers' major objection was that they held the affective outcomes of instruction (dealing with student values, attitudes, feelings, emotions, etc.) in higher importance than did the general public. A 1972 Gallup Poll of public attitudes toward education indicated that the general populace placed the highest value on educational outcomes that were associated with "getting better jobs" and "financial success." The teachers, on the other hand, were more committed to educational goals involving "student self-satisfaction," "intellectual stimulation," and "developing positive attitudes toward learning."

The issue of testing enters on the horns of this dilemma. In order to assess the achievement of educational objectives, these objectives must be made specific and operational. That is, they must be specified in such a manner as to make them observable and quantifiable. This is frequently difficult to achieve in the affective areas, which were held by the teachers to be especially important. It is much easier to measure the degree to which a student can conjugate verbs or decline nouns than to determine objectively and quantitatively the degree to which he or she has developed "increased intellectual stimulation" or "more positive attitudes toward learning." Often in the interest of making these attitudinal outcomes more specific and observable, the original intent of the objective becomes distorted and even trivial. The proponents of accountability have sometimes let the "tail wag the dog" by specifying educational outcomes primarily on the basis of the ease with which these objectives could be measured. Once these outcomes are specified as the criteria against which the teacher's competency will be decided, there follows a tendency to teach these objectives, particularly the specific test items that will be used to assess the outcomes.

It appears that the *concept* of accountability is generally accepted by most of those who would be held accountable. It remains, however, for the techniques of measurement and evaluation to be improved before this concept can really work.

Test score interpretation and use

Tests are analogous to the automobile or hand gun, in that how they are used determines whether they are good or bad. As discussed previously, test scores can be used to make more valid curricular decisions on a systemwide basis. They can be used in diagnosing a student's weaknesses and can serve as a basis for prescribing particular programs of instruction to remedy the student's deficiencies. They can also aid in career guidance by identifying vocational areas in which students show the most interest and aptitude.

On the other side, misuse and misinterpretation of test scores can lead to labelling and stigmatizing students as mentally retarded or emotionally disturbed. A poor test score can lead to negative teacher expectations, which translate into negative teacher behaviors toward the student, who in turn reacts negatively toward the teacher, completing a self-fulfilling prophecy. Misinterpretation of test scores can also be used to support racial stereotypes concerning the level of intelligence of groups of students considered collectively.

Any aptitude test, whether or not it is called an intelligence test, measures some interaction between a person's "basic" or "innate" abilities and what he has learned through experience.

Sometimes a student's score can reinforce teacher preconceptions if the student had an older brother or sister who did not perform well in school.

Misinterpretation of standardized intelligence test scores began almost immediately after the first full-scale adoption of the tests. Some people concluded that the tests measured a person's innate intellectual ability, and that this ability was primarily genetically determined. (Therefore it was to the advantage of this country to admit more immigrants from those countries with the best gene pools.)

Other ways in which test scores have been misinterpreted include: using inappropriate norms; treating single test scores as absolute measures of abilities; using single scores as a basis for students' assignment to special classes or program tracks; and assuming that an intelligence test score can be used as an explanation for a score on an achievement test.

Allocating funds based on test scores. Statewide test data can be used to aid decision-making on how to allocate educational funds and professional services. How these data should be used raises questions. For example, should local school systems whose students have demonstrated high levels of achievement be rewarded for their efforts by giving them more money, or should they be given less so that school systems with lower student achievement can catch up?

Privacy of test scores. A topic of growing concern in the area of testing is the students' and their parents' rights of privacy in regard to test scores. The American Civil Liberties Union takes the position that nobody owns test results except the person who took the test. If this position were taken to its extreme, however, teachers would have to ask students' permission to see their achievement test scores on teacher-made tests before they could use these scores to assign grades.

Recently enacted legislation has mandated two practices regarding students' rights of privacy and confidentiality: (1) No person outside the school system may have access to the student's test scores unless his parents (or the student, if he is eighteen or older) grant permission; and (2) the parent (or the student if he is 18 or older) has the right to see any test score maintained by the school as a part of the student's permanent record.

Questions regarding other aspects of student privacy such as their rights to refuse to answer specific test questions or to refuse to respond to particular tests have not been answered. The American Psychological Association has taken a position on this issue in regard to individually administered tests. The APA states that "the right of an individual to decline to be assessed or to refuse to answer questions he considers improper or impertinent has never been and should not be questioned. This right should be pointed out to the

AND MEANWHILE, in the North Carolina legislature . . .

Testing quickly became an issue in the 1977 North Carolina General Assembly. Bills aimed at statewide testing for school children, supported by Governor Hunt, were introduced by Senator Livingston Stallings in the Senate and by Representative Dwight W. Quinn in the House.

The first, Senate Bill 80 (substantially similar to House Bill 204), calls for an eventual statewide test of eleventh graders, with a minimum score as a prerequisite to graduation from high school. The bill as introduced directs the appointment of a 15-member Competency Test Commission, composed of five teachers and principals, five citizens, two college educators, two specialists in psychological measurement, and a school superintendent, plus the State Superintendent or his designee as an ex officio nonvoting member. That commission is to recommend a test to the State Board of Education for a trial run in the spring of 1978 and for regular use, after appropriate modification, beginning in the spring of 1979.

The other bill, Senate Bill 81 (substantially similar to House Bill 205), was aimed at statewide testing in basic subjects in the first, second, third, sixth, and ninth grades. It too calls for a test selection commission with six teachers from the affected grades, two specialists in psychological measurement, a principal, a supervisor of instruction, and a superintendent, plus the State Superintendent or his designee as an ex officio nonvoting member. This commission would recommend tests and evaluate those in use, but actual selection of the tests used would be the province of the State Board of Education.

Both bills reflect concern with the privacy issue: test scores that can be linked to individual students are not public records and are unavailable to the public except to the extent required by federal law.

In committee hearing, opposition to the bills seemed to center on the concern that inevitable comparisons between the scores from different classes, schools, and races would encourage invalid criticism of the school systems and teachers whose students had the lower scores and would unfairly penalize students whose backgrounds had not prepared them as well.

examinee in the context of information about the confidentiality of the result."[8]

Current trends

Three basic aims for evaluative testing programs have emerged:

(1) The testing program should provide basic information needed to decide how to allocate funds and professional services, particularly in order to equalize the educational opportunities in schools.

(2) The testing program should provide data for generating and testing hypotheses related to the improvement of education.

(3) The testing program should provide easily interpreted information on the progress of the students in the state at various levels and in various subjects.

While there are many problems connected with the use of tests, the testing technology currently available does provide us with valuable information to aid in educational decision-making. There are a number of promising trends in test use and interpretation. One of these trends is toward the construction of tests to examine the thought processes that give rise to the answers to test questions as opposed to merely recording the answers (products). North Carolina's Department of Public Instruction currently has a program to develop a test based on Jean Piaget's theory of cognitive development that offers promise in this area. It will be pilot tested in a selected number of North Carolina elementary schools in the next two years.

Another trend is toward establishing procedures that require the school to inform students and parents of: the nature of the test to be given; the means of reporting the results to parents and students; the benefits of the test; the extent to which the student's privacy will be protected in the storing and reporting of the test results; and the consequences, if any, of a student's failure to take the test. Then the parent would have the opportunity to refuse to let the child take the test. Such a procedure is intended to encourage more judicious use, storing, and reporting of tests and better school-home communication, but it may also impose greater expense—in terms of time and personnel—to the already financially burdened school systems.

Another trend is toward the use of specific diagnostic tests that pinpoint student strengths and weaknesses so that instruction can be more systematically and individually prescribed. Also, more appropriate norms are being developed for the more commonly used standardized tests so that students can be compared more directly with other students of the same geographical region, urban or rural school, socioeconomic level, and ethnic group. Most large test companies now report regional norms based on northwestern, northeastern, southeastern, southwestern, and midwestern geographical areas. Also most states are developing statewide norms for many standardized tests, and some city and county school systems have begun to establish systemwide norms for their specific school districts.

8. "Psychological Assessment and Public Policy," *American Psychologist* 25, no. 3 (1970), pp. 264-66.

In many areas of North Carolina, students have had little experience in taking standardized tests that use computer-scored answer sheets and consequently have some difficulty understanding this type of test. Currently there is a move to give these students practice in taking standardized tests by giving them similar tests under simulated testing conditions. It is important to note that these students are not taught the content of any specific test but are merely given the opportunity to practice the test-taking skills necessary for good performance on any standardized test. The opportunity to develop these test-taking skills has long been available to students in many areas of the country.

Another promising development is that a more cautious approach toward interpreting test scores is now being taken. Most test users now view a test score as only one of many indicators of a student's ability in any given area. It is now clear that it is professionally and legally unjustifiable to use a single test score as a basis for assigning pupils to special classes or program tracks. As has previously been discussed, there is also a growing sensitivity toward students' and parents' rights to privacy in regard to test scores.

Perhaps the most important development in recent years has been the efforts of national professional organizations to develop policies and guidelines regarding the use of tests. The American Psychological Association, the American Educational Research Association, and the National Council on Measurement in Education have developed joint policies and standards for the publication of tests and test manuals, the establishment of validity and reliability, and the appropriate storage and use of tests.[9]

The cumulative effect of these trends cannot be foreseen, but there is increasing evidence to indicate that the tyranny of testing may be abating. ☐

9. *Standards for Educational and Psychological Tests*, American Psychological Association, Washington, D.C., 1974.

Governance *(Continued from page 11)*

election of members of the state board of education is that organized interest groups will be able thereby to exercise undue influences upon the composition and orientation of the state board. Possibly such fears were responsible for the recommendation of the Commission on Public School Laws that eleven of the fifteen proposed members of North Carolina's State Board be appointed by the General Assembly and four members be appointed by the Governor, subject to legislative confirmation. Such a recommendation appears to be a compromise between the desire for popular election and the fear of influence by organized special-interest groups. The appointive process does increase the possibility that able people who would be unwilling to pay the costs of running for public office would serve.

The case for changing the current structure appears to be relatively strong, with potential benefits outweighing present and probable future disadvantages of conflict and absence of clear responsibility. The appointment of a state superintendent by the board of education (with a multi-year contract as a protection of professional integrity) appears to reduce the probability of direct conflict and to increase non-professional control of policy-making in education. Although the evidence that the Commission's recommendation is preferable to direct election is not conclusive, the proposal is worthy of serious consideration.

No formal structure of governance can be created that will insure efficiency and effectiveness. All alternatives involve trade-offs in advantages and disadvantages. The most that can be hoped is that a formal structure will be created that will help a dedicated state board of education and an equally dedicated state superintendent of public instruction coordinate their efforts. ☐

Enrollment Trends *(Continued from page 27)*

enrollment changes that will neither be as great, nor as sudden, as those in past years. Increases in school enrollment experienced during the period 1950-70 are unlikely to be repeated in the foreseeable future. Instead, the general scenario seems more likely to be one of slight decreases and eventual stabilization of overall enrollments. This development may allow North Carolina to shift its educational focus increasingly to the quality of education, rather than being diverted by the problems of accommodating to a rapidly increasing number of students. ☐

Non-Public Schools in North Carolina

Calvin L. Criner

Article IX

> *Section 1.* Education shall be encouraged.—Religion, morality, and knowledge being necessary to good government and the happiness of mankind, schools and the means of education shall forever be encouraged.

This statement in the North Carolina Constitution of 1868 contains two assumptions important for public and non-public schools. The first is that religion, morality, and knowledge are essential to good government and the happiness of mankind. The second is that schools and the means of education will enhance religion, morality, and knowledge.

These assumptions reflected the state's experience with schools during the previous century. They also strongly influenced public and non-public education for the next eighty years.

The first schools

Before the American Revolution, schools in North Carolina were privately financed. Most of these schools were efforts by ministers to educate the children of their congregations. A few communities attempted to establish academies with a combination of public and private money.

An academy was organized in Wilmington in 1760. Money set aside by New Bern for a school was "borrowed" by Governor Tryon to build his palace. School trustees in Edenton built a schoolhouse in 1770 with money raised by voluntary subscription, gift of lot, public money, and fines.

In 1772 the Moravian congregation in Salem organized a school for girls. It opened with a student body of three little girls and a staff of one "tutoress." Salem Academy is the oldest school still operating in North Carolina. Four years ago the Academy celebrated its bicentennial with the dedication of a new fine arts building. At that time there were 226 women in its student body and 33 instructors on its staff. During the past 204 years Salem Academy has changed with the times. However, its basic purpose has remained the same—to prepare its graduates to be active, informed citizens with a strong religious influence in their lives.

Academies were founded in most settled areas of North Carolina after the American Revolution. They were financed by a combination of tuition and gifts. Occasionally an academy petitioned the General Assembly for permission to raise money by a lottery, but this was not profitable.

The course of study in these schools included both the "useful" and the "ornamental" branches of learning. Drawing, music, painting, and needlework were generally considered ornamental subjects. All other studies were regarded as useful. The broad range of subjects offered is demonstrated by this ambitious announcement by the new Franklin Academy in 1805:

> The Trustees of Franklin Academy inform the Public, that the said Academy will be open on the first day of January next, for the Reception of Students on the following Terms, viz. That each Student shall pay the Treasurer of the Academy ten Dollars per Annum, for Instruction in Reading, Writing, Arithmetic, English Grammar, Geography, Belles Lettres and Rhetoric; and Sixteen Dollars for Instruction in Ethics and Metaphysics, the Latin, Greek, Hebrew, French and Italian Languages, and the higher Branches of Mathematics and Philosophy, viz. Algebra, Geometry, Trigonometry, Conic Sections, Altimetry, Longimetry, Mensuration of Superficies and Solids, Surveying, Navigation, Natural Philosophy and Astronomy.[1]

It was customary for most schools to hold a public, oral examination of their pupils twice each year. Parents and friends were invited. Sometimes these examinations were conducted by the teachers, but more frequently the trustees examined the pupils.

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1. Charles L. Coon, *North Carolina Schools and Academies 1790-1840, A Documentary History* (Raleigh: Edwards & Broughton Printing Company, 1915), p. 84.

Fayetteville Academy had one of the most elaborate school buildings of these early years. The trustees described the schoolhouse in 1825:

> . . . The main building and wing are three stories high, with a double Portico in front and is surmounted with a beautiful Belfry—the length and breadth of the main building is about 65 by 45 feet, divided into large apartments, separated by large halls or passages through the center. They are sufficiently capacious to accommodate a school of 200 scholars and a family, and the lot is supplied from a Hydrant in the front yard with good and wholesome water.[2]

In 1833 the sum of $5,000 was raised to build an Episcopal school in North Carolina. A stone building was erected in Raleigh. The following year the trustees planned another building "of the same dimensions and of similar materials to that they have recently caused to be built, viz., 56 by 36 feet, two stories high—walls of rough granite, and roof covered with tin."[3] These two buildings are still standing and are part of the present campus of St. Mary's.

About its classroom equipment, the Oxford Female Seminary stated in 1826, "We have received a chemical and Philosophical Apparatus; and now each recitation in Chemistry, Philosophy and Astronomy is accompanied with a Lecture and Experiments illustrating the principles of the sciences."[4]

The Berkley's Literary and Scientific Institution announced that it had "a small but well selected Cabinet of Minerals," that it had "collections of flowers from the fields and gardens," that it also had "well executed engravings" on animal physiology and that the school was equipped with some "apparatus" for teaching chemistry.[5]

In 1839, Asheboro was a village of less than 150 inhabitants. Yet a visitor to the closing exercises at the Asheboro Academy reported the schoolhouse was "large enough to accommodate 60 Scholars, built and completely furnished off, with 12 large glass windows; and furnished too with necessary seats, tables, and a fine piano."[6]

Most academies either had boarding facilities, or arranged board for their out-of-town students in private homes. The schools stood *in loco parentis*. Teachers for the academies were selected for both mental and moral qualifications. Parents were assured that "particular attention will be paid to the morals of youth, and the whole course conducted in the fear of God and with reference to the virtue of the Gospel."[7]

Several military academies were founded before the Civil War. Oak Ridge Military Institute (1852) is still in operation.

In the decades that followed, public or common schools moved away from ecclesiastical control and came under the direction of the state. Many of the academies were absorbed into the public school system. Others remained independent or disappeared. Some dropped their preparatory classes and continued as colleges. Here and there new academies opened in response to special needs. These changes occurred slowly, not reaching the mountain communities of western North Carolina until 1920-1930.

State direction of schools

Article IX

> *Section 2.* General Assembly shall provide for schools.—The General Assembly, at its first session under this Constitution, shall provide by taxation and otherwise for a general and uniform system of public schools, wherein tuition shall be free of charge to all children of the State between the ages of six and twenty-one years.
>
> *Section 15.* Children must attend school.—The General Assembly is hereby empowered to enact that every child, of sufficient mental and physical ability, shall attend the public schools during the period between the ages of six and eighteen years, for a term of not less than sixteen months, unless educated by other means.

The Constitution of 1868 mandated a general and uniform system of public schools. It also established the concept of compulsory education. At the Convention of 1875, the following sentence was added to Section 2:

> . . . And the children of the white race and the children of the colored race shall be taught in separate public schools; but there shall be no discrimination in favor of, or to the prejudice of, either race.

In spite of these constitutional requirements, the public school system did not become *general* until the turn of the

Young Ladies' Seminary at Salem

2. *Ibid.*, p. xii.
3. *Ibid.*, p. xiii.
4. *Ibid.*, p. xii.
5. *Ibid.*
6. *Ibid.*, p. xiii.
7. *Ibid.*, p. xxxvii.

century, under Governor Aycock. A *uniform* system of public schools was not achieved until the Depression. In 1934 the state undertook financing of public schools.

Section 15 had empowered the General Assembly to require that all children be educated. Their right to attend non-public schools, to be tutored, to take work by correspondence, or to receive instruction in any other way, was protected by the phrase, "unless educated by other means."

School units began checking on local students who were not attending public school. State funds were allocated to each unit on the basis of average daily attendance in their schools.

A minimum standard. For years the state made no effort to require non-public schools to meet any set of standards. The continued existence of these schools depended upon the satisfaction of patrons who were paying for the education of their children by tuition as well as for public schools by taxes.

Several non-public schools became fully accredited by both the State Department of Public Instruction and the Southern Association of Colleges and Schools. Accreditation was then, as it is now, a voluntary process. It was done at the request of the non-public school, not because regulations required it.

State supervision of non-public schools dates from the passing of the Pearsall Plan in 1955. For the first time the General Statutes required non-public schools to report to the Department of Public Instruction and to meet minimal standards prescribed by the State Board of Education in order to be listed by the state agency as approved non-public schools.

> *G.S. 115-255.* Responsibility of State Board of Education to supervise non-public schools.—The State Board of Education, while providing a general and uniform system of education in the public schools of the State, shall always protect the right of every parent to have his children attend a non-public school by regulating and supervising all non-public schools serving children of secondary school age, or younger, to the end that all children shall become citizens who possess certain basic competencies necessary to properly discharge the responsibilities of American citizenship. The Board shall not, in its regulation of such non-public schools, interfere with any religious instruction which may be given in any private, denominational, or parochial school, but such non-public school shall meet the State minimum standards as prescribed in the course of study, and the children therein shall be taught the branches of education which are taught to the children of corresponding age and grade in the public schools and such instruction, except courses in foreign languages, shall be given in the English language.

A second paragraph was added by amendment in 1965.

> New non-public schools shall file a notice of intention to operate a new school with the State Superintendent of Public Instruction prior to beginning of operation.

The minimum standards for non-public schools were concerned with: (1) teacher preparation; (2) curriculum offerings; (3) size of classes; (4) safety and health requirements; and (5) length of school day and year.

> *G.S. 115-256.* Teachers must have certificates for grades they teach; instruction given must substantially equal that given in public schools.—All non-public schools in the State and all teachers employed or who give instruction therein, shall be subject to and governed by the provisions of law for the operation of the public schools insofar as they apply to the qualifications and certification of teachers and the promotion of pupils; and the instruction given in such schools shall be graded in the same way and shall have courses of study for each grade conducted therein substantially the same as those given in the public schools where children would attend in the absence of such non-public school.
>
> No person shall be employed to teach in a non-public school who has not obtained a teacher's certificate entitling such teacher corresponding courses or classes in public schools.

In 1961 the Department of Public Instruction created the position of State Supervisor of Non-Public Schools. Slowly North Carolina began to inquire into the operation of non-public schools and to require annual reports from them.

For a non-public school in North Carolina to have minimal state approval, the regulations require that all teachers be certified, the course of study be "substantially the same" as that offered by public schools, each class have no more than 40 students, classes be held for a minimum of six hours a day for at least 180 days a year, the buildings, staff and students satisfy the health requirements for public schools, and the buildings be constructed in accordance with the state building code.

Teacher preparation is the regulation that has been most often abused, both verbally and in practice, by non-public schools. Many non-public schoolteachers became interested in teaching after graduation from a liberal arts college. They frequently do not have the required courses in education. Some defend themselves by misquoting President Garfield, who once said, "Give me a log hut, with only a simple bench, Mark Hopkins on one end and I on the other, and you may have all the buildings, apparatus and libraries without him."

The educational establishment, however, armed with advanced degrees in education, contends that a person who has graduated from college is not necessarily a Mark Hopkins, and that there have been many changes in buildings, apparatus, and libraries since Garfield spoke in 1871.

Frequently teachers in religiously oriented schools have been trained in colleges with teacher training programs that have not been approved by the Board of Education. Some feel that the state infringes upon religious liberty when it uses its police powers to regulate the qualifications for teachers in these non-public schools.

Non-public school discontent with the requirements for teacher certification became acute after 1972. A surplus of people had been trained to teach in the public schools of North Carolina. As a result, "emergency" certificate designations, which had been used for three decades, were dropped.

Until then non-public schoolteachers whose preparation did not fit the public school requirements had been certified under these "emergency" designations.

Concurrently the State Board of Education approved a program of teacher training called the Competency-Based Program. This turned over the evaluation of credentials for certification to approved teacher training institutions—a case of the fox guarding the henhouse.

In 1975 a legislative study Commission of Public and Private Schools made these recommendations to the State Board of Education:

> All current emergency teacher regulations should be dropped. Existing emergency certificates in effect would be allowed to continue or to convert to the new procedures.
>
> All potential individuals interested in certification would be divided into two categories. One, those having finished a teacher education program appropriate to grades K-12. The second, those individuals not having completed a teacher education program.

The Commission also recommended procedures for evaluating credentials and issuing certificates to individuals with various types of educational preparation. These included:

> Individuals Completing Teacher Education Programs
> Individuals Not Having Completed a Teacher Education Program
> Individuals Completing Work at Accredited (Southern Association or its equivalent) Institutions
> Individuals Completing Work at Institutions Not Accredited (Southern Association or its equivalent)
> Individuals Holding Accredited Master's Degrees
> Individuals Holding a Master's Degree from a Non-Accredited (Southern Association or its equivalent) Institution
> Holders of a Doctor's Degree

It further recommended certain general provisions.

> All provisional certificates and temporary certificates would be issued valid for one year only. Such certificates would become null and void at the end of the fiscal year for which they were issued unless conditions specified for their continuation had been met. In each case, the minimum requirement for its continuation would be successful teaching experience.
>
> Under current State statute, all limitations imposed by the NTE statute would apply to provisional and temporary certificates. Certification procedures would be altered to allow the presentation of an application without documentation to establish the fact that an individual was in the process of complying with certification regulations to enable the processing of application for approval of non-public schools to operate. All deadlines established by the State Board of Education relative to certification and the filing of credentials would apply.

These recommendations were presented to the State Board of Education on February 6, 1975. The Board adopted them without change to be effective at once.

Curriculum offerings at the minimal level are generally not much of a problem. All non-public schools in North Carolina teach a child to read, write, and figure. They are happy enough to add the North Carolina history, United States history, and biology required to be "substantially the same." Physical education, music, guidance, and libraries are sometimes stumbling blocks.

Class size, surprisingly enough, is a sticky problem. North Carolina tries not to have more than 23 pupils per class in the early elementary grades, 26 in the upper elementary grades, and 36 in high school. The maximum has been stretched to 40 on occasion, and in some cases to 42. There are still a few schools—generally parochial—that find this requirement difficult to achieve. A decrease in the number of teaching sisters has created tremendous problems for the parochial schools in both the Diocese of Raleigh and the Diocese of Charlotte. At the other extreme, some schools operated by fundamentalist churches, or by protesting parents, may have only one or two in a class.

Length of school day and year poses many problems, some unexpected. Health requirements and operational expenses are higher if food is served in a school. Many of the smaller operations in North Carolina teach only the lower elementary grades. If these children stay for a full six hours, they must eat lunch during the school day. Most such small schools cannot afford a cafeteria and would prefer meeting from 8:00 to 1:00. The State Board of Education is fairly firm in requiring a six-hour day for non-public schools. Controversies sometimes arise if the local public school does not adhere to the same standard.

The regulations are equally difficult for boarding schools. Of course, for them the problem is not the length of day. A twenty-four hour day is certainly long enough to satisfy the most rigid state regulations. The peculiar difficulties faced by boarding schools, with youngsters on their hands seven days a week, are generally ignored by the regulations. The law says at least 180 school days. Saturday is not a school day in the public system.

Regarding *safety and health requirements*, North Carolina tries to be fairly strict. The Department's concern about the fire codes dates from the several fires in public and private schools two decades ago. Dr. C. F. Carroll, who was then

Edenton Academy, erected 1770

State Superintendent of Public Instruction, was at one time President of the Chief State School Officers. He had served on investigating committees that looked into these tragic fires. He reacted by tightening the enforcement of safety rules in all North Carolina schools.

The same inoculations and physical examinations are required of students and staff in non-public schools as are required for public schools. This is not much of a problem.

Each non-public school is visited yearly by a member of the Department of Public Instruction, usually the Supervisor of Non-Public Schools. On the basis of this visit and the annual reports filed by the school, the department approves those schools in compliance with the regulations. A letter of approval or nonapproval is sent to the school annually, with a copy to the local public school superintendent. The Department of Public Instruction has no authority to close schools that do not meet statutory standards for approval.

Non-public schools are required to report each year to the superintendent of the local public school unit.

> *G.S. 115-257.* Operators must report certain information.—The supervisory officer or teacher of all non-public schools shall report to the superintendent of the administrative unit in which such school is located within two weeks of the opening of such school, and within two weeks of the enrollment therein, the names of all pupils attending, their ages, parents' or guardians' names, and places of residence. Likewise, such officer or teacher shall report to such superintendent the withdrawal of any pupil within two weeks of such withdrawal. The supervisory officer or teacher of non-public schools shall make such reports as may be required of him by the State Board of Education, or such additional reports as are requested by the superintendent of the administrative unit in which such school is located; and he shall furnish to any court from time to time any information and reports requested by any judge thereof relating to the attendance, conduct and standing of any pupil enrolled in such school if said pupil is at the time awaiting examination or trial by the court or is under the supervision of the court.

The superintendent of the administrative unit is responsible for enforcing the compulsory attendance act. Any student attending a non-public school that is not approved is in violation of this act. The local superintendent of schools may take legal action against the parents if the violation continues. (This is seldom done.)

Non-public schools: a breakdown

The first relatively complete records collected by the Office of Non-Public Schools date from 1964. At that time there were approximately 13,000 children attending 126 non-public schools. Today the number of schools has increased to 285, and there are approximately 55,000 students enrolled in them.

At the present count, 262 schools with an enrollment of about 53,500 have been approved. No doubt, more will be on the approved list when certification difficulties have been cleared up. Table 1 shows the approved schools as they break down by affiliation.

In addition, ten special schools for handicapped children have been approved. These offer special training programs for 291 children.

Of the approved schools:

— 76 are unitary; that is, they offer grades 1 through 12. Most also have kindergarten.
— 131 have elementary and junior high school levels, but do not yet have graduating classes.
— 36 are kindergarten and the first three or four grades.
— 19 have high school only. Most of these are boarding schools.

There are 25 non-public schools accredited by the Southern Association of Colleges and Schools. Six additional non-public schools have been accredited by the Department of Public Instruction only.

Graduates of non-public high schools in North Carolina have had no difficulty in college admission. They have had good academic preparation and they score well on Scholastic Aptitude Tests.

There are four non-public school professional organizations in North Carolina. They are:

The North Carolina Association of Independent Schools. This group is made up of accredited schools as full members, and of schools engaged in the accrediting process as provisional members without a vote. There are 32 member schools.

The North Carolina Association of Christian Educators. This group is made up of schools whose religious philosophy is basic and fundamental (with religious attitudes similar to those of Bob Jones University in Greenville, South Carolina).

The Organized Christian Schools of North Carolina. This group is composed of schools having very similar attitudes and religious philosophy to the above, but using different techniques in instruction. There are 32 schools in this group.

The North Carolina Association of Christian Schools. This

Table 1
Breakdown of Non-Public Schools by Affiliation

Affiliation	Number of Schools	Approximate Number of Students
Baptist	73	16,256
Roman Catholic	43	10,589
Seventh Day Adventist	24	1,303
Episcopal	6	1,327
Lutheran	5	562
Weslevan	3	468
Christian	2	496
Hebrew	2	103
Presbyterian	2	115
A.M.E. Zion	1	128
Church of God	1	150
Dutch Reformed	1	71
Friends	1	58
Mennonite	1	28
Methodist	1	76
Moravian	1	226
People's Bible Church	1	202
Nonsectarian	94	21,342

group is closely affiliated with the North Carolina Association of Christian Educators, which is the parent body of the organization.

There are three educational systems controlled by religious groups at the diocesan or conference level:

1. The Roman Catholic Diocese of Raleigh, which has a superintendent of education appointed by the Bishop. This person is the head of the Roman Catholic school system for the eastern half of the state.

2. The Roman Catholic Diocese of Charlotte, which has a superintendent of education appointed by the Bishop. This person is the head of the Roman Catholic school system for the western half of the state.

3. The North Carolina Conference of the Seventh Day Adventists (Charlotte). The superintendent of education is selected by the Seventh Day Adventist Conference of the Carolinas. Five of the 24 Seventh Day Adventist Schools in the state are black. These schools are under the supervision of a superintendent of education in Decatur, Georgia.

Recent growth of non-public schools. Of the 285 non-public schools today, fewer than 50 date from before 1940. The causes for this acceleration of enrollment in non-public schools are complex. Great social changes have taken place in the fabric of American life during the past three decades. As a result, many parents in North Carolina have sought ways of educating their children outside the public system.

Unfortunately, the media assume that all non-public schools are poorly camouflaged attempts to avoid association with those of another race. But social change affecting the schools has taken place in many areas other than racial relations. For example:

— The change from a religiously oriented to a secular or antireligious society
— The change from a disciplined to a permissive society
— The change from an agricultural to an urban society
— The change from a static to a mobile society, and
— The change from a personal to a technological society.

Decisions of the United States Supreme Court in the '40s affected the teaching of religion, released time for religious instruction, and religious observances in public schools. Such cases as *Vashti McCollum v. Illinois* motivated many denominational groups to construct their own schools. They wished to provide spiritual guidance as well as academic instruction for the youngsters of their congregations. The Seventh Day Adventists in North Carolina are an example.

After 1963 some parents who feared racial strife in the general desegregation of the public school system formed their own schools. In the last decade, most non-public schools in North Carolina have stated in their brochures and in the press that they do not deny admission to anyone on the basis of race. This is now a requirement of the Internal Revenue Service in order for a non-public school to receive tax benefits as an eleemosynary institution.

Other parents felt that the relaxed moral standards in the nation had been brought about in part by Supreme Court decisions on laws governing obscenity and the printing of pornography. They feared the relaxing of criminal codes and deplored the widespread use of narcotics, sexual promiscuity, and rising divorce rate. And they felt that public schools lacked the discipline, control, and order conducive to academic achievement. For these reasons some non-public schools were founded by fundamentalist religious groups. These people are among the most active non-public school patrons. Some of them see the Department of Public Instruction as a threat to their rights—religious and civil—to educate their own children at their own expense if they see fit.

Table 2
Survey of Tuition Charges
North Carolina Association of Independent Schools

Grade Level	Day Students					Boarders	
	1	3	6	9	12	9	12
Lowest	$ 690	$ 700	$ 750	$ 315	$ 315	$1,890	$1,890
Median	970	1,050	1,195	1,255	1,355	3,215	3,210
Highest	1,325	1,395	1,595	2,100	2,185	3,975	3,975

Critics of such schools often overlook the fact that these people are "separatists" in the purest sense. They separate themselves from society, believing in a mystical relationship with God. They consider themselves to be God's chosen people and try to live apart from the world around them. Frequently they are considered racist because they believe marriage between members of different racial groups to be contrary to God's law. Their every activity is guided by their interpretation of Divine Will.

In Florida, Maryland, Ohio, and Tennessee, fundamentalist religious groups have bucked efforts of civil authorities to pass more stringent laws dealing with the supervision and inspection of non-public schools. In a case before the Supreme Court of Ohio in July, 1976 (*State of Ohio vs. Rev. Levi W. Whisner et al.*), the court ruled that parents were not guilty of violating the compulsory school attendance laws because their children attended a non-public school that was not approved by the state. The court felt that the state's requirements were so definitive there was no room left for the religious purposes of the school. This decision has led many fundamentalists to believe that the supervision of non-public schools by state educational agencies is unconstitutional.

The relationship of the North Carolina Department of Public Instruction with schools of this type has been congenial for the most part. The Department has understood the sensitivity of the situation and has tried not to encroach upon the religious freedom of any believer.

Financing non-public schools

The Department of Public Instruction does not collect any information concerning financing of non-public schools. These schools are supported by tuition, gifts from patrons and friends, and endowments. Tuition charges for day students range from very modest amounts to charges just over $2,000 per year. At least one non-public school makes no charge at all. A church operates the school free to students.

The North Carolina Association of Independent Schools makes an annual survey of the tuition charges of its member schools. Table 2 shows the latest digest of these fees.

Various methods are used to raise money for development programs. Some schools ask the patrons to make a contribution to the school's building program (beyond tuition charges). In other schools, patrons purchase bonds that mature with a pupil's graduation. Of course, some schools receive grants from foundations and friends. And in many smaller schools the patrons themselves help with building, decorating, and landscaping the school.

Non-public school students have received very little assistance through federal education programs. Under the Elementary and Secondary Education Act of 1965, books purchased with federal funds may be lent by the local public school for the use of non-public school students. Also, educationally disadvantaged students residing in low-income attendance areas may receive special instruction if they need it, even though they attend non-public schools. Participation in these programs has been quite limited in North Carolina.

The non-public schools have shown little interest in public funding of their institutions, such as the General Assembly offers institutions of higher education. Non-public schools believe that they save the taxpayers approximately $50,000,000 annually in per-pupil allotments that would have to be paid into the public school system to educate their pupils. On the other hand, the local public school units often feel that they have been unjustly deprived of educational funds by the non-public schools in their area. There are clearly two sides to this question.

The Office of Non-Public Schools

The Office of Non-Public Schools in North Carolina is unique in the United States. It began as a regulatory body, but has changed subtly over the years as the schools have changed. The State Superintendent of Public Instruction is shifting the Department's emphasis from a regulatory to a service orientation.

Currently the Office provides these services for non-public schools:

— It coordinates non-public school requests for advice in professional matters with the Department's special area supervisors.

— It interprets regulations for those who are confused as to the meaning of a general statute.

— It speeds up the process of teacher certification, which may bog down somewhere in the Division of Teacher Certification

— It visits institutions to determine whether their facilities and programs are substantially the same as those in the public schools.

— It makes clear to non-public schools that the State Department of Public Instruciton wishes them well in their endeavor to give the young people of this state a sound education.

In short, the business of the Office of Non-Public Schools is to assist in the education of children. It is not to delay, hamper, or injure individuals engaged in this very worthwhile work.

In any area of life under a democratic form of government there must be a possibility of choice, whether the area is in education, work, military service, religion, political affiliation, news media, or even which deodorant to use. The very essence of our democratic freedom lies in the fact that we do have a choice—even though that choice may only be withdrawal.

A monopolistic public school system offers no such choice—not even of withdrawal. This is a live option only if there are non-public schools to attend.

Chairman Mao was doubtless only paying lip service to the concept of choice, but he phrased it aptly in his 1957 Peking speech: "Let a hundred flowers blossom," he said, "and let a hundred schools of thought contend .... We think that it is harmful to the growth of art and science if administrative measures are used to impose one particular style of art or school of thought and to ban another."

During the past fifteen years the Office of Non-Public Schools has attempted to let the hundred flowers blossom and the hundred schools of thought contend. Some of the flowers have been mighty fragile, and some of the schools of thought downright contentious. But the Department has tried to work with them all.□

How It Looks After Fifteen Years on the School Board: An Interview with Mary Scroggs

Editor's Note: This interview with Mary Scroggs is about her reflections, as a veteran school board member, on board service and the kinds of problems that school boards encounter. Mrs. Scroggs was elected to the Chapel Hill-Carrboro Board of Education in 1961, was its chairman from 1971 to 1976, and is still serving on the board. She was president of the North Carolina School Boards Association from 1973-75. Her interviewer was Anne M. Dellinger, an Institute faculty member who works in the field of school law.

Dellinger: What were your goals when you ran for the board in 1961?

Scroggs: I had a couple. First, the Supreme Court had issued a mandate that something be done about the desegregation in southern schools—and I felt that we'd diddled around long enough and we needed to get on with the business of finding some local solution. Second, the schools here were seriously underfinanced in those days (and to some extent still are). We needed to upgrade our educational offerings for youngsters in both quantity and quality.

Dellinger: Do you feel that you've reached those goals?

Scroggs: The financing is a receding goal. Everything you see and you accomplish makes you see another place further out. I think that we have desegregated. I'm not sure whether we've truly integrated yet, but I think that the mechanical process is over.

Dellinger: I assume that integrating Chapel Hill schools has been one of your great challenges and accomplishments. I wonder if you would go back to the beginning of that process in 1961 and recall some of the steps.

Scroggs: When I came on the board in '61, it was to fill an unexpired term. I really didn't have a mandate because I had run third for three seats and had only a half-dozen more votes than the person who ran fourth. So the community had not spoken up very loudly for me. Still, I made it.

At this time there was one suit pending for a single child. This was before it became a class action sort of thing. The night we were sworn in there was a very large group of people present—some pushing for desegregation, some opposing it bitterly. We played to a standing-room-only house in what was then the high school auditorium. In the executive session that evening, parents of a number of black children individually requested that their children be assigned to white schools. The board granted most of the individual transfer requests. The board needed to make some sort of plan for the following year, and it chose one that would not be possible now—a geographical assignment with free transfer. What it did was provide an opportunity for black children living in the vicinity of a white school to go there. White children who lived in the neighborhood of black schools, however, had an escape. There was a gerrymander of the lines to relieve Carrboro from taking a very large proportion of black students. Whether that was good or bad, I do think it calmed the situation a bit, since the biggest protest would have come from that area.

I think we were fortunate in that we always did these things ourselves, in spite of a feeling by many in the community that we should do nothing until the court forced the issue. We were able to devise local solutions, and that was better than having somebody who lived somewhere else try to solve our problems.

The district court ruled that the child about whom we had a lawsuit should be assigned to a white junior high school, and the board did not appeal. What this really did was put a few black children in formerly all-white schools. We used that plan for a couple of years and then moved on to complete freedom of choice. We insisted that it really be free. Of course, from a transportation standpoint, the free choice plan was a total disaster. In one neighborhood where parents had opted for different elementary schools, we had to send several buses to take a handful of children across town one way and another handful across town another way. The plan fell by the wayside for that reason. We finally decided on geographic assignment with racial balance.

The freedom of choice plan closed two black schools. The board had adopted a policy that when the enrollment, through parents' free choice, declined to a certain level, the school would be closed. For very small numbers of students, we simply could not provide a reasonable program. There was a great campaign in the black community to close some formerly all-black schools, and parents did "choice" it below that level, and Lincoln Junior-Senior High and Northside

Elementary were closed. So there we sat, crowded, with an empty building. Then Lincoln, the former black junior-senior high school, became a sixth-grade school for a year. All sixth-graders in the district went there. This solution was very unpopular when it was discussed, but by the end of the year everybody thought it was a great idea and wondered why we stopped it. We've essentially been on a geographic, racially balanced assignment plan ever since, with occasional redistrictings to take care of the imbalances that have arisen. This plan isn't always very popular either. I think that it has been an honest effort on the part of the board to meet its obligation to the *Brown* decision in a way that treats all students equally.

The combining of Chapel Hill High School and Lincoln Senior High School, which happened when the new high school was built, was not without difficulty. We had some very touchy moments because we were so intent on not having a Little Rock that we did not look at the more subtle things.

Dellinger: For example?

Scroggs: Well, for instance, making sure that all the trophies from the two schools got displayed, that student elections were held again because there had been one in each school in the spring. The administration and students should have cooperated in choosing a school mascot, the school colors, and the school song—all the things that make a difference to students.

Dellinger: How much formal effort does the board feel it needs to expend on good race relations today?

Scroggs: We feel obligated at least to promote policy that is totally nondiscriminatory, for students as well as staff. We have made a conscious effort to try to raise the number of black teachers to the same proportion as the number of black students. We are within a percentage point or two of that now.

We've made a conscious effort to have blacks in central administration. We've tried to have students and parent groups involve blacks and whites together, and we've also encouraged groups for black parents only so they can talk over any problems they see in the schools.

Dellinger: I understand that you are not planning to run again. If you were to run again today, what would your goals be?

Scroggs: The problems are somewhat different now. The integration process has to move toward creating a feeling of oneness in a student body. I think the biggest need now is for the provision of services for the exceptional child. This is going to be a real challenge over the next couple of years. There has been legislation requiring that the services be provided, but unfortunately, state appropriations have not been forthcoming. Special education is going to be a real problem until we can make good on the promise that was made, and know how to do it well. I don't think we really know how to attack all of these problems successfully, particularly for children with learning disabilities. Also I think children with emotional problems are a group we haven't come to grips with terribly well. These things are going to take a lot of time. The whole movement "back to basics" has some problems built into it. For instance, I don't think our schools have ever really gotten away from teaching the basics. The problem is that there's a lack of understanding on the part of many adults that there's more than one way to do it. I sense too much of a feeling that "if that wasn't done when I went to school or when I taught school, you're probably not doing it right." That's an adult education problem—to help people understand that all children don't learn the same way, and that when they went to school, the children who didn't learn in the traditional way were sort of phased out of the school system.

Dellinger: I'd like to ask you about school boards and the people they employ. In your opinion, what is the proper division of authority between a citizen-board and the professional establishment, headed by the superintendent?

Scroggs: There is, of course, a beautiful textbook kind of division that implies a very clean line between policy and administration. Actually, the line is fuzzy and there are overlapping areas. How far one overlaps the other varies from board to board. It really seems to me to be quite appropriate for a superintendent to call to the board's attention areas in which the board needs policy and perhaps doesn't have it, and even to suggest policies that could apply in this area, or to make recommendations. Final authority, I think, for setting that policy must remain with the board, and it's derelict if it shirks that responsibility by default or just inadvertently.

Dellinger: I guess what outsiders continually wonder is whether it's possible for a board to have a nonadversarial position vis-a-vis the superintendent and still have control over policy.

Scroggs: Yes, if the board has chosen its superintendent very carefully so that he or she understands the board's educational goals and shares the feeling that those goals are important. If they have talked about those goals so there is an understanding when the superintendent arrives about how the board expects the system to operate, then I think the ground rules have been established and there need not be an adversary relationship all the time. Even so, sometimes the situation will be adversarial, and there's nothing wrong with that. Just as I am distressed when I hear about boards that don't want or frequently reject the recommendations of the superintendent, I am also distressed to hear of boards that are always unanimous and accept *all* the superintendent's recommendations. In either case, one of these bodies, either the board or the administration, is not doing its job the best way.

Dellinger: What about the relationship between the school board and parents or citizens in the community? Do you think parents should leave school boards alone to a greater extent than they do? Or should they at least change the kinds of complaints or the pressure they exert?

Scroggs: No. After all, the board runs these institutions at the request of the citizens. Board members were chosen, usually elected, to do this job, but their responsibility is to their constituency. Hopefully they're responsible to all of that constituency, rather than to some pieces of it. I think that a board is obligated to listen to its constituency, but at the same time board members have to weigh in their minds how

much of it they are hearing from. You don't hear from everybody. You hear from whoever is unhappy at the moment, and you have to decide how large a group that is compared with some other group, or with those on the other side, or with those who don't have or don't voice an opinion. There are times for citizens to be heard and there are also times when citizens need to listen. Let the board hear citizens make their case or debate a point; then let the citizens hear the board debate the issue. It can't continue to be a round robin forever—ultimately, the board's got to decide. That fact, I think, gives many citizens the feeling that they are being excluded.

Dellinger: What is communication usually like between board members and the public? Chapel Hill is no longer such a small town that everyone who knows you, calls you, I assume. Is it a regular thing that a board member receives letters before every meeting, say, on one topic or another?

Scroggs: No, I don't think so. Some board members seem to hear more than others. I have always felt that you should try to solve a problem at the lowest possible level. If it's something that can be solved with a teacher, fine. If it needs to be referred to a principal, fine. I suppose over the years I have tended to say to people who phone, "Have you discussed it with your child's teacher, or have you been to the principal?" I get fewer calls than I used to get. That is partly a function of how long you've been on the board, too. The populace feels you out to test how you are going to operate. They sort of test the system, too, to see if the response is adequate or not. Actually, I think there are too few citizens who come to board meetings.

Dellinger: Perhaps the lack of observers has something to do with the extraordinary length of the Chapel Hill-Carrboro school board meetings. Do you have any idea what's causing that and what can be done about it?

Scroggs: We are seven very verbal board members. Also nothing ever comes before the board of any substance that has been worked out in advance. Our board does not negotiate to a unanimous kind of decision. We just haven't ever worked that way, so all the discussion takes place at the board meeting itself. There is no politicking ahead of time. Consequently, even though you think you know how the vote is going to come out, you feel obliged to be sure that every point that ought to be considered gets mentioned. Unfortunately, they all get mentioned several times and the discussion is unnecessarily prolonged.

Dellinger: This lack of prior agreement—is that a conscious effort to comply with the spirit of the open meetings law or is it just a lack of organization?

Scroggs: I don't know if it's a conscious effort to comply with the law . . . there's a feeling that a decision ought to be made in the open, and that people at a meeting ought to be able to understand the reasons why board members take certain positions. My hope would be that once observers understand this they'll see *why* as well as *what* happened. It does slow things down, though.

As for organization, our board is fortunate in that we get good background material before each meeting. At the same time, that material is available to the press and radio stations. The media can alert people to what's on the agenda, and they have background material that would be useful for somebody who wants to come and make a pitch to the board. At least the public doesn't need to address the board totally out of ignorance. The same material is available at the board meeting for anybody who comes. If anyone wants to go by the central office, he can pick it up before the meeting.

We are relatively unstructured in that we don't have standing committees. You can argue for or against that. I don't think this board would ever be able to rubber stamp the recommendations of a committee. We *have* had ad hoc committees that are completely internal to the board as well as board-citizen committees on a number of issues, that is, school assignment plans, building plans, curriculum revisions, etc.

Dellinger: On the subject of parents' pressure—perhaps that's too harsh a word—or communication with the school board, you, like most members, were the parent of children in public schools for much of the time you served on the board. How did your being a board member affect your own children?

Scroggs: My own kids said I always took the part of the teacher, the administration, or the system, because I was always so afraid they would have some sort of special treatment. But on a few occasions, when I had a very strong feeling about something for one of my own youngsters, I did act as a parent. When I went, I usually would ask my husband to go along, so that we would avoid the appearance of exerting official kinds of pressure. It was hard, and it was probably especially hard for my children. When the board made a decision that the students perceived as undesirable or unpopular, my kids took a lot of flak. I was sorry about that, because they should not have been held responsible for my sins or apparent sins.

Dellinger: Let's talk for a minute about the kinds of people who serve on school boards. In one recent national poll of school superintendents, the majority of superintendents reported that they would prefer to have no women on their school boards. Have you found that female board members, as a group, are different from their male counterparts?

Scroggs: No, at least not because they are male or female. Possibly the way board members approach problems makes the difference among them. I divide the world into two groups, those people who can differ and argue a case without its becoming personal and those who can't. Some people learn to work in the scientific method, in which you do indeed hold up your conclusions to be shot down by colleagues. The test for validity is whether you can convince people that your data are right and your conclusions follow from the data available. People who deal that way routinely usually can go on to a new problem without a hangover. If my disagreeing with you becomes a personal affront, then it is hard to go on to the next item without some carryover of bad feeling. Also, if you don't have a job from 8 to 5, you have more time to visit schools. Sometimes you get more involved in the daily operation of schools than someone who has less time, and school administrators may interpret this as meddling.

Dellinger: Are you saying that sometimes people who do not work, more of whom would be women, have a tendency to

cross that line between the board's and the superintendent's function?

Scroggs: Yes, I think that happens more often with board members who do not hold jobs. Or they may want to bypass the superintendent totally and operate at the principal or departmental level. This kind of board member is more often on-site, right where the education is actually taking place. He or she hears the complaints of the teacher with 30 students in a class, who has 17 books of one kind and 15 of another and would like to have 30 books of each kind.

Dellinger: Then you don't think on-site investigation is a valuable source of additional information for a board member?

Scroggs: It may be a source of information, but I think the situation needs to be checked out to determine why it happened, or whether there is a reason, before a board member commits himself to see that it is taken care of. A single board member really isn't free to promise any action individually.

Dellinger: What do you think of the recent speculation that Supreme Court decisions and HEW regulations are discouraging the "best people" from serving on school boards?

Scroggs: I think it's true. Board members just get terribly tired of the hassle. I don't know so much about court decisions, but I feel this way about government regulations.

Dellinger: I was speaking more specifically about the possibility of increased board member liability.

Scroggs: Most board members in North Carolina are paid a very nominal sum. You worry about an out-of-pocket cost or settlement at personal expense. I am particularly concerned about *Wood v. Strickland* [a recent U.S. Supreme Court decision holding that under some circumstances, board members can be held individually liable for even unknowing violations of students' basic constitutional rights], simply because of its implication that board members ought to know more than they do or maybe should be expected to know.

Dellinger: You disagree with the Supreme Court's holding that board members must be acquainted with the basic constitutional rights of students?

Scroggs: I think our own board has come to feel strongly that they need to know about due process. I'm not sure where this is going to end. It takes a lot of time to read about and try to understand the implications of a rather large number of court decisions.

Dellinger: There's no doubt in my mind that *you* are acquainted with the constitutional rights of students. Why is that too difficult for the average North Carolina board member?

Scroggs: The average North Carolina board member has not been at it as long as I have. I've had the opportunity to go to national meetings or attend one kind of workshop or another where these things are talked about. I'm interested in these kinds of things anyway. I feel that the board members in the *Wood* case should have known they had infringed on those students' rights of access to the board. The question should have been resolved at an earlier point and should never have gone to the Supreme Court. I am sure that there have been court decisions that I'm not aware of at all, but perhaps I ought to be. Ignorance in this could involve me and possibly the whole board in litigation. I don't think we have heard the last of corporal punishment, for instance. I don't know what other legal issues there are going to be. How quickly boards can implement Title IX [which forbids discrimination on the basis of sex] or whether there'll be noncompliance depends on budget constraints. You could get sued before you got a situation really cleaned up, although most boards see equal opportunities as an obligation. There's a move toward athletic activities for the female student, but that would require sizable outlays of money. We may not be able to comply to the extent of providing two gymnasiums, but that many facilities may be needed during the day to accommodate both groups. You can say, "Share equally on the basis of how many people are involved," but those things are going to present problems. Those programs with sizable price tags are going to be fairly unpopular with some of the citizens. Board members are going to be flying in the face of public pressure from both sides.

Dellinger: You've had the experience of being president of the State School Board Association and this has given you a chance to observe schools other than your own. How does the Chapel Hill-Carrboro school board differ from the norm?

Scroggs: I think that our board is more likely to disagree and disagree publicly. We don't always accept the recommendations of the superintendent. I think we're likely to pursue any matter at greater length than most boards. We have a more verbal populace here than most places, so we share more with our citizens. I don't think we are deferred to as in some places, where people think school board members know best about schools. That attitude doesn't prevail here. Citizens may accept that we may have more information, but they don't believe our decision-making is likely to be any better than that of any other seven people assembled for this purpose. Another difference is that we've started things sooner than most people—desegregation, for instance—and so we've been ahead on various topics. We have met some snags before other people have.

Dellinger: Would you comment on the politics, or the tricks of the trade, of getting money from county commissioners?

Scroggs: Yes, although our board isn't always successful. I think board members have an obligation to the county commissioners, as agents of the people and as a taxing authority, to ask only for funds that are needed, when they are needed, and to tell them what should be accomplished with the money. I think you have an obligation to tell the commissioners afterward whether you've succeeded in what you were trying to do. You have an obligation to know a fair amount about the county's financial demands other than for the schools and what's a reasonable amount to expect from the taxpayer. I think it's inappropriate for the school board to ask for money from the county commissioners at the expense of some other county agency. As a citizen I could think and say that schools are more important than something else, but I wouldn't say it as a school board member. I think that board members should try to make

such a compelling case for school needs that the commissioners share their concerns. It's good for board members to hear the presentation of other agencies so that they've heard the same things as the commissioners. Then when the commissioners get down to putting this into some sort of county budget, board members will be prepared to speak to the commissioners again and to speak knowledgeably. I think we have to insist that the commissioners be open with the citizens, so that any citizen who wants to be heard by the commissioners is in a good position to do this. We need to be persistent. When I first came on the board, I would attend their meetings while the commissioners considered the budget. They considered it a bit as though I were a spy in camp. Now the assumption is that the Chapel Hill-Carrboro school board and the superintendent will be represented at all meetings when the budget season rolls around, not to make any more speeches (after the one presentation), but just to be there to learn, to be informed, and to be available to answer questions. I think that's important. I would encourage citizens to observe the school board as it develops its budget request and to go to the public hearings on the budget. We also have a public hearing on the budget at the school board level, which I think is worthwhile, although this is not required. We hope to inform the populace well enough that if a citizen goes before the board or later, before the commissioners, he or she speaks knowledgeably and doesn't waste time.

Dellinger: There has been some opposition to the new school budget and fiscal control act. I understand you supported that legislation. Could you comment on why you think this was good legislation.

Scroggs: A survey of counties showed that school budgets were handled in the various counties in as many ways as there are counties. For example, in some counties, the commissioners were exercising veto power over line items or even sublines of school board budget requests. (This authority, I feel, should rest with the board of education.) In some counties funds not expended by the end of the fiscal year reverted to the county general fund. In other counties, money once transmitted to the school system remained there for rebudgeting the following budget year. Some systems did not show in their revenue statements money that was carried over and rebudgeted. In fact, some school systems did not even prepare a revenue statement for submission to their county commissioners. There were units that did not have what is generally considered a sound governmental accounting system. In some counties the county fiscal officer still signed checks for the school system and in a few cases still did the accounting as well. Also there were discrepancies between counties in the handling of cafeteria funds as well as fines and forfeitures [which the State Constitution requires to be deposited for school purposes]. Some school systems were having problems getting timely transmittal of tax funds from the county budget.

The school budget and fiscal control act makes the law relating to schools compatible with the county and municipal budget and fiscal control law. The act more clearly defines the responsibilities of the school systems and those of the counties.

There has been considerable opposition to the appeal procedures for a school system that feels it cannot operate on the budget proposed by the county commissioners. This particular section of the act was lifted from the old law unchanged. (It does bear re-examination but since it represents no change from the old law, it seems to me to provide no reason for opposition to the new act.) I think that when school people were made aware of the appeals process, they saw the difficulties with it. They just hadn't paid any attention to it before.

The budget format being tested in twelve school systems this school year allows for differences in the level of sophistication needed in systems of different sizes. Experience with these pilot schools will no doubt give rise to some refinements that will make the system more workable. The Chapel Hill-Carrboro school system, though it is not one of the pilot systems, prepared its budget last spring within the framework of the act, and the board members and the administration found the format workable and helpful. This new format makes it easier for citizens to understand the budget. I think superintendents will find that both school board members and the public will ask more questions about how they are administering the budget.

It is my hope that with better uniformity of practice and with clearer requirements for fiscal responsibility, county commissioners and members of the General Assembly will have more confidence in the fiscal practices of school systems and will be willing to trust school authorities to solve problems at the local level. Only at this level can solutions be devised that speak to the particular needs and priorities of the local community.

Dellinger: What was your most frustrating experience as a board member?

Scroggs: I feel very strongly that an elected board is a microcosm of representative democracy. You have to assume that the majority opinion of the board is the majority opinion of the people. Otherwise, you have no base from which to operate. I have been very frustrated by situations in which a board member or the public does not accept this, and won't really face the fact that once a road is taken by majority decision, you go on from there and implement the decision whether you agree with it or not. You don't have to like every decision; you don't have to agree with it—but you shouldn't sabotage it. To have the same issues come up time and time again seems to me counterproductive.

Dellinger: What is your most satisfying experience as a board member?

Scroggs: I suppose getting roofs over the heads of all our youngsters, getting them out of church basements and old houses, trailers, and double shifts, so that the educational process could really work. We started out far behind when I went on the board fifteen years ago. Now we have school plants that I think are at least minimally satisfactory. Everybody has a seat to sit in and a chance to go to school all day. We have made much progress toward meeting the individual needs of each child; much more progress is still needed to provide specialized facilities such as multipurpose rooms, gymnasiums, rooms for reading teachers, teachers for children with learning disabilities and for mentally retarded children, art teachers, music teachers, and speech therapists. □

Book Review

William A. Campbell

The Nuclear Power Controversy. Arthur W. Murphy, ed., The American Assembly, Columbia University (New York: Prentice-Hall, 1976). 184 pp., $9.95.

The Nuclear Power Controversy is a collection of six papers by different authors dealing with issues and problems arising from the use of nuclear reactors to generate electric power. Arthur W. Murphy, a law professor at Columbia University, edited the collection and contributed a chapter on government regulation of nuclear power. In keeping with previous American Assembly publications, the chapters are written in nontechnical language, and are intended to enlighten the interested, general reader and to serve as a basis for discussion of significant public policy issues.

The overall impression left by the book is that the role of nuclear power in the energy supply scheme should be expanded, that radioactive hazards and the possible theft of nuclear materials are risks well worth taking, and that compared to other sources of energy, nuclear power is as cheap a power source as we are likely to develop in the next twenty to fifty years. This is not to say that all of the papers are pronuclear power or that they are briefs for the nuclear power industry. Indeed, the last chapter is quite negative toward an expansion of nuclear power. All of the chapters are written matter-of-factly, without the stridency that sometimes accompanies discussions of this subject. But the overall tone is one that minimizes the problems of nuclear power and emphasizes its benefits.

The individual chapters address the major questions that have been raised regarding nuclear power: the risks of an accident at a reactor site and the possible consequences; the export of nuclear materials; the storage of waste products; the diversion of nuclear fuel for making weapons; the economics of nuclear power; and governmental regulation of the nuclear power industry.

The authors of the chapter on safety, David Bodansky and Fred H. Schmidt, both professors of physics at the University of Washington, are quite convincing in their argument that no adverse health effects will occur from the normal operation of a reactor. The Navy's experience with shipboard reactors certainly supports this. The authors also state that with normal safety precautions the risks of an accident are very small, and that should an accident occur, it would most likely be a core meltdown that would almost always be only of local significance. They believe that waste materials can be stored in a glass-like form with relative safety.

The central issue regarding the export of nuclear materials and technology is whether and to what extent this country should export plutonium and the reprocessing technology needed to get plutonium. The standard fuel for use in light-water reactors in the United States is enriched uranium-235. When this fuel is expended in a reactor, it can either be placed in water for temporary storage (the current method), it can be placed in a waste management program for permanent storage, or it can be reprocessed for use as fuel. One of the products of reprocessing is plutonium, which can be extremely toxic if inhaled and—more to the point—can be used in the construction of nuclear weapons. Thus, given the requisite scientific knowledge, which is not difficult to obtain, any country or organization with about ten kilograms of plutonium or a reprocessing plant can construct a bomb. John Gorham Palfrey, a law professor at Columbia University, points out in his chapter on nuclear exports that the United States has adopted a policy of not exporting reprocessing technology, but France and Germany have not. In view of the dangers posed by the availability of plutonium to a large number of countries, especially to those with unstable governments, and in view of what appear to be the questionable economics of reprocessing spent fuel and of the breeder reactor program, Professor Palfrey urges that the United States should de-emphasize the reprocessing of spent fuel and should get other supplier countries to agree that spent fuels not be reprocessed until international machinery can be devised to prevent the diversion of the extracted plutonium for weapons construction.

The economics of the use of nuclear reactors to generate electric power is closely tied to the regulation of the nuclear power industry and environmental quality regulation generally. R. Michael Murray, Jr., of McKinsey & Company, writes about the economics of electric power generation. He compares the cost of using nuclear power with that of using coal-fired generators, stating that under certain projected conditions nuclear power will be cheaper by 1984. Murray is careful to say, however, that such a comparison is very difficult to make and that a significant change in any important variable, such as the cost of mining and transporting coal, the cost of uranium, the length of time required to secure the

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Manufacturing Wage Rates, Plant Location, and Plant Location Policies

Barry M. Moriarty

Southern manufacturing differs from manufacturing in most of the rest of the country. It lacks a diversified industrial base. It is dominated by low-wage, low value-added, labor-intensive, slow-growth industries.[1] Its industrial firms tend to locate in small towns and rural areas.[2] And, while many areas of the South remain predominantly agricultural, in several southern states the percentage of manufacturing workers in the total population substantially exceeds the national average.[3]

In the past few decades the South has undergone a number of changes that have resulted in its being called "The New South." Several of these changes have been associated with the region's rapid urbanization and industrialization.[4] Look, for example, at the sizable number of leading industrial firms that have located corporate offices and plants in the region during the past decade. Nevertheless, the South remains materially poorer than other regions. One reason given for this discrepancy is that the recent manufacturing growth of the South has been based on the expansion of the region's traditional low-wage, low value-added, labor-intensive (textile, wood, furniture, apparel) industries rather than on the expansion of more diversified industries.[5] Another speculative reason is that the region's low degree of trade unionization places constraints on higher earnings, better working conditions, and improved job benefits.[6]

In recent years a number of studies have been conducted dealing with the location of manufacturing in the South. They have studied why industrial firms have located in the region,[7] the relative importance of individual location factors,[8] and what locational patterns are evident, either collectively or for different types of manufacturing.[9] Few, if any, have investigated the locational patterns of different types of industries established by southern firms compared with the locational patterns of industries with parent firms based outside the region or in foreign countries. Such a study can help to explain why southern manufacturing continues to be distinct and why the region's economic welfare remains low.

This study has selected North Carolina for detailed examination. Nearly all of the generalizations made about the distinctiveness of southern manufacturing seem to apply to North Carolina. It is the most industrialized state in the South, with substantial employment in labor-intensive, low value-added, low-wage industries. But, because it is the most industrialized state, it leads the region in total value added by manufacturing. It also ranks very low in both the national

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1. J. O. Wheeler, "Regional Manufacturing Structure in the Southeastern United States, 1973," *Southeastern Geographer* 14 (1974), pp. 67-83.

2. D. B. Cramer, *Changing Location of Manufacturing Employment* (New York: National Industrial Conference Board, 1963). In particular, see footnote 6 and Tables 4, 7, and 23.

3. R. E. Lonsdale and C. E. Browning, "Rural-Urban Locational Preferences of Southern Manufacturers," *Annals: Association of American Geographers* 61 (1971), p. 255.

4. For a discussion of metropolitan-area growth patterns in population, service employment, manufacturing employment, and income by region of the United States for the period 1959-1970, see B. M. Moriarty, "Population and Employment Shifts Within Regional Hierarchies of Cities," *Proceedings: Association of American Geographers* 7 (1975), pp. 155-59; "Urban Population and Economic Growth: A Test of Alternative Theories," *International Geography: General Economic Geography* 6 (1976), pp. 315-19; and "The Distributed Lag Between Metropolitan-Area Employment and Population Growth," *Journal of Regional Science* 16 (1976), pp. 195-212.

5. T. A. Hartshorn, "Prologue to Manufacturing in the South," *Southeastern Geographer* 14 (1974), pp. 63-66.

6. E. Malizia, "The Earnings of North Carolina Workers," *News Letter* 60 (1975), pp. 1-4 (published by the Institute for Research in Social Science, University of North Carolina at Chapel Hill).

7. For a survey, see J. O. Wheeler, "Studies of Manufacturing Location in the South," *Geographical Review* 65 (1975), pp. 270-72.

8. For example, R. E. Lonsdale, "Rural Labor as an Attraction for Industry," *American Industrial Development Council Journal* 4 (1969), pp. 11-17; and J. R. McGregor, "Water As a Factor in the Location of Industry in the Southeast," *Southeastern Geographer* 10 (1970), pp. 41-54.

9. For example, Lonsdale and Browning, "Rural-Urban Locational Preferences," pp. 255-68.

average hourly manufacturing wage and percentage of unionized workers. The dominance of industry in smaller urban places and rural areas is particularly pronounced in North Carolina, yet the state contains the largest industrial market in the region after Baltimore and Atlanta—the Greensboro/Winston-Salem/High Point Standard Metropolitan Statistical Area (SMSA).[10]

Why do these conditions exist despite vigorous efforts by public and private development organizations to encourage the growth of more diversified capital-intensive, higher-wage industry? This article first describes differences in the types of industries established within North Carolina during the recent past by firms based in this state, in other states, and in foreign countries. It then discusses the relationship between where the parent firm of an industry came from and which region of the state and which size of community it located in. The article then presents some factors about industrial location that help account for the low level of the state's economic well-being, particularly the low manufacturing wage rate. Finally, it examines the state's industrial development policies and programs.

Characteristics of industrial plants

The data used here are from all 530 manufacturing plants with twenty or more employees[11] that were established in the state during 1969-74. The plants were classified as above or below the national average in wage rate and value added by manufacturing[12] and as labor intensive or capital intensive.[13] The regional location of each of these new plants (Mountain, Piedmont, or Coastal Plain *state planning region*) was determined by address, and the size of the community was established. Finally, the number of the plant's employees was determined, plus the location of the parent firm. Of the 530 plants, 298 (56%) belonged to firms based in North Carolina; 195 (37%) belonged to other U.S.-based firms, and 37 (7%) belonged to foreign firms (Table 1).

The 530 new plants were very similar to the 3,338 plants with over twenty employees that already existed in the state in 1969.[14] Seventy per cent of the new plants were low wage, compared with the 78 per cent of plants that existed in 1969; 79 per cent were low value-added compared with 78 per cent of existing plants. Eighty-eight per cent were labor intensive compared with 84 per cent, and 59 per cent employed fewer than 100 persons compared with 54 per cent of existing plants. Though a larger percentage paid higher wages than existing plants, a higher percentage of them were also labor-intensive, low value-added, small-scale establishments. As a result, they retained the state's traditional industrial mold.

Statistical analysis revealed that the plants differed significantly[15] in number of employees, wage rate, value added by manufacturing, and degree of labor intensity according to whether their parent firm was based in North Carolina, in another state, or in a foreign country.[16] In general, most North Carolina-based plants (71%) and most foreign-based plants (61%) employed fewer than 100 people, while most other U.S-based plants (61%) employed more than 100 workers. Most North Carolina-based plants (79%) and plants based elsewhere in the U.S. (62%) paid low wages, while 59 per cent of foreign-based plants paid higher wages. Regardless of the geographical location of the parent firm, most plants added less value to their products by manufacturing than plants in the nation at large: 86 per cent of the North Carolina-based plants added less, as did 70 per cent of the other U.S.-based plants and 62 per cent of the foreign-based plants. Ninety-four per cent of North Carolina-based plants were labor intensive, as were 80 per cent of other U.S.-based plants and 73 per cent of foreign-based plants.

Regional location of plants

The percentage of new plants that located in each of the state's planning regions during the 1969-74 period was nearly equal to the percentage of the state's population residing in that region in 1970. The Piedmont had the largest number of new plants (46%), followed by the Coastal Plain (35%) and the Mountains (19%). In contrast, 60 per cent of the previously existing plants were in the Piedmont, 23 per cent were in the Coastal Plain, and 17 per cent in the Mountain region. The firms showed statistically significant differences in their choice of a region, depending on where they were based. North Carolina-based firms chose the more urbanized Piedmont region (52%), while firms based in other states preferred the more agrarian Coastal Plain (45%). Firms based in foreign countries were randomly located throughout the state. Because of these concurrent differences in number of employees and regional preferences between parent firms based in North Carolina and other U.S.-based firms, in general the Piedmont attracted smaller plants and the inner Coastal Plain attracted larger plants. The absence of a regional preference among foreign-based firms did not affect their tendency also to locate smaller plants in the Piedmont and larger ones in the inner Coastal Plain.

Regardless of where their parent firms were based, plants that located in the Tidewater area of the Coastal Plain tended to be of the type that significantly added higher value to the products they produced, while those that located in the

10. Hartshorn, "Prologue to Manufacturing in the South."

11. Economic Development Division, *North Carolina Directory of Manufacturing Firms: 1974-1975* (Raleigh: North Carolina Department of Natural and Economic Resources, 1975).

12. Standard Industrial Classification Code, Technical Committee on Industrial Classification, Office of Statistical Standards, U.S. Bureau of the Budget, *Standard Industrial Classification Manual* (Washington, D.C.: U.S Government Printing Office, 1957).

13. National wage-rate and value-added data by industry were compiled from United States Department of Commerce, *Census of Manufacturers: 1972* (Washington, D.C.: U.S. Government Printing Office, 1974). For a more detailed description of this classification method, see T. Till, "The Extent of Industrialization in Southern Nonmetro Labor Markets in the 1960's," *Journal of Regional Science* 13 (1973), pp. 453-61.

14. 1969 data were compiled from United States Department of Commerce, *County Business Patterns: 1969* (Washington, D.C.: U.S. Government Printing Office, 1970).

15. In this article the term "significant" means that statistical analysis shows that the differences being discussed could not happen very well by chance. That is, they are distinctly different.

16. Since plants located in rural areas are often addressed to post office boxes in the nearest town or city, the percentage of small-town and rural plants is greater than cited here.

Table 1
Characteristics of North Carolina Manufacturing Plants
with Twenty of More Employees

	Percentage of Plants Established in Area by 1969	Percentage of Plants Established in Area by Origin of Parent Firm: 1969-1974			
	Total Plants N=3,338	Total Plants N=530	N.C. Plants N=298	U.S. Plants N=195	Foreign Plants N=37
Total Industry					
Mountain	17	19	16	19	16
Piedmont	60	46	52	36	51
Coastal Plain	23	35	32	45	33
Places >25,000		29	29	25	49
Places 10,000-25,000		18	18	19	11
Places <10,000		53	53	56	40
Low Wage					
Total State	78	70	79	62	41
Mountain	85	79	88	70	67
Piedmont	75	69	77	58	37
Coastal Plain	80	67	77	62	33
Places >25,000		59	71	47	33
Places 10,000-25,000		75	85	62	50
Places <10,000		74	85	62	50
Low Value Added					
Total State	78	79	86	70	62
Mountain	84	90	94	86	83
Piedmont	78	80	88	66	68
Coastal Plain	74	73	82	67	42
Places >25,000		68	84	49	44
Places 10,000-25,000		83	90	76	100
Places <10,000		83	88	78	73
Labor Intensive					
Total State	81	88	94	80	73
Mountain	84	88	94	78	100
Piedmont	83	91	97	80	79
Coastal Plain	71	83	90	80	50
Places >25,000		82	92	67	72
Places 10,000-25,000		92	96	84	75
Places <10,000		90	95	84	73
Small Plants					
Total State	54	59	71	40	61
Mountain	48	55	63	49	50
Piedmont	56	65	73	42	79
Coastal Plain	53	53	72	34	42
Places >25,000		64	78	39	67
Places 10,000-25,000		53	65	32	75
Places <10,000		58	69	43	53

Mountains tended to be of the type that added less value. In large measure it was the preference for the Tidewater by firms based in North Carolina and other states that brought this result. Foreign-based firms that make high value-added products tended to locate their plants in the inner Coastal Plain and foreign-based firms that produce low value-added items preferred the Mountains. When all 530 plants are taken together, the wages they paid varied considerably by region. Plants located in the Mountains primarily paid low wages, while those in the Coastal Plain (particularly plants in the Tidewater owned by firms based elsewhere in the U.S.) paid higher wages. Overall, plants that located in the Tidewater were significantly more capital intensive.

In summary, the Coastal Plain and especially the Tidewater fared better than the Piedmont and Mountain regions in attracting new plants that were high-wage, high value-added, capital-intensive, big establishments.

Size of the community

Seventy-one per cent of all new plants were located in places with populations under 25,000—53 per cent in places with less than 10,000.[17] North Carolina-based firms (56%) were most likely to locate plants in places with less than 10,000 inhabitants, followed by firms based elsewhere in the U.S (53%). Foreign-based firms located half their plants in places with less than 25,000 people; 40 per cent of their plants were located in places with less than 10,000. Considering all of the 530 plants, the number of employees was not associated with the size of the community where the plant was located.

Capital-intensive plants were significantly attracted to cities with over 50,000 people and these same cities had significantly fewer labor-intensive plants than smaller cities.

Whether a plant added high or low value to its product was also associated with the size of its community. High-value plants tended to locate in cities with over 25,000 inhabitants and especially in the larger cities. Communities with between 10,000 and 25,000 and those with less than 2,500 attracted fewer high value-added plants. This was again primarily because high value-added U.S.-based firms were attracted to the largest cities and low value-added firms were underrepresented in these cities.

Plants that paid high wages also tended to locate in communities with over 25,000 people. Small communities and rural areas with populations of less than 2,500 attracted significantly fewer high-wage plants than larger places. However, whether the firm that owned the plant was based in North Carolina, in another state, or in another country did not affect this tendency for high-wage plants to locate in larger communities.

In summary, it is fairly conclusive that large communities, regardless of where they are, attracted a disproportionate share of the new plants that were high-wage, high value-added, capital-intensive establishments.

17. In North Carolina the rural farm population was reduced by half during the decade 1960-70, falling from 14 to 7 per cent of the state's population.

Plant location and economic welfare

This study revealed a few locational factors that help account for the low level of North Carolina's economic welfare. First, it was the growth of the North Carolina-based firms that was most responsible for maintaining the traditional nature of the state's manufacturing structure. The analysis showed that more of the plants based outside North Carolina paid higher wages and more were capital intensive than North Carolina-based plants, and that foreign-based plants added significantly higher value than the average plant.

Second, the new plants were so located that the state's regions became more nearly equal in the number of industrial plants located in them. The Coastal Plain (and particularly the Tidewater) gained at the expense of the Piedmont. The Mountain region remained about the same, considerably poorer than the other regions. Since 60 per cent of the previously existing plants were in the Piedmont and only 23 per cent in the Coastal Plain, there was a substantial shift among the regions in the number of new industrial plants. The shift occurred because the Piedmont was short on labor while the Coastal Plain had a labor surplus—primarily of unemployed or underemployed farm laborers.[18] The fact that the Piedmont attracted more small plants while the Coastal Plain attracted more large ones likewise attests to the fact that the regions varied in their levels of unemployment. The Mountain region had a high unemployment rate, but its accessible labor force was small.

Third, the capital-intensive, high value-added, high-wage plants were attracted to large communities because of the special needs of these establishments that are found mainly in large towns and cities: skilled workers, specialized services, and better transportation and communication linkages. The low-wage, low value-added, labor-intensive plants (the majority) do not require these special amenities and were attracted to the small towns and rural areas that provided lower-cost labor and land.

Finally, some researchers have argued that the state's low manufacturing wage results primarily from its traditional industrial mix and partly from its low degree of trade unionization. Others have found that wage rates for identical jobs, regardless of where in the country they are located, are directly related to the size of the community where the job is.[19] That is, the smaller the community, the lower the wage rate for any particular job. Since new industry in North Carolina was predominantly the same low-wage, low value-added, labor-intensive type that dominated its manufacturing structure in the past, and since this new industry predominantly located in the smaller communities of the state, the argument can be made that these factors are significantly related to the state's low manufacturing wage level.

Statistical analysis tends to support this conclusion (Table 2). In the states for which data were available, average hourly

18. See V. R. Fuchs, "Hourly Earnings Differentials by Region and Size of City," *Monthly Labor Review* 90 (1967), pp. 22-26; and E. M. Hoover, *An Introduction to Regional Economics*, 2d ed. (New York: Alfred A. Knopf, 1975), pp. 170-71.

19. The analysis was based upon data collected for Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, and Virginia.

Table 2
Correlation Analysis of Southern Wage Rates

	Rural-Small Town Plants	Capital-Intensive Plants	Unionized Workers
Wage Rate	-.59 (.038)	.80 (.003)	.53 (.057) NS
Rural-Small Town Plants		-.72 (.009)	-.73 (.008)
Capital-Intensive Plants			.41 (.116) NS

manufacturing wage rates were significantly related to the percentage of industrial plants that were capital intensive.[20] The wage rate was also significantly related (but inversely) to the percentage of firms located in small settlements. This means that the greater the tendency for plants to locate in small towns and rural areas, the lower the state's wage rate is. The percentage of unionized workers, however, was not significantly related to wage rates. Another interesting point was the significant inverse relationships between the percentage of plants located in small communities and both the percentage of unionized workers and the percentage of capital-intensive plants. The relationships suggest that union membership is likely to be lower in smaller places as is the number of capital-intensive plants. The analysis supports the argument that along with the state's traditional industry mix, it is the dominance of industry in smaller urban places and rural areas that is mainly responsible for the state's low manufacturing wage rate rather than the low level of unionization. Consequently, the supply of low-skilled surplus labor in small towns and rural areas is an important factor contributing to the state's low economic situation.[21]

Plant location policies and programs

In its economic development efforts North Carolina has been guided by two policies. One is to encourage the growth in the state of more diversified, capital-intensive industry that pays higher wages. The other is to locate industry in the state's labor-surplus areas. The high value-added and capital-intensive industries sought in the first policy not only are directed at improving the state's overall wage level but also are necessary to generate future economic growth. They tend to be fast-growing, whereas the state's present industry mix continues to be dominated by slow-growing manufacturing types. For slow-growing types the potential for improvement in labor productivity, and thus the wage level, is highly limited.

The second policy is directed toward keeping people in economically depressed areas of high unemployment from moving out. Usually the people who leave are the more productive members of the area's labor force. Such migration results in the loss of tax revenues and overall personal income needed to maintain public service programs and private business activity. It also results in the loss of the area's influence as political districts are reapportioned.

The state's "Governor's Award-Town Program" was established to help achieve this goal of developing jobs in depressed areas. It is designed to locate industrial plants in communities of less than 15,000 persons, many of which are in labor-surplus areas. The program encourages small settlements throughout the state voluntarily to fulfill specific requirements that will make them more attractive for industry. While it is difficult to separate the effects of this program from the effects of federal programs that tend to reinforce its objectives, this investigation showing the substantial growth of labor-intensive industry in small settlements, especially in labor-surplus areas, indicates that the program has enjoyed some success.[22] On the other hand, no specific program existed (except possibly in the seafood industry) that selectively encouraged the growth of high value-added or capital-intensive industry in the state other than what occurred from promotional efforts to encourage the growth of industry in general.[23] And while it is hopeful to note that these efforts have resulted in a slight increase in the percentage of high wage-paying plants, the overall decline in the percentage of high value-added or capital-intensive plants that have located in North Carolina during the recent past attests to the need for such a program.

The significant growth of high value-added, capital-intensive, high-wage industry in the state's large towns and cities suggests that a Governor's City-Award Program should be created to promote even greater growth. In conjunction with appropriate legislative action, such a program could be developed to encourage larger urban places voluntarily to fulfill a set of prescribed requirements designed to make them more attractive to high value-added, capital-intensive, high-wage industries.

Conclusion

It can be argued that industrial development programs, unless they are designed to reinforce national and regional

20. The same conclusion can be applied to many other southern states, since the region's nonmetropolitan labor markets (50 or more miles away from SMSAs) have been growing faster than its SMSAs and surrounding counties. See Till, "Industrialization in Southern Nonmetro Labor Markets."

21. The more important federal programs for industrial development purposes are funded by the Small Business Administration (Local Development Company Loan Program), the Economic Development Administration (Business Development Assistance Program, and Public Works and Development Facilities Program), and the Farmer's Home Administration (Business and Industrial Loan Program and Community Facilities Program).

22. This is not to say that promotional efforts should be directed exclusively to attracting capital-intensive, high-wage industry, since increasing the number of labor-intensive, low-wage industries in areas of high unemployment increases both the area's average wage level and the overall level of economic well-being. Also, as the area's labor surplus becomes depleted, average wage levels tend to increase as the demand for labor increases. Furthermore, a large segment of the state's labor force lacks the skills required by capital-intensive firms.

23. For example, see M. Bradfield, "Necessary and Sufficient Conditions to Explain Equilibrium Regional Wage Differentials," *Journal of Regional Science* 16 (1976), pp. 247-55. M. A. Garrett, Jr., "Growth in Manufacturing in the South, 1947-1958: A Study in Regional Industrial Development," *Southern Economic Journal* 34 (1968), pp. 352-64; and W. R. Schriver, "The Industrialization of the South Since 1950," *American Journal of Economics and Sociology* 30 (1971), pp. 47-69.

industrial location trends, have a limited effect on the growth of different types of industry in an area. Many studies suggest that it is the decisions that manufacturers make in response to principles of industrial location and regional development, within a competitive market economy, that are more important in determining what types of industry an area attracts. Consequently, it is the substantial difference that exists between the North and the South in labor costs that has made the South the more attractive location for labor-intensive industries. Such industries may have to pay higher transportation and communication costs because of their southern location, but the lower labor costs more than offset these additional costs. And it is the small towns and rural areas of the South, with their surplus labor forces, that provide the lowest labor costs of all.

But, as more labor-intensive industry locates in the South, taking up the labor surplus and raising the overall wage level relative to the rest of the nation, the region's demand for intermediate and consumer goods expands. As it expands, the region becomes more attractive to high value-added and capital-intensive industry, primarily those whose transportation and communication costs are a major portion of the total cost of doing business. Other "foot-loose" high value-added and capital-intensive industry, those in which neither labor nor accessibility costs outweigh the other, may locate in the region to take advantage of its natural environment, amenities, or better linkages to specific energy or material suppliers or markets. High value-added and capital-intensive industry, notably those that specialize in producing intermediate products for sale to other manufacturers, tend to locate in or adjacent to larger urban settlements. In this way they can take advantage of many specialized labor, business, financial, legal, repair, transportation, communication, public, and other required services at a lower cost than if they located in small towns and rural areas, which are greatly limited in their ability to provide such services.

As a result of the regional development trends, more and more high value-added and capital-intensive firms will locate plants in the South. Since industrial growth takes place by the location of new or expanding industry more than by the relocation of existing industry, the real competition for these plants is not between the North and the South but among the several southern states. Those that can provide the business climate and economic development programs to furnish the urban services and amenities that attract high value-added, capital-intensive, and high-wage industry will have a locational advantage over the others and a better chance of improving their economic well-being. □

Book Review *(continued from age 47)*

permits to construct a nuclear power plant, the cost of disposing of and storing spent nuclear fuel, and the cost to coal plants of meeting sulfur dioxide regulations, could throw the balance either way.

Arthur Murphy, in his chapter on government regulation of the nuclear power industry, states that the major difficulty with the current regulatory scheme is the long delay from the time a plant is proposed until it is finally constructed—ten years or more. This delay results largely from the many contested hearings that have become a part of the permit process. Professor Murphy points out several ways that this time period could be shortened. One suggestion that makes a great deal of sense is not to relitigate safety issues common to all reactors or to a class of reactors, but to make one decision and apply it to all uniformly. He also discusses briefly the problem of lack of public confidence in the Nuclear Regulatory Commission and its predecessor, the Atomic Energy Commission. This, I believe, is at the heart of the problem. No amount of reorganization is going to improve matters until the public can have some assurance that the NRC has a technically competent staff with enough time to make all necessary tests, and that the NRC takes seriously environmental and safety concerns. The AEC's recalcitrant attitude toward the National Environmental Policy Act, its pushing of the breeder reactor program in the face of serious misgivings in the scientific community, and its less than thorough investigation of an underground waste storage site in Kansas are largely responsible, I believe, for the environmental groups' contentious intervention in permit proceedings and for the states' attempts to assert more control over nuclear power plants.

The final chapter is a general criticism of the expansion of nuclear power as an energy source by George B. Kistiakowsky, Professor of Chemistry Emeritus at Harvard University. Professor Kistiakowsky discusses most of the arguments against nuclear power: concern about operating safeguards; possible diversion of nuclear fuel for weapons; possible hazards in the long-term storage of wastes; and whether costs exceed those of coal-fired plants and other sources of energy. Professor Kistiakowsky acknowledges at the outset that he is not an expert on nuclear power, unlike the other chapter authors. Thus, the last and most critical chapter lacks the sharpness that an expert on nuclear power might have given it.

The book fulfills the major purpose that its editor intended: it presents in easily understandable prose concise discussions of the major issues regarding the use of nuclear power. It may well be that the risks are controllable and the benefits make them worth taking, which is the impression left by the book. I believe, however, that it would be profitable to balance a reading of *The Nuclear Power Controversy* with a reading of a more critical study such as John McPhee's *Curve of Binding Energy: A Journey into the Awesome and Alarming World of Theodore B. Taylor*. — W.A.C.

The 1976 General Election in North Carolina:
A Statistical Overview

H. Rutherford Turnbull, III

Articles published in *Popular Government* after the 1972 general election (Vol. 39, December 1972, and Supp., Vol. 39) and after the 1974 general election (Vol. 40, Spring 1975) reported on the geographic distribution of political party strength in North Carolina, state and countywide voter registration (by party affiliation and other characteristics), and statewide and countywide turnout for various party candidates. Another article reported on shifts of power within the Democratic party (Vol. 42, Summer 1976).

Party allegiance and affiliation

As the accompanying maps and graph and the following data show, North Carolina voters again lodged their preferences solidly with the Democratic party in the 1976 general election, repeating their 1974 repudiation of the Republican party (see *Popular Government*, Vol. 40, Spring 1975). The reasons are not difficult to find.

At the top of the ticket was a native southerner, a Baptist, a farmer, and a forger of a coalition reminiscent of the 1932-48 Democratic bloc of blacks, rural whites, and blue-collar workers. President Carter's victory was resounding. He carried 85 counties (see *Popular Government*, Vol. 42, Summer 1976). Jimmy Carter also had the benefits of a slack economy, an impressive voter turnout, the support of the highly effective organization put together by gubernatorial candidate James B. Hunt, and widespread help from other prominent North Carolina Democrats. Finally, and not without a touch of poetic justice, he was the direct beneficiary of the most significant contribution made by former President Lyndon B. Johnson, a fellow southerner—the enactment of the Voting Rights Act of 1965—which enabled black voters to overcome years of franchise discrimination and other Democrats to welcome the South back into the national party in 1976.

Leading the state ticket was Lieutenant Governor James B. Hunt, an "easterner" from Wilson County with strong appeal to the moderate and conservative Democrats in the Tidewater and Coastal Plains area of the state. Hunt was the founder of a well-financed and consummately successful political machine, the preacher of Democratic unity, and the man whose organization supplied the cement for that unity (he carried 96 counties). The Republican candidate, former Secretary of Human Resources David Flaherty, was the prospective successor to a Republican Governor whose administration was lackluster in the eyes of many voters. Flaherty came from western North Carolina (by way of Massachusetts), and represented a party whose "conservative" and "eastern" factions warred incessantly against its "moderate" and "piedmont-western" members, much to the chagrin of Republican candidates and the amusement of the Democrats. Finally, the new Governor was a beneficiary of, as well as a major contributor to, Carter's coattails and the Democratic sweep of the South.

The impact of the Democratic victory is evidenced in many ways. In the race for President, Carter received 55.26% of the vote to incumbent President Ford's 44.21% (minor party candidates received the remaining votes). Not since Hoover met Roosevelt in 1932 had an incumbent been turned out of the Presidency. In the races for Governor and Council of State, the Democrats made a clean sweep, with Hunt taking 64.99% of the vote to David Flaherty's 33.90% (minority candidates received the other votes), and the other Democrats winning by margins of between 69.21% and 57.94% of the vote. (See Tables 1 and 2 and Map 2.)

Democrats continued their dominance of the General Assembly, winning 114 of 120 (80%) House seats and 46 of 50 (87.5%) Senate seats. They were uncontested in 68 races for the House and in 24 for the Senate. Indeed, this year Republicans offered only 32 candidates for the House, compared with 87 in 1974 and 84 in 1972, and only 26 candidates for the Senate, compared with 33 in 1974 and 25 in 1972. The total number of Republicans in the General Assembly remained at ten, but changed from nine to six in the House and from one to four in the Senate.

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Finally, in races for the U.S. House of Representatives, Republicans fielded ten candidates for eleven seats (as distinguished from eight for eleven in 1974), and they succeeded in re-electing their two incumbents, Rep. Martin in the 9th District and Rep. Broyhill in the 10th. But they failed in bids against nonincumbent Democrats in the 3d and 11th Districts and in bids against incumbent Democrats in the other contested districts (see Table 3).

Geographic strength of the parties

The maps. The following maps illustrate the geographic strength of the two major political parties in the 1976 General Election. Map 1 shows the way the counties voted for President, Map 2, how they voted for Governor, Map 3, how districts and counties voted for members of the State Senate, Map 4, how they voted for members of the State House, and Maps 5 and 6, how they voted for members of the U.S. House.

Map 1 shows that Ford's strength was in the western fringe of the Piedmont, where industrial development, coupled with fairly typical Republican dominance in top-of-the-ticket elections, seems to have aided him, and in the northwest, where Republican candidates traditionally have fared well. Moore County, which is in the Sandhills section of the Piedmont, Wake County, where many Republican state employees live and work, and Wayne and Lenoir counties in the Coastal Plain represent Ford's only incursion into those regions of the state.

Carter carried the Mountain region, the majority of the Piedmont, most of the Coastal Plain, and all of the Tidewater area. He thus repeated his presidential primary victory, showing strength across the state, especially in the areas dominated by black and rural white voters (see *Popular Government*, Vol. 42, Summer 1976). In the words of one Carter campaign worker, "The east came home again." Note, too, that Carter reversed the pattern of the 1972 and 1968 elections, when Republican candidates carried the state, and returned the state to the Democratic fold for the first time since Lyndon Johnson's 1964 victory.

Table 1
Comparison of Votes Cast for President and Governor, 1924-1976

	President				
	D	%D	R	%R	Total
1924	294,441	61.3	185,627	38.7	480,068
1928	362,009	55.6	289,415	44.4	651,424
1932	497,657	70.1	212,561	29.9	710,218
1936	542,139	66.6	270,843	33.4	812,982
1940	608,744	75.7	195,402	24.3	804,146
1944	528,995	69.6	230,998	30.4	759,993
1948	570,995	73.2	206,166	26.4	780,525[6]
1952	796,306	67.5	383,329	32.5	1,179,635
1956	760,480	66.9	375,379	33.1	1,135,859
1960	735,248	54.4	613,975	45.5	1,350,360[7]
1964	790,343	56.6	606,165	43.4	1,396,508
1968	821,232	52.7	737,075	47.3	1,508,308
1972	729,104	48.45	767,470	51.0	1,504,785[5]
1976	1,081,293	64.99	564,102	33.9	1,663,763
	Governor				
1924	284,270	59.7	191,753	40.3	476,023[1]
1928	286,227	45.1	348,923	54.9	635,150
1932	497,566	69.9	208,344	29.3	711,501[2]
1936	616,151	73.4	223,284	26.6	839,435
1940	609,015	74.0	213,633	26.0	822,648
1944	527,399	66.7	263,155	33.3	790,554
1948	459,070	58.0	258,572	32.7	791,209[3]
1952	652,802	53.9	558,107	46.1	1,210,909
1956	590,530	50.7	575,062	49.3	1,165,592
1960	713,318	52.1	655,648	47.9	1,368,966
1964	800,139	56.2	624,844	43.8	1,424,983
1968	464,113	29.2	627,192	39.5	1,587,493[4]
1972	438,705	28.88	1,054,889	69.46	1,518,612[5]
1976	927,365	55.26	741,960	44.21	1,677,906

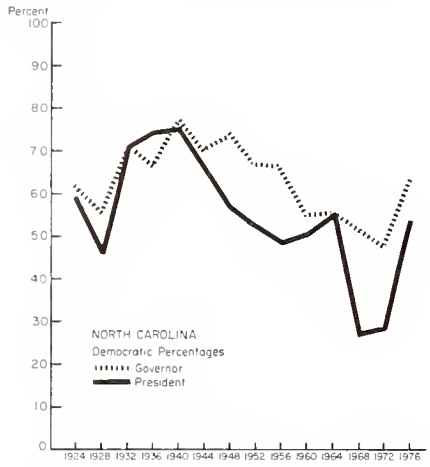
1. 1924: Progressive	6,651	1.4%
2. 1932: Socialist	5,591	0.8
3. 1948: States' Rights	69,652	8.8
Progressive	3,915	0.5
4. 1968: American Independent	496,188	31.3
5. 1972: American Party Candidates:		
President	25,018	1.6
Governor	8,211	.54
6. 1948: States' Rights	—	—
Progressive	1,364	0.4
7. 1960: Write-ins for Lake	1,137	0.1

Table 1 and the graph on page 56 (originally prepared by John L. Sanders, former Director of the Institute of Government) show the percentages that Democratic candidates for President and Governor received in the quadrennial general elections, beginning in 1924 and ending in 1976, and point out the remarkable resurgence of the Democratic party in 1976 after several years of relative decline.

Map 2 illustrates more than any statistics how powerful were Hunt's appeal and organization. While Carter received 55.26% of the vote (almost as much as Johnson's 56.2% and more than any other Democratic candidate since Truman's 58% in 1948), Hunt amassed a total of 1,081,293 votes for 64.99% of the vote, leading the Democratic ticket handily in total votes received and losing only four counties—two in the traditionally Republican Mountain region and two traditionally Republican counties in the western Piedmont. Hunt's margin of victory was the largest of any Democratic candidate for governor since Luther Hodges was elected in 1956. In part, his victory can be attributed to the fact that the "eastern" and conservative faction of the Republican party sat on its hands during Flaherty's campaign, while ob-

Figure 1

North Carolina
Democratic Percentage for
Governor and President, 1924-1976



viously working hard for Mr. Ford, who carried eleven more counties than Flaherty.

Maps 3 and 4 require some explanation. In many State Senate and House of Representatives districts, more than one representative is elected from the same legislative district (a "multi-member district"). The maps showing the geographic distribution of General Assembly members have legends and shadings indicating the various combinations of parties in the multi-member districts. Note that some districts are "split" between Democrats and Republicans. The split delegations, however, may consist of evenly split delegations (1:1), as in the 37th District, or unevenly split delegations with a Democratic majority (3:1, 6:2), as in the 22d Senate District and 36th House District (both Mecklenburg county). The maps portray these differences.

Maps 3 and 4 underscore the Democratic dominance of the General Assembly. In the Senate (Map 3), the Republicans' power lies in the western Piedmont and in the northwest sector of the Mountain region. Even in those senatorial districts where they are represented, however, the Republicans do not have a majority of the delegation. Thus, they share evenly with the Democrats the representation of the multi-member districts 21, 23 and 24; in the other split district, 22, Republicans have only one of four members.

In the House (Map 4), Tidewater New Hanover (a single-county, multi-member district) split evenly between Republicans and Democrats. In the Piedmont, normally Republican Randolph and Catawba did also, but Mecklenburg County split with a Democratic majority. Only Henderson County was undisputed Republican territory. (There may be some correlation, not yet documented thoroughly, between the influx of retired persons from the north to Henderson and Moore counties that may explain why Henderson voted Republican for President and Governor, and Moore voted Republican for President.)

For the United States House of Representatives, two of the eleven districts elected Republicans, the 9th and 10th, both in the western Piedmont or Mountain regions (see Map 6). However, eighteen counties voted Republican in this race (see Map 5): Randolph in the 4th District; Ashe, Davidson, and Wilkes in the 5th; Mecklenburg and Iredell in the 9th; all of the counties in the 10th (Alexander, Burke, Caldwell, Catawba, Cleveland, Gaston, and Watauga); and Avery, Clay, Haywood, Henderson, and Mitchell in the 11th.

Maps 5 and 6, showing areas represented by the Republicans and Democrats in the U.S. House of Representatives, can also be misleading if not properly explained. The fact that a representative was elected by a certain county does not necessarily mean that the county gave him a majority of its votes. Congressional districts are another type of district that may be misleading in determining geographic strength of a party—the multi-county, single-member district. For example, in the Fourth Congressional District, Randolph County gave the Republican congressional candidate a majority, yet the Democratic candidate was elected because he received Democratic majorities in Chatham, Wake, and Durham counties. Table 4 on page 61 indicates which party received a majority in each county in the 1976 congressional elections.

The maps do not show the size of the majorities in any particular county, although Table 4 does. Many of the counties gave a statewide candidate an extremely narrow margin of victory; for example, Wake and Watauga were carried by Ford by a very slim margin, and Forsyth, Guilford, and Mecklenburg were narrowly in favor of Carter (50-49%). Lenoir and Moore went to Ford by the same slim margin. Take another example: Wilkes was almost evenly split between Hunt and Flaherty but tipped to Flaherty, but Henderson was narrowly Carter's. By the same token, the maps do not show the substantial victory that Carter enjoyed in the rural east—his margin was more than 70% in Anson, Bladen, Columbus, Gates, Hertford, Hoke, Northampton, Richmond, and Robeson counties—or the overwhelming vote Hunt received (more than 80%) in Bertie, Bladen, Camden, Caswell, Chowan, Columbus, Currituck, Gates, Hertford, Hoke, Jones, Northampton, Perquimans, Richmond, Robeson, and Scotland counties. On the maps, only the victory is recorded, not the margin of victory; this disparity is apparent but cannot be avoided.

Thus forewarned, the reader is invited to examine the maps (in addition to the chart showing how each county

Table 2
Votes Cast for Other Elected Officials*

Office	*(D) Candidates*	*(R) Candidates*	*(D) % of Total Vote*
Lt. Gov.	Green (1,033,198)	Hiatt (521,923)	66.04
Agric.	Graham (1,035,650)	Roberson (460,755)	69.21
Insur.	Ingram (1,048,527)	Tenney (500,222)	67.30
Sec. State	Eure (1,031,472)	Spaulding (508,108)	66.99
Treasurer	Boyles (1,037,156)	Coble (489,768)	67.43
Public Instr.	Phillips (1,007,318)	Tyler (524,691)	65.40
Auditor	Bridges (1,037,090)	Godfrey (476,350)	68.52
Attny. Genl.	Edmisten (1,066,036)	Powell (489,132)	68.54
Labor	Brooks (900,317)	Nye (645,891)	57.94

*Minor party candidates not included

Table 3
U.S. House of Representatives*

District	*Democratic*	*Republican*	*(D) % of Total Vote*
1	Jones (98,611)	Ward (29,295)	75.88
2	Fountain (113,368)	(None)	100.00
3	Whitley (77,193)	Blanchard (35,089)	68.74
4	Andrews (92,165)	Gallemore (59,917)	60.60
5	Neal (98,789)	Mizell (83,129)	54.23
6	Preyer (103,851)	(2 minor party candidates)	96.32
7	Rose (95,463)	Vaughn (21,955)	81.30
8	Hefner (99,296)	Eagle (49,094)	65.72
9	Goodman (70,847)	Martin (82,297)	46.49
10	Hunt (67,190)	Broyhill (99,882)	40.21
11	Gudger (93,857)	Briggs (88,752)	50.89

*Minor party candidates not included

voted in the presidential, senatorial, congressional, gubernatorial, and General Assembly races) to determine where the geographic strength of each party lies.

Drawing inferences from these maps is risky in light of all the variables involved in any election. One of the more obvious problems of determining where party strength lies is the difficulty of separating votes cast for the party from those for the candidate.

In 1972 North Carolina elected a U.S. senator and a governor from the Republican party for the first time since 1896. The degree of support for each Republican victor ranged from 98 county Republican majorities in the presidential election, to 67 in the senatorial race, to 43 in the gubernatorial election. Senator Helms fared much better in the eastern half of the state than did Governor Holshouser, while Holshouser did slightly better in the western and central counties. This fact must be considered in any attempt to evaluate the maps in terms of whether an area is "Democratic" or "Republican."

Nevertheless, in 1972 Democratic strength was obvious in the eastern counties and Republican strength in the northwest portion of the state. In 1976 this pattern was again demonstrated by Carter's very strong showing in the Tidewater, Coastal Plains, and Mountain regions, and his relative strength in the western Piedmont and foothill area of the Mountain region and by Hunt's impressive power throughout the state. Also, Democrats dominated the elections for the General Assembly and the U.S. House of Representatives in the Tidewater, Coastal Plain, and far western portion of the Mountain region as well as the Piedmont (see Table 4).

Finally, the maps indicate Republican slippage in some of the urban areas of the state. Although in the 1972 general election all of the larger counties in the state (except Durham, which was solidly Democratic) voted for or were represented by Republicans (see *Popular Government*, Vol. 39, Supp.), this was not true of the 1976 elections. Charlotte (Mecklenburg County) and Wilmington (New Hanover County) are the only cities that retained some Republican representation in 1976. Deserting the Republican fold were these 1972 standbys—Winston-Salem (Forsyth), Greensboro (Guilford), and Asheville (Buncombe). This result follows closely Carter's presidential primary victory in North Carolina, where he combined the rural white vote, the urban and rural black vote, and the blue collar vote (as well as the "liberal" and "moderate" vote) to score an impressive victory over Alabama Governor George Wallace (see *Popular Government*, Vol. 42, Summer 1976).

The General Assembly—blacks, women, and incumbents

The black representation in the General Assembly is the same as in 1975. In 1975, there were six blacks in the General Assembly, all Democrats—four in the House [Reps. Henry E. Frye (Guilford), Joy J. Johnson (Robeson), H. M. Michaux, Jr. (Durham), and Richard C. Erwin (Forsyth)] and two in the Senate [Sens. John W. Winters (Wake) and Fred D. Alexander (Mecklenburg)]. There has been no change for 1977. No black, Indian, or other nonwhite candidates stood for election in any races for U.S representative or Council of State office.

The number of women serving in the General Assembly increased from 13 representatives in 1975 to 19 in 1977, and from two senators in 1975 to four in 1977. Of the 19 women in the House, one is a Republican (compared with two in 1975), and of the four in the Senate, three are Democrats (compared with two in 1975).

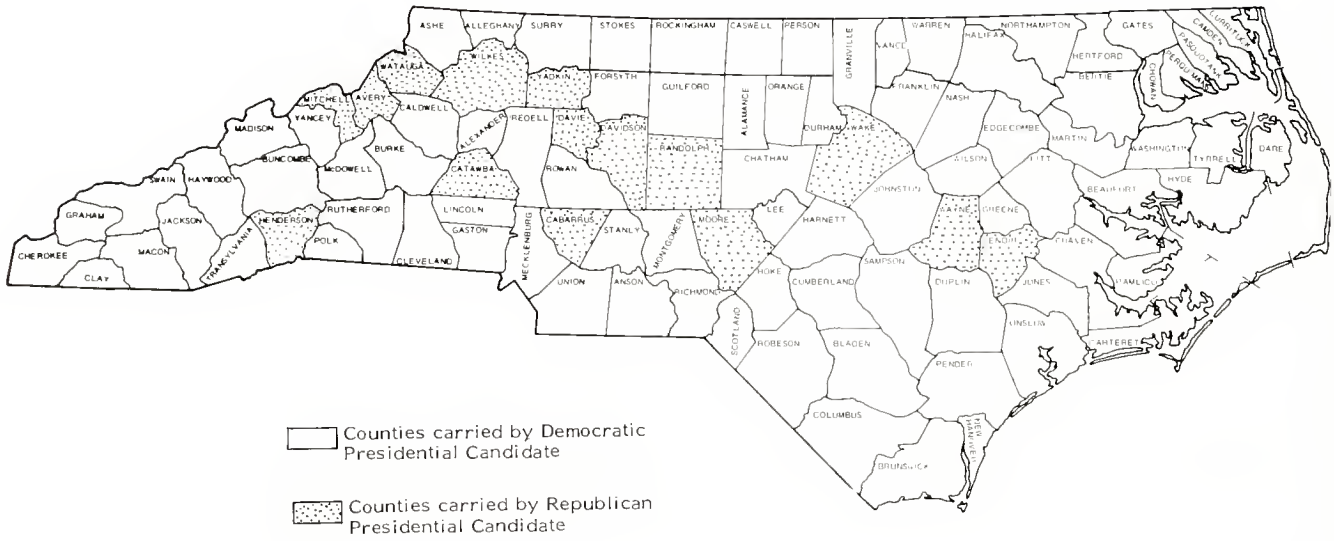
Incumbents were highly favored in the 1976 election. In the Senate, there are only 16 new faces and 34 incumbents from the 1975 session (but of these 16, six had served previously in the Senate or House). In the House, there are only six new members, with 114 returning members from 1975.

Registered voters by party affiliation and race

Statistics compiled annually since 1970 by each county board of elections and distributed by the State Board of Elections give the number of registered voters by various categories. The total number of registered voters increased between October 1974 and October 1976 from 2,279,646 to 2,553,717, for a net gain of 11.2%. In the same time, the number of voters affiliated with the Democratic party increased from 1,654,304 to 1,840,827, for a net gain of 11.12% and voters registered as Republicans increased from 537,568 to 601,897 for a net gain of 11.19%. Voters affiliated with new parties (Labor, American, Liberal) increased from 30 (all with the Labor party) to 4,053 for a net gain of 135.10%, and the number of those who were unaffiliated (independent or no-party status) went from 87,744 to 106,940, for a net gain of 12.18%. As of October 1976 the Democrats had 72.08% of total registration (contrasted with 72.56% in 1974), the Republicans 23.57% (contrasted with 23.58% in 1974), and the minor party

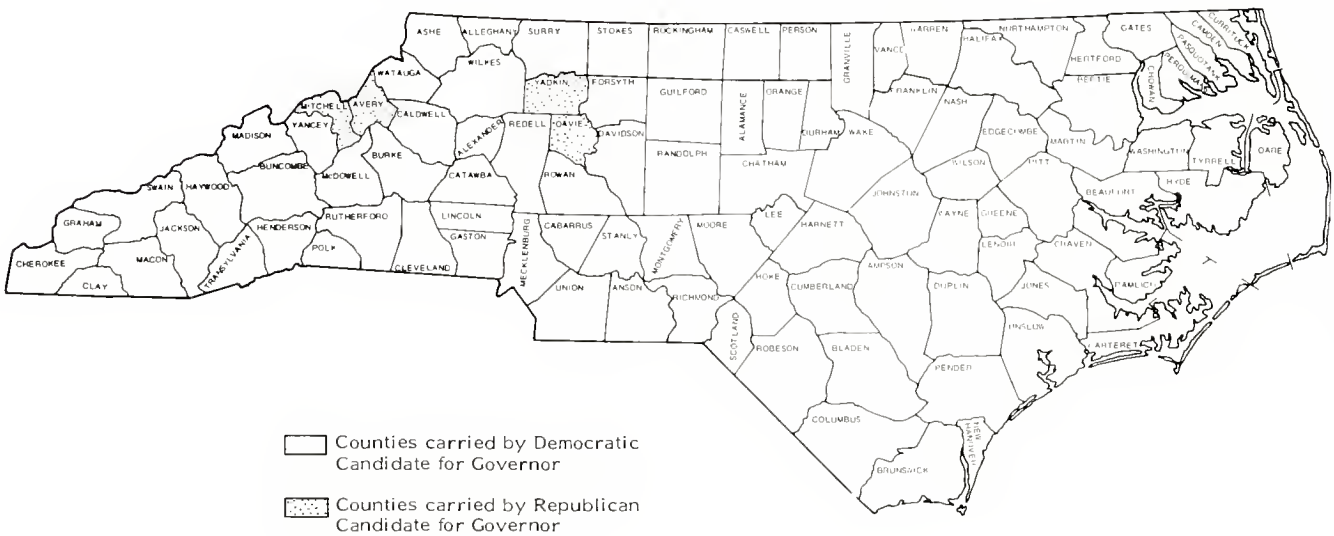
Map 1

GEOGRAPHIC DISTRIBUTION OF POLITICAL PARTY STRENGTH AS REFLECTED IN THE PRESIDENTIAL ELECTION



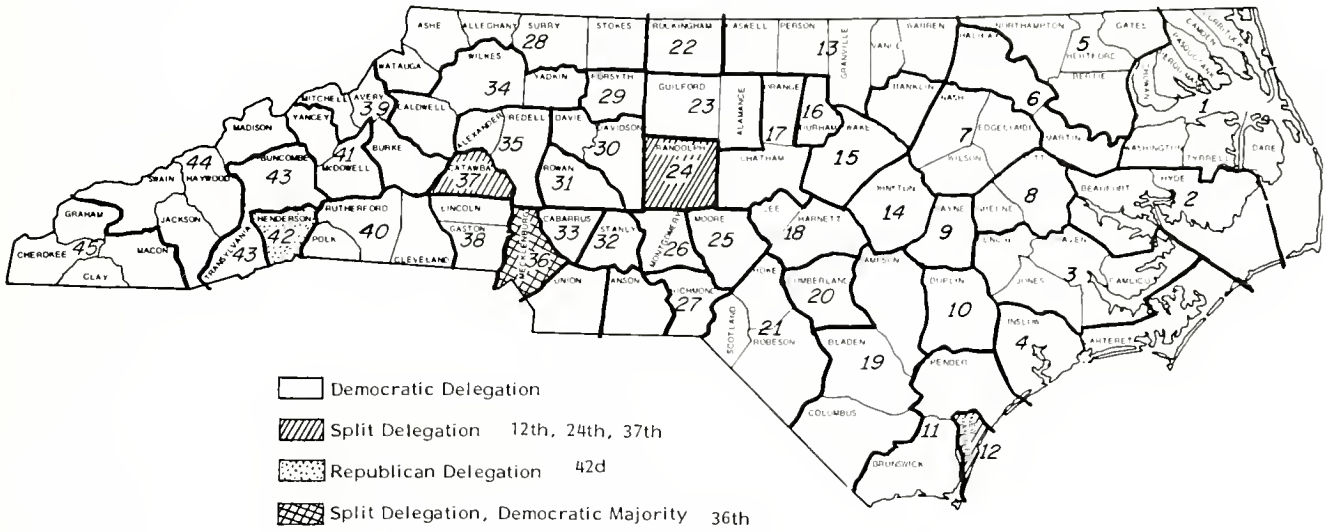
Map 2

GEOGRAPHIC DISTRIBUTION OF POLITICAL PARTY STRENGTH AS REFLECTED IN NORTH CAROLINA GUBERNATORIAL ELECTION



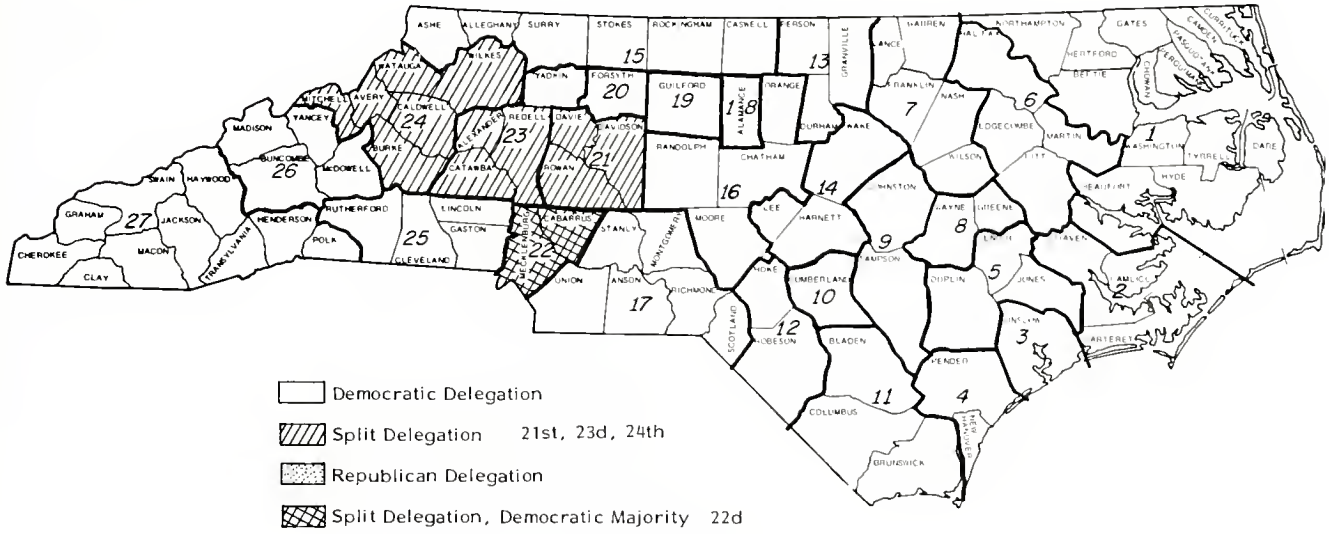
Map 4

GEOGRAPHIC DISTRIBUTION OF POLITICAL PARTY REPRESENTATION
IN NORTH CAROLINA HOUSE OF REPRESENTATIVES



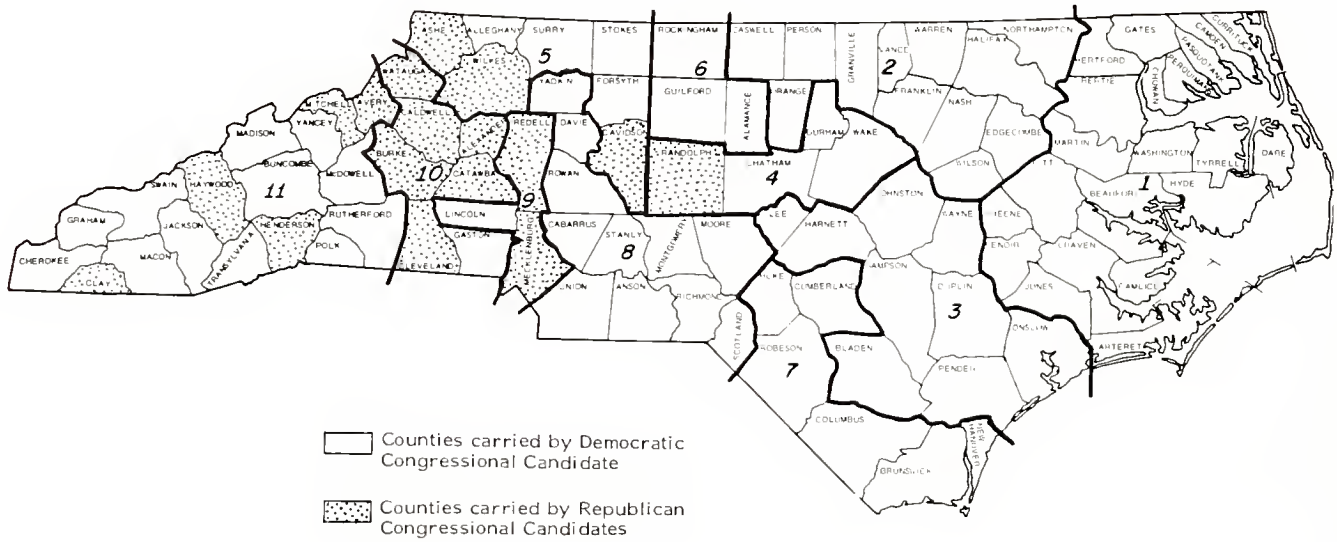
Map 3

GEOGRAPHIC DISTRIBUTION OF POLITICAL PARTY REPRESENTATION
IN NORTH CAROLINA SENATE



Map 5

GEOGRAPHIC DISTRIBUTION BY COUNTY OF POLITICAL PARTY STRENGTH
AS REFLECTED IN CONGRESSIONAL ELECTIONS



Map 6

GEOGRAPHIC DISTRIBUTION OF POLITICAL PARTY STRENGTH BY CONGRESSIONAL
DISTRICT AS REFLECTED IN CONGRESSIONAL ELECTIONS

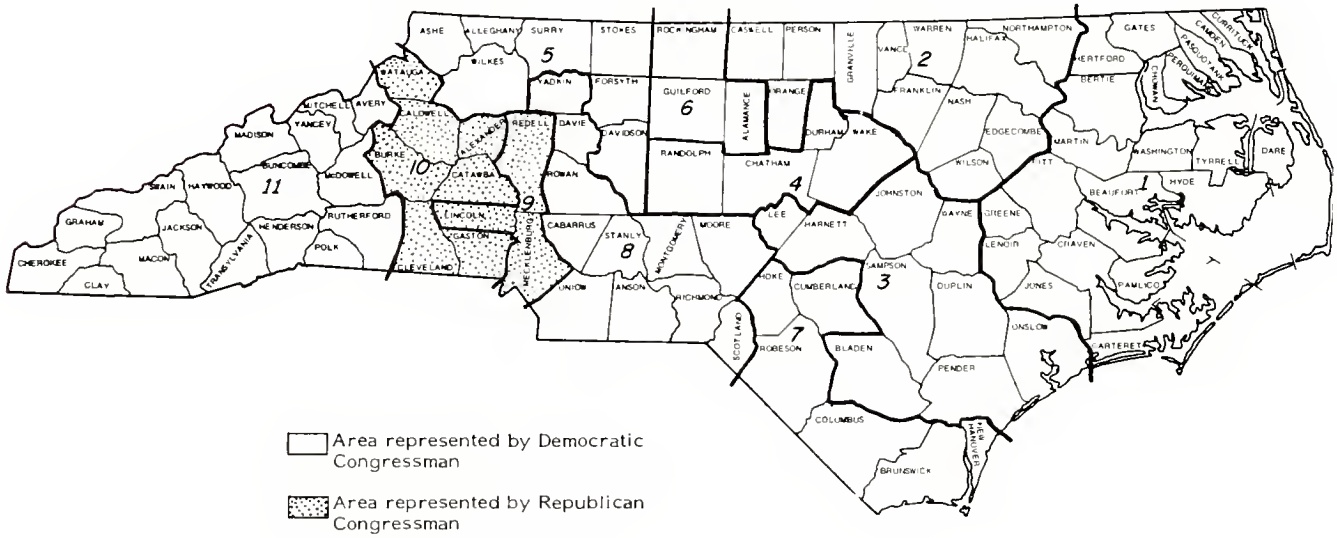


Table 4
County Vote in 1976 by Party

	%									
	Registered		President		Governor			Registered		President		Governor	
	D	R	D	R	D	R		D	R	D	R	D	R
Alamance	73	19	57	42	65	33	Johnston	79	18	55	45	67	32
Alexander	51	41	53	47	57	42	Jones	92	06	67	31	83	16
Alleghany	71	27	62	37	66	33	Lee	84	14	58	42	66	33
Anson	92	06	75	25	85	15	Lenoir	84	14	49	50	71	28
Ashe	53	44	51	49	54	46	Lincoln	67	30	58	41	62	38
Avery	26	72	37	62	41	58	Macon	63	33	54	45	60	40
Beaufort	85	12	55	45	71	29	Madison	63	33	58	41	62	38
Bertie	95	04	75	24	87	12	Martin	93	05	70	30	83	16
Bladen	93	06	79	20	87	12	McDowell	70	25	58	41	66	34
Brunswick	73	23	67	33	73	26	Mecklenburg	67	27	50	49	61	38
Buncombe	71	25	54	45	62	37	Mitchell	28	71	35	64	38	62
Burke	62	32	58	41	61	39	Montgomery	67	28	60	40	65	34
Cabarrus	68	29	49	51	60	40	Moore	62	33	49	50	55	42
Caldwell	55	38	54	45	56	43	Nash	82	16	51	48	66	31
Camden	95	04	68	31	85	15	New Hanover	70	26	51	48	68	31
Carteret	66	28	54	45	65	35	Northampton	98	01	80	19	90	09
Caswell	92	06	68	32	83	17	Onslow	80	10	57	43	76	24
Catawba	57	35	47	52	54	46	Orange	79	15	62	37	68	30
Chatham	75	21	60	40	65	33	Pamlico	88	11	66	33	77	22
Cherokee	53	40	52	47	56	43	Pasquotank	89	08	61	38	81	17
Chowan	91	08	64	35	84	15	Pender	86	12	68	31	76	23
Clay	48	44	52	47	54	46	Perquimans	93	06	64	35	86	14
Cleveland	81	15	64	36	75	25	Person	91	08	56	43	69	28
Columbus	90	09	77	22	84	15	Pitt	82	14	55	45	74	25
Craven	83	14	56	43	73	26	Polk	58	35	36	30	59	40
Cumberland	77	15	63	37	73	25	Randolph	49	45	47	53	52	47
Currituck	92	04	67	32	84	15	Richmond	93	05	75	24	80	19
Dare	81	15	56	43	72	27	Robeson	94	05	81	19	89	10
Davidson	60	35	48	51	56	43	Rockingham	78	18	59	41	69	30
Davie	44	53	43	56	49	50	Rowan	62	34	51	48	60	39
Duplin	88	11	66	33	77	22	Rutherford	74	23	61	39	68	32
Durham	80	15	54	47	64	34	Sampson	61	36	56	44	61	39
Edgecombe	88	10	62	37	75	24	Scotland	90	07	69	30	80	20
Forsyth	68	26	50	49	60	38	Stanly	59	35	51	49	57	43
Franklin	92	07	67	32	79	19	Stokes	57	40	52	47	57	43
Gaston	71	24	53	46	66	34	Surry	65	31	57	42	62	37
Gates	97	02	76	24	90	09	Swain	68	29	57	43	63	37
Graham	54	41	52	47	57	43	Transylvania	59	32	53	47	60	39
Granville	93	05	64	36	80	18	Tyrrell	94	05	69	31	83	17
Greene	91	08	66	33	79	19	Union	80	17	63	37	72	28
Guilford	69	25	50	49	62	34	Vance	90	08	59	40	75	23
Halifax	93	05	60	40	75	23	Wake	73	20	50	50	62	36
Harnett	80	18	60	40	69	30	Warren	90	09	69	31	80	18
Haywood	76	22	64	35	70	29	Washington	93	06	65	34	79	20
Henderson	50	46	43	57	51	49	Watauga	52	41	50	50	55	44
Hertford	94	05	72	28	88	11	Wayne	82	16	49	51	63	35
Hoke	92	07	77	22	85	14	Wilkes	43	53	46	53	50	50
Hyde	90	09	63	36	79	20	Wilson	85	14	54	45	77	22
Iredell	71	25	53	46	62	37	Yadkin	40	55	43	57	47	52
Jackson	66	30	59	40	62	37	Yancey	59	38	59	40	62	37

and unaffiliated voters constituted 4.19% of the total registration (contrasted with 3.84% in 1974).

Also, between October 1974 and October 1976 the number of white registrants increased from 1,911,448 to 2,136,589 (a gain of 11.17%); black registrants from 350,560 to 396,388 (a gain of 11.30%); and Indian or other registrants from 17,638 to 20,740 (a gain of 11.75%). In 1976, white registrants (2,136,589) represented 83.67% of all registrants (down from 83.86%), blacks 15.52% (up from 15.37%), and Indian and other nonwhite voters .81% (up from .77%).

The much decried voter apathy of 1976 was more mythical than real. In the 1972 Presidential race, for example, the turnout was 64.4%. The off-year election of 1974 (for U.S Senate, U.S. House of Representatives, N.C. Attorney General, and N.C. Senate and House) pulled only 44.3% of the voters, but the 1976 Presidential race drew 63.97% of the voters to the polls, as 1,663,763 of the state's 2,553,717 voters cast ballots in that race. (In the race for Governor, 137 more votes were cast than in the race for President.) □

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