For several years the national concern about the condition of secondary education, especially in our urban high schools, has been deep and widespread. With the numerous education studies and reports that were released and publicized in 1983, the critical scrutiny of our public schools reached the highest level in two decades. We place enormous demands upon public education in America. Many believe that our system of government, our economic productivity, and our social cohesiveness all depend on free and universal secondary education. Yet analysts in the public and private sectors assert, and such statistical measures as the long-term decline of Scholastic Aptitude Test (SAT) scores have appeared to confirm, that high schools graduate many students who are ill-prepared to enter either college or the workforce and to undertake their civic and social responsibilities. Public confidence in our schools has been eroded, and salaries and public esteem for teachers are low.

For their own part, secondary school administrators and teachers complain that they are battered by bad publicity and besieged by frequent changes in what colleges, parents, and the public want students to learn, and that the educational progress is impeded by financial, political, and social problems of unmanageable proportions. Declining enrollments and financial constraints have caused an unprecedented reduction in the demand for teachers, while by the mid-1980s the supply of new teacher graduates will not meet even this reduced demand. Already there is a shortage of qualified teachers in some regions of the country and in some fields, notably science and mathematics. Yet college students interested in teaching hear about the bleak prospects they might face in finding a job, or in supporting a family if they do. Many are discouraged from entering the profession, while some individuals already in the profession are leaving teaching for more lucrative employment.
The New Haven Public Schools are no exception: more than 60% of their secondary students come from families receiving some form of public assistance; 83% are either black or hispanic; 45% of those entering the 9th grade do not graduate. Absenteeism and the high mobility of students among schools impair the ability of teachers to plan a logical sequence for learning in their courses. The turnover of teachers presently is only 2%, and about half of New Haven secondary teachers teach subjects in which they did not major in college or graduate school. Many report, not surprisingly, that teaching has become more stressful.

As early as 1980 two national panels issued their findings on the state of student learning in the sciences and the humanities. A joint National Science Foundation/Department of Education study spoke of "a trend toward virtual scientific and technological illiteracy." The Commission on the Humanities concluded that "a dramatic improvement in the quality of education in our elementary and secondary schools is the highest educational priority in the 1980s." The Commission called for curricula to teach children "to read well, to write clearly and to think critically." They also found that "the need to interrelate the humanities, social sciences, science and technology has probably never been greater than today."

These problems are no less important to Yale than national problems in secondary education are to universities generally, and Yale's reasons for becoming involved transcend altruism or a sense of responsibility to the New Haven community. As Yale President A. Bartlett Giamatti pointed out in an interview on the December 7, 1980, David Susskind television program, "it is profoundly in our self-interest to have coherent, well-taught, well-thought-out curricula" in our local schools, and in secondary schools throughout the country. Yale acted upon this view in 1970, when the History Department began the History Education Project (HEP), which assisted a number of New Haven social studies teachers in developing improved curricula for courses in American history, world area studies, and urban studies.

The success of HEP led to discussions about organizing a more ambitious and demanding program which would include additional disciplines. This was a specific response to the general question: How can institutions located in center-city areas become constructively involved in addressing problems of the communities where they reside, and on which they depend? The way that Yale and New Haven answered this question, we believed, might be of interest to universities and school systems elsewhere.

Teachers and administrators from the University and the Schools quickly reached a consensus: The relationship between the University and the Schools must be both prominent and permanent within any viable
larger relationship between Yale and New Haven, and, of the many ways Yale might aid New Haven, none is more logical or defensible than a program that shares Yale’s educational resources with the Schools. Because of changing student needs, changing objectives set by the school system and each level of government, and changing scholarship, school curricula undergo constant revision. Because of Yale’s strength in the academic disciplines, all agreed that developing curricula, further preparing teachers in the subjects they teach, and assisting teachers to keep abreast of changes in their fields were the ways that Yale could most readily assist the Schools.

The intent was not to create new resources at Yale; rather, it was to make available in a planned way our existing strength, that is, to expand and institutionalize the work of University faculty members with their colleagues in the Schools. Even at this early stage, both Yale and the Schools sought a course of action that might have a substantial impact. The objective was eventually to involve as many teachers and subjects as possible, so that the program might address the school curricula, and thus students’ education, broadly. The Teachers Institute was established, then, in 1978 as a joint program of Yale University and the New Haven Public Schools, and designed to strengthen teaching and thereby to improve student learning in the humanities and the sciences in our community’s middle and high schools.

From the outset, teachers have played a leading role in determining how Yale and the school system together can help them meet the needs of all their students, not only the needs of students who later will enter college. The Institute seeks to involve all teachers who state an interest in one of our seminars and who can demonstrate the relation of their Institute work to courses they will teach in the coming year. The Institute does not involve a special group of teachers who teach a special group of students; rather, it is an intensive effort to assist teachers throughout the school system, grades 7-12.

Each year about 80 New Haven school teachers become Fellows of the Institute to work with Yale faculty members on topics the teachers themselves have identified. Many of the University’s most distinguished faculty have given talks and led seminars in the program. Seminar topics have included geology, the environment, medical imaging, student writing, drama, British studies, the arts and material culture, the American family, society and literature in Latin America, and a variety of other topics in literature, history, and culture. In a rigorous four-and-one-half month program of talks, workshops, and seminars, teachers study these subjects and prepare new curricular materials that they and other teachers will use in the coming school year. The materials that Fellows write are com-
piled into a volume for each seminar and distributed to all New Haven teachers who might use them. Teams of seminar members promote widespread use of these materials by presenting workshops for colleagues during the school year.

In 1980 the Commission on the Humanities cited the Teachers Institute as a promising model of university-school collaboration that "integrates curriculum development with intellectual renewal for teachers." In 1982, in awarding a second three-year grant to the Institute, the National Endowment for the Humanities expressed the hope that the program would become permanent and that universities and schools in other communities would establish similar programs for their mutual benefit. In 1984 the American Association for Higher Education recognized the Institute as a pioneering and nationally important program with an exemplary approach for improving public secondary education. As we anticipated, there is now widespread interest in what we have accomplished in New Haven; it therefore seems timely to set forth the conceptual bases for our approach.

Four principles, all implanted in the first Institute in 1978, and each shaped over time by experience, guide the program and constitute much of its distinctiveness. They are: (1) our belief in the fundamental importance of the classroom teacher and of teacher-developed materials for effective learning; (2) our insistence that teachers of students at different levels interact as colleagues, addressing the common problems of teaching their disciplines; (3) our conviction that any effort to improve teaching must be "teacher-centered" and our consequent dependence on the Institute coordinators, teachers in each school, who meet weekly with the director and who constitute an essential part of the program's leadership; and (4) our certainty that the University can assist in improving the public schools only if we make a significant and long-term commitment to do so.

The Institute differs from conventional modes of curricular development.* Classroom teachers, who best know their students' needs, work with Yale faculty members, who are leading scholars in their fields. The Institute does not develop curricula on certain topics only because they are important in terms of recent scholarship; rather, it brings this knowledge to the assistance of teachers in areas they identify as their main concerns. The Institute involves no "curriculum experts" in the usual sense, who would themselves develop new materials, train teachers in short-term workshops to use these materials, and then expect the mate-

* See especially Seymour B. Sarason, *The Culture of the School and the Problem of Change* (Boston: 1971), chapter 4, who discusses the contrary manner in which "new math" was developed and introduced in the classroom.
mials significantly to improve classroom teaching. Instead, the Institute seeks to demonstrate that intensive and long-term collaboration between a university and its neighboring school system—between school teachers and university scholars—can produce curriculum materials of high quality pertinent to students needs, and can have a major influence on teaching and learning in the schools.

We stress that public school teachers should write curricula for their own classrooms because our main concerns are for the further preparation of each teacher accepted as an Institute Fellow and for the development in depth of new materials and approaches for classroom use. In applying to the Institute, teachers describe topics they most want to develop; Yale faculty circulate seminar proposals related to these topics; and the coordinators, after canvassing other teachers, ultimately select which seminars will be offered.

In effect, New Haven teachers determine the subject matter for the program each year. The seminars have two related and equally important purposes: general study of the seminar subject and research and writing on individual curriculum units. By writing a curriculum unit, teachers think formally about the ways in which what they are learning can be applied in their own teaching; we emphasize that the Institute experience must have a direct bearing on their own classes. Each Fellow devises a unit related to the general topic of his or her seminar, reads independently toward that unit, writes several drafts, and presents work in progress to the others in the seminar. The units that emerge reflect both the direction provided by the Yale faculty and the experience gained by each teacher in the classroom, his or her sense of what will work for students.

This balance between academic preparation and practical, classroom application—as well as the depth and duration of our local collaborative relationship—are the central features of the Yale-New Haven Teachers Institute. Our outside evaluator in 1980, Professor Robert Kellogg, Dean of the College at the University of Virginia, points out:

That Yale does not have a school or a department of Education is in this instance a blessing. Without an intermediary buffer, softening, exaggerating, or explaining away the contrast of intellectual milieu between secondary education and higher education, the two groups of teachers (the Institute Fellows and the Yale faculty) are free to explore for themselves the extent to which they share values and assumptions about their subject and its role in the development of children’s minds and characters.

The Institute is the only interschool and interdisciplinary forum enabling school teachers to work with each other and with Yale faculty. In referring to the collegial spirit of the program, we are speaking of a dynamic process that brings together individuals who teach very different students at dif-
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different levels of their subjects, and who bring to the program a variety of perspectives and strongly held points of view. The tensions and disagreements that arise from these different perspectives are a source of vitality and innovation. Each challenges the preconceptions of the other with the result that University faculty understand something more about teaching at the secondary level while school teachers often reconsider their expectations of their students' ability to learn. With our emphasis on the authority of the secondary school teacher, the bond between Fellows and Yale faculty is one of mutual respect and a shared commitment to the best education for New Haven students.

The Institute is organized to foster this sense of collegiality. Fellows are not students paying tuition for regular, graduate-level courses. Instead, teachers are remunerated, each Fellow receiving an honorarium on successful completion of the program. As full members of the Yale community, Fellows are listed in the University Directory of faculty and staff; this has symbolic meaning in recognizing them as colleagues and practical value in making Yale resources readily accessible to them. Through the Institute, teachers gain access to human and physical resources throughout the University, not only to those specifically organized by the Institute.

Also, the seminars are conducted in an informal, flexible style—a tradition established by the first group of Yale faculty who taught in the program, and maintained by some continuity of faculty and faculty meetings with the coordinators and director. This makes the Institute completely unlike the graduate-level courses in education most of the Fellows have taken, and often unlike the graduate seminars most of the Yale faculty ordinarily teach.

In order to practice collegiality in the day-to-day workings of the Institute, we devised an administrative structure that would reflect the primacy of teachers. We did not wish the program to be something concocted by Yale and imposed upon the Fellows, nor did we wish to create different classes of Fellows by involving New Haven school administrators in administrative roles in the Institute. At the most practical level, we hoped to use peers to solve problems of absence or lateness, in order to avoid placing the Yale faculty in authoritarian roles. The coordinators have provided a solution to all these potential difficulties. Again, Professor Kellogg's report puts the matter well:

In order that the "managerial" aspect of the school administration not be reflected in the operation of the Institute, a small group of teachers, the Institute coordinators, serves to "represent" both the schools in the Institute and the Institute in the schools. The conception is ingenious, and the individuals who serve as coordinators are, more than any other single element, crucial to the Institute's successful operation. The coordinators I met were
thoughtful and intelligent men and women who understood the purpose of the Institute and were effective representatives of the two institutions of which they were members.

Through the coordinators, who collectively represent every middle and high school teacher in the humanities and in the sciences, teachers are directly involved in the cyclical planning, conduct, evaluation, and refinement of the program. Through them we have developed and maintained both rigorous expectations and an accommodating schedule so that there has been a high level of participation by New Haven teachers. Between 1978 and 1982 40% of New Haven secondary school teachers in the humanities and the sciences successfully completed at least one year of the Institute. The evaluation of the Coordinators by participating Fellows confirms their crucial role; one Fellow wrote, "as long as there are teacher coordinators, the program will belong to all the participants." This proprietary feeling of teachers toward the Institute, the feeling that it is "teacher-centered," is essential to our success.

To participate in so demanding a program, teachers must believe that the Institute can assist them in their own teaching and that, by extension, it can eventually improve teaching and learning throughout the schools. Our evaluator in 1981, Ernest L. Boyer, wrote in his report:

The project has teacher-coordinators in each participating school who clearly are committed and who pass on their enthusiasm to colleagues. One of the most impressive features of my visit was the after school session I had with these coordinators from the New Haven schools. Arriving after a fatiguing day, the teachers turned, with enthusiasm, to key issues. How can the Institute best help us meet our goals? How can we improve our work? ... The dedication and optimism of these teachers was impressive, almost touching. ... The significance of teacher leadership cannot be overstated.

Using common sense, we know that the impact of the Institute will be roughly proportional to the number of teachers who participate on a recurring basis. The impact of the Institute on teachers' preparation and curricula is cumulative; we must annually involve a large enough proportion of New Haven teachers to be credible in claiming that their participation can improve the public schools. Each curriculum unit written by a teacher represents only a fraction of all he or she teaches, and the very nature of the academic disciplines and their teaching is not static, but constantly changing. Should the Institute ever become so limited in scope or duration as to appear trivial, it would cease to attract a sizable percentage of New Haven teachers and would become ineffectual. In one of its principal recommendations the Commission on the Humanities concluded:
Because schools change slowly, we endorse models of school-college collaboration that emphasize long-term cooperation. We recommend that more colleges or universities and school districts adopt such programs for their mutual benefit, and that funding sources sustain programs and administrative costs on a continuing basis. Programs of school-college collaboration offer the best opportunity to strengthen instruction in the schools while providing intellectual renewal for teachers.

It is therefore most encouraging that, after five years of developing the Teachers Institute as a model of university-school collaboration, Yale decided to seek a $4-million endowment to give the program a secure future.

There is, in my view, no more important recommendation in the Carnegie Foundation Special Report on School and College than the one—contained also in the Carnegie Report on High School—that calls for universities and schools to develop genuine partnerships based on the needs of schools as determined by their principals and teachers. Both aspects of that recommendation are essential: not only that universities and schools work together, but especially that those of us in higher education encourage our colleagues in schools to show us the ways we can marshal our resources to address their needs.

Not all teachers are sanguine about the prospects for public secondary education. But the vision of the Institute, which many share, is that the problems confronting us are not intractable, and that working through the Institute teachers can improve the education and the lives of their students.

Efforts at school improvement will not succeed without teacher leadership. In this country we have too long held teachers responsible for the condition of our schools without giving them responsibility—empowering them—to improve our schools. This fundamental precept has proved indispensable to the success of our Teachers Institute and will continue to guide our work.