To Motivate My Students

An Evaluation
of the
National
Demonstration Project
of the
Yale-New Haven Teachers Institute

by Rogers M. Smith
The University of Pennsylvania

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National Demonstration Project: Executive Summary

Recent research indicates that the single most important factor in student performance is *teacher quality*. Some researchers contend that teacher quality accounts for twenty times more of the variance in student achievement than any other factor, including socioeconomic status. By common consensus, quality teachers are:

1) Teachers who really *know their subjects*;
2) Teachers with *good basic writing, math, and oral presentation skills*;
3) Teachers with *high expectations of their students*;
4) Teachers who are *enthusiastic about teaching*; and
5) Teachers who *can motivate all students to learn*.

Most forms of professional development fail to foster teacher quality along these five key dimensions.

For over 25 years, the Yale-New Haven Teachers Institute has been developing a unique model for improving teacher quality. The Institute approach significantly strengthens teachers in all five of the major dimensions of teacher quality. At its heart are partnerships between institutions of higher education and public schools. The Yale-New Haven Teachers Institute offers five to seven seminars each year, led by Yale faculty, on topics that teachers have selected to enhance their mastery of what they teach. The seminars meet 13 times in a four-month period from March through July. In these seminars teachers gain more sophisticated content *knowledge*, and they also *enhance their skills* by preparing curriculum units adapting the themes of the seminars for their students. Most teachers are *enthusiastic* about the seminars and the opportunity to teach the units they have written. They *expect more* of the students taking them. And they *succeed in motivating their students* to learn at higher levels.

From 1999-2002, with a grant from the DeWitt Wallace-Reader's Digest Fund, the Yale-New Haven Teachers Institute launched a National Demonstration

Project to create similar Institutes at four diverse sites with large concentrations of disadvantaged students: Pittsburgh, PA; Houston, TX; Albuquerque, NM; and Santa Ana, CA. Each site adopted the basic Institute model, adapted to meet distinct circumstances and challenges.

All four sites succeeded in establishing Institutes that, during the course of the National Demonstration Project, offered seminars that achieved positive results similar to those in New Haven. At each site, teachers drawn from all grade levels and all subject areas participated out of desires to obtain curricula suited to their needs, to increase their mastery of their subjects, and especially to obtain materials *to motivate their students.* 95% of all participating teachers rated the Institute seminars "moderately" or "greatly" useful. Similar percentages said the seminars increased their knowledge, improved their skills and morale, and raised their expectations of students. After teaching their units, 2/3 of all participants rated them superior to all other curriculum they had used. *Roughly 60% of all participants rated student motivation and attention as higher during these units, producing substantially greater content mastery.*

Institutes also served to foster teacher leadership, to develop supportive teacher networks, to heighten university faculty commitments to improving public education, and to foster more positive partnerships between school districts and institutions of higher education. Problems arose chiefly when Institutes departed from National Project guidelines or when local financial obstacles proved too great to overcome. Where funding could be found and the Institute model was largely followed, the Institutes achieved significant, sustainable success in improving teacher quality.

National Demonstration Project: Aims and Assessments[1]

Project Aims: Improving Teacher Quality

The true test of any effort to improve education for America's disadvantaged students is whether it helps students learn more and better. Among educational researchers, a new consensus is emerging about what is most needed to help students to learn. None would dismiss the older view, elaborated in the works of James S. Coleman and Christopher Jencks, that socioeconomic backgrounds strongly affect student achievement.[2] Classrooms that have good physical, curricular, and technological resources and manageable numbers of students also matter greatly. But recent research suggests the single most important factor in student performance is *teacher quality*.[3] Some researchers contend that in their studies of gains in student achievement, teacher quality accounts for *twenty* times more of the variance than any other factor, including socioeconomic status.[4]

What are the ingredients of "teacher quality"? Though different researchers give different answers, five elements emerge repeatedly as central. Quality teachers are:

1) Teachers who really know their subjects, not just "how" to teach;[5]
2) Teachers who have good basic writing, math, and oral presentation skills;[6]
3) Teachers who expect their students to achieve;[7]
4) Teachers who are enthusiastic about teaching;[8] and
5) Teachers who can motivate even highly disadvantaged students to learn.[9]

These findings have triggered policy debates on how to attract new and better teachers — a commendable goal. But for years to come, the teachers we now have will do much of the teaching. The quality of all teachers will also always flag if their professional development is neglected. Researchers and policy-makers have given much less attention to the

vital question of what forms of professional development really contribute to teacher quality. The bleak consensus of researchers and teachers is that many existing forms are cursory, dreary exercises that leave teachers bored and resentful, not informed or inspired.[10]

The Teachers Institute Approach to Teacher Quality

For over 25 years, the Yale-New Haven Teachers Institute has been developing a unique approach to improving teacher quality. In New Haven, where 46 schools serve some 20,759 students, more than 60% of the students come from families receiving public assistance, and 85% are African-American or Hispanic. Among many other things, quality teachers are badly needed. Though the Institute alone cannot solve and has not solved all New Haven's educational problems, data obtained through annual teacher surveys and school district performance evaluations indicate that its approach has significantly strengthened New Haven teachers in all five regards noted above: content knowledge; basic communication and calculation skills; expectations of students; teacher enthusiasm; and capacities to motivate students.[11]

At the heart of the Teachers Institute approach is a special sort of partnership between institutions of higher education and public schools. The Institute in New Haven consists of a Director and staff; a network of Teacher Representatives in the New Haven Schools; and a community of Yale faculty members. Each year, the Institute offers semester-length seminars, led by Yale faculty, on topics that the teachers, through their Representatives, have selected to enhance their knowledge of what they teach. These seminars combine teachers from different schools teaching different subjects at different grade levels, who all wish to learn more about topics in history, literature, politics, math, physics, or other areas, in order to improve their teaching. In these seminars teachers gain more sophisticated content knowledge, and they also enhance their writing and oral skills by preparing substantial curriculum units that they discuss with their fellow teachers in the seminars, then teach to their students. These units, roughly 10 to 15 pages, are based on research into a topic inspired by the seminar and assisted by the faculty member, but adapted to the teachers' courses and students. The units often represent the

first substantial research and writing project that teachers have undertaken since college. They contain a narrative describing the unit's goals and strategies and several sample lesson plans. By presenting their units in progress to their fellow teachers, seminar participants receive useful pedagogical feedback as they also improve their oral communication skills. Both faculty and teachers are paid stipends, out of recognition that all are giving both time and expertise to improve teaching.

Through offering five to seven seminars a year and making them available to all teachers willing to do the work, the Institute has now reached roughly a third of New Haven high school and middle school teachers and a fifth of primary school teachers. Teacher responses over two decades provide extensive evidence that the seminars not only increase their content knowledge, including science and math knowledge in some seminars, but also writing and oral skills in all seminars. They also heighten teachers' enthusiasm for their work, raise their expectations of students, and provide them with curriculum that they are strongly motivated to teach and that more effectively motivates students to learn.

The National Project

In 1999, after two years of planning, and aided by support from the DeWitt Wallace-Reader's Digest Fund (now the Wallace Foundation), the Institute began a National Demonstration Project to determine if this approach could work in other cities with similarly disadvantaged students but with distinct challenges. The most significant differences were much larger district sizes, differing institutions of higher education, and greater language barriers. Some sites also adopted somewhat different means of structuring their Institutes, providing further variations. Teachers Institutes were created through university/school district partnerships at four sites:

Pittsburgh, Pennsylvania, where two private institutions, a liberal arts college, Chatham College, and a research university, Carnegie Mellon University, joined with the Pittsburgh Public Schools, a district about twice the size of New Haven, to create the Pittsburgh Teachers Institute (PTI);

Houston, Texas, where a public institution, the University of Houston, joined with the huge, 210,000-student Houston Independent School District, one of

the nation's five largest, to create the Houston Teachers Institute (HTI);

Albuquerque, New Mexico, where a public university, the University of New Mexico, joined with the Albuquerque Public Schools, a system about four times the size of New Haven and with many Hispanic and Native American students, to create the Albuquerque Teachers Institute (ATI);

Santa Ana, California, where an elite public university, the University of California-Irvine, joined with the Santa Ana Unified School District, a system roughly three times the size of New Haven and comprised largely of Spanish-speaking, limited English students, to create the Santa Ana Teachers Institute (SATI).

During the three years of the evaluation period for the National Demonstration Project, from July 1999 through July 2002, all four sites administered mandatory surveys to all teachers who participated as Fellows in their seminars to gain teachers' assessments of the seminar experiences. The Project also conducted a one-time survey of teachers in participating schools at the four sites, including both teachers who had been Fellows and those who had not (Non-Fellows), on their use of curriculum units created in the Institutes.[12] This Evaluation Report is based on analysis of those surveys, along with materials provided by each of the sites; the report of the Project's external evaluator, Policy Studies Associates; pertinent secondary literature; and evidence about the Institute approach accumulated over the last quarter-century in New Haven.[13]

Assessments of Achievements

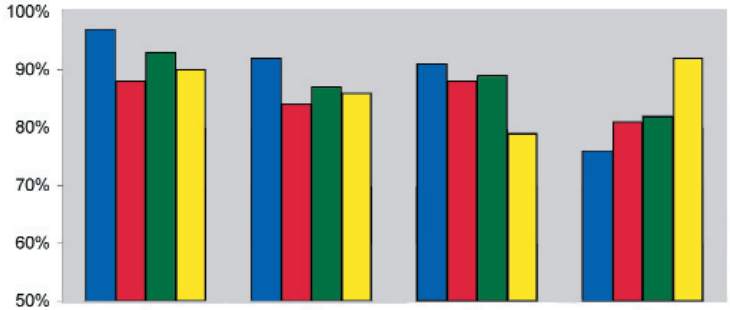
As the National Demonstration Project's external evaluator, Policy Studies Associates, concluded, the central lesson of the Project is that it "succeeded in reaching its goal" of demonstrating that the Teachers Institute model could be replicated in a relatively short period of time in four sites that are considerably larger than New Haven.[14] Collectively, the new Institutes involved roughly 650 teachers and 60 college faculty members in 75 seminars over the course of the Project, with many teachers taking more than one seminar. These seminars produced results that were remarkably similar to each other and to experiences in New Haven,

and markedly better than those reported by most existing forms of professional development. The most important difficulties encountered in the Project came from departures from the Institute model that worked against sustainability of Institute-style seminars at two sites, Albuquerque and Santa Ana, not from any clear shortcomings in the model itself.

Evidence from surveys of Fellows concerning their seminar experiences shows strikingly that teachers chose to participate out of desires to improve themselves in precisely the areas that research indicates to be key to teacher quality. When asked to choose among 12 reasons for participation in the seminars, teachers favored four:[15]

- (A) *Desire for materials to motivate students*: cited by **88%-97%** of Fellows at the four sites;
- (B) *Desire for curriculum fitted to teachers' needs*: cited by **84%-92%** of Fellows;
- (C) *Desire to increase teachers' mastery of their subjects*: cited by **79%-91%** of Fellows;
- (D) *Desire to exercise intellectual independence*: cited by **76%- 92%** of Fellows.

Graph 1: Reasons for Participation in the Seminars



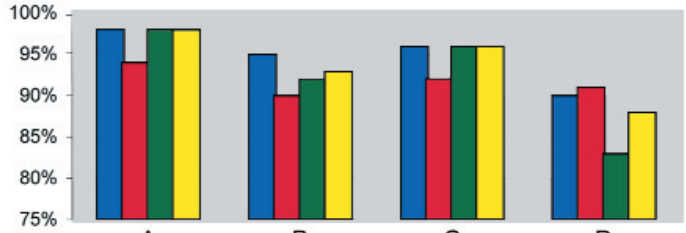
	A	B	C	D
Albuquerque	97%	92%	91%	76%
Houston	88%	84%	88%	81%
Pittsburgh	93%	87%	89%	82%
Santa Ana	90%	86%	79%	92%

These results demonstrate that virtually all teachers wanted to increase their content knowledge; to use curriculum about which they could be enthusiastic because it fit their needs and exercised their minds; and above all, they sought materials that could *motivate their students*. There were also revealing variations. Younger teachers most often stressed the importance of increasing their mastery of the subjects they are teaching. High school teachers, more than primary school teachers, emphasized the importance of developing materials to motivate students.

Still more significantly, teachers at all sites overwhelmingly believed the seminars strengthened their capabilities in these and other regards vital to teacher quality. In contrast to most professional development programs, the surveys revealed no widely shared criticisms of the seminars. Instead, **95% of all teachers praised the overall program, rating it "moderately" useful (40%) or "greatly" useful (55%)**, in a remarkably consistent range running from 91% at Houston to 99% at Albuquerque. In questions pertinent to the main dimensions of teacher quality:

- **(A) 94%-98%** of Fellows "Agreed" (31%) or "Strongly Agreed" (66%) that the seminars helped their *professional growth*;
- **(B) 90%-95%** of Fellows "Agreed" (44%) or "Strongly Agreed" (48%) that the seminars helped their *knowledge and confidence*;
- **(C) 92%-96%** of Fellows found the *new knowledge* they gained "Moderately" (22%) or "Greatly"(72%) useful;
- **(D) 83%-91%** of Fellows "Agreed" (44%) or "Strongly Agreed" (44%) that the seminars raised their *expectations of students*.

Graph 2: Main Dimensions of Teacher Quality



	A	B	C	D
Albuquerque	98%	95%	96%	90%
Houston	94%	90%	92%	91%
Pittsburgh	98%	92%	96%	83%
Santa Ana	98%	93%	96%	88%

The data strongly support the conclusion that virtually all teachers felt substantially strengthened in their mastery of content knowledge and their professional skills more generally, and they also developed heightened expectations for what their students could achieve. At each site, these results also grew more positive during the course of the national project, as the new Institutes gained experience in constructing appropriate seminars. And again, the surveys show other significant variations. More experienced teachers, presumably more familiar with alternative forms of professional development, rated the overall program especially highly. Teachers with Master's as well as Bachelor's degrees were more likely to say the seminars raised their expectations of their students, especially teachers in the humanities. Though teachers in the physical sciences rated their seminar experiences highly, their ratings were slightly less positive than those provided by teachers in the humanities, social sciences, and other areas.[16]

The Curriculum Units in the Classroom

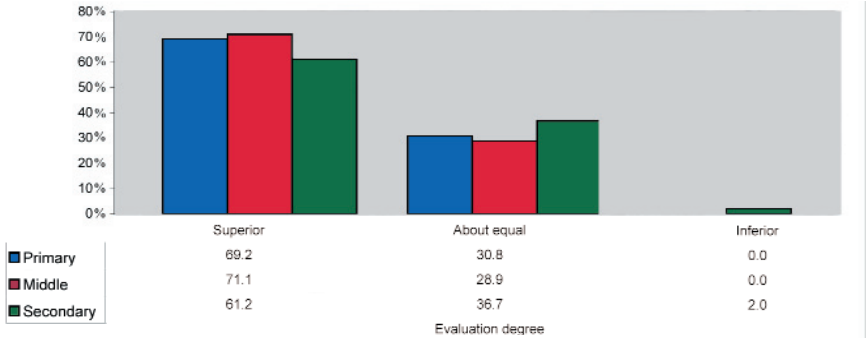
Except for a handful who were unable to do so, virtually all Fellows went on to teach the units they had prepared, and roughly a quarter also used other Teachers Institute units. About 87% taught their units in from 2 to 5 classes, usually over a full academic year, sometimes half a year. Most teachers chose to present their units via teacher-led discussion rather than extensive lecturing. They also stressed writing exercises and activities designed to strengthen speaking, listening, vocabulary and reasoning skills, much more than test taking. About a fifth of the teachers used units to develop math skills, largely but not exclusively teachers in the physical sciences. Much recent research indicates that these teaching methods, employed by teachers with good content knowledge, are especially effective in enhancing student knowledge, critical thinking skills, and problem-solving capabilities.[17]

The Fellows expressed very strong satisfaction with the units. Over 98% rated them either "very useful" (57.3%) or "somewhat useful" (40.9%). Only Fellows teaching in the physical sciences were more likely to rate them "somewhat" instead of "very useful." All teachers particularly valued the sample lessons and activities the units provided, along with the resource lists for teachers and students. Roughly 75% of teachers also

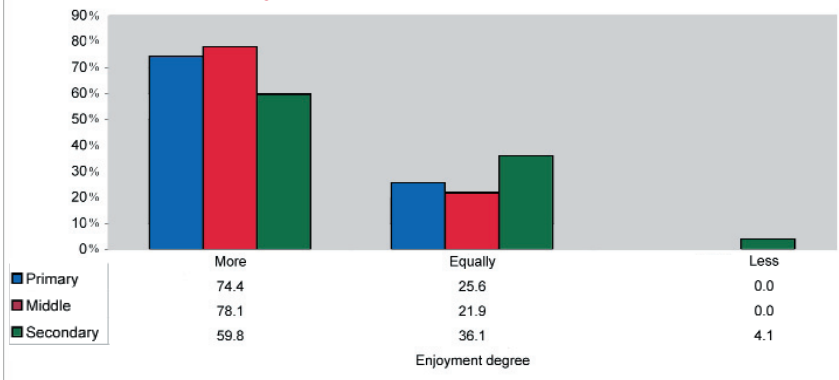
compared the units favorably to commercially available curriculum in terms of sample lessons and activities, teaching strategies, resources and other features. In these comparisons, teachers in the physical sciences rated the units just as high or higher than their counterparts in other subject areas.

Overall, an impressive 65% of all Fellows rated the units written by themselves or other Institute Fellows as superior to all other types of curriculum they had used, with almost 34% rating them the same. Roughly the same percentages rated the units as more enjoyable or equally enjoyable to teach than other curriculum. There were no statistically significant variations according to the grade levels or subject areas in which Fellows taught. In these regards, physical science teachers again resembled other teachers. Due to their low numbers, the responses from Fellows using other Fellows' units, as well as from Non-Fellows using units, must be interpreted with caution. Still, these responses were essentially indistinguishable from those of Fellows teaching their own units.

Graph 3: Overall Evaluation of Units by Fellows by Grade Levels



Graph 4: Enjoyment of Units by Fellows by Grade Levels



It should be noted that no Institute made a concerted effort to persuade teachers to use Institute-prepared units instead of other curriculum. Instead, teachers learned about units most often from knowing their authors, other Institute Fellows, or from the Institute Teacher Representatives at their schools — essentially "word-of-mouth" forms of dissemination largely limited to the schools participating in the Institutes — and from the Institute websites. Even so, at least 90 teachers used units that they did not write during the National Project, and about half of those had not participated in an Institute.[18]

Student Responses to Curriculum Units

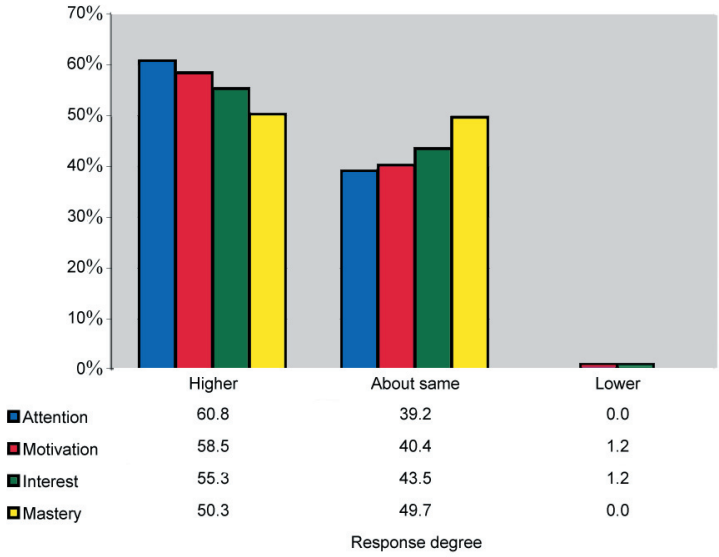
Because the DeWitt Wallace-Reader's Digest Fund, sponsor of the National Demonstration Project, wished evaluators to focus on the Project's impact on teachers, it did not authorize funds for the complex task of directly evaluating the impact on students of having had teachers who had been Fellows. Teachers using units did, however, provide a great deal of data concerning student responses to those units.

Again, these data are highly positive. Teachers believed these units were especially challenging for students: **55.4%** of responding Fellows rated those challenges as *high*, 43.0% as moderate, and only 1.6% as minimal. Yet they found students responded well to these challenges. **60.4%** rated student interest during these units as *high*, 34.5% rated it as moderate, 5.2% as minimal. In comparison with other sorts of curriculum they had used, Fellows found the Institute-prepared units received strikingly superior student responses. The different grade levels and subject matters in which Fellows taught produced only minor variations, although again science teachers rated units somewhat less highly. Overall:

- **60.8%** of Fellows rated *student attention as higher* during these units than during other work; 39.2% about the same, 0% lower.
- **58.4%** of Fellows rated *student motivation as higher* during these units; 40.4% about the same, 1.2% lower.
- **55.3%** of Fellows rated *student interest as higher* during these units; 43.5% about the same, 1.2% lower.

- 50.3% of Fellows rated *student content mastery as higher* during these units; 49.7% about the same, 0% lower.

Graph 5: Student Response to Units by Fellows



	Higher	About same	Lower
Attention	60.8	39.2	0.0
Motivation	58.5	40.4	1.2
Interest	55.3	43.5	1.2
Mastery	50.3	49.7	0.0

Response degree

Corollary Benefits

Experiences at the four sites during the three years of the Demonstration Project, and in New Haven over a quarter-century, indicate that the Institute approach generates significant corollary benefits that are not easily grasped through survey responses and not always visible in a relatively short time period. Perhaps the most important of these include:

- The development of *teacher leadership* capabilities, as many teachers serve as Teacher Representatives or Seminar Coordinators.
- The development of *teacher networks*, as teachers gain knowledge of who their fellow teachers at other grade levels and other schools are, and what they are doing in their classrooms;
- The development of *university faculty who see themselves as*

partners in improving public education, rather than passive, often critical recipients of its graduates;
- The development of *university-public school institutional partnerships* in ways that promote respect and strengthen education in both settings.

Qualitative evidence from Houston, Pittsburgh, and New Haven, especially, provide many strong testimonials by teachers, university faculty members, and university and public school administrators of the Institutes' benefits in all these regards.[19]

Site Variations: Positives and Problems

The populations of Fellows participating at the four sites displayed significant demographic differences. Houston and Pittsburgh Fellows included larger percentages of teachers over 50 than Albuquerque and, particularly, Santa Ana Fellows did. In Albuquerque, middle school teachers were particularly well represented; in Houston, high school teachers were; and primary school teachers were higher in Pittsburgh than elsewhere, with the Santa Ana Teachers Institute similar to the averages for all three sites. Albuquerque had a relatively high percentage of teachers in the physical sciences and mathematics, while Pittsburgh included large numbers of foreign language teachers. Not surprisingly, the larger cohort of older teachers at Pittsburgh had more years of overall teaching experience and possessed more advanced degrees. Many of these demographic differences may well represent variations in the available teacher pool in different cities as well as variations in the sorts of seminars Institutes were able to offer most frequently. In any case, they are for the most part not strongly associated with variations in satisfaction with the seminars or experiences in teaching Institute units. Nor was there any evidence that the special problems presented by non-English speaking students, particularly in Santa Ana, made the Institute approach any less workable.[20]

Demographic and Educational Characteristics of Participants

	Total	Albuquerque	Houston	Pittsburgh	Santa Ana
AGE-GROUP	**(623)**	**(114)**	**(192)**	**(196)**	**(121)**
21-30	18.46	13.16	16.67	13.27	34.71
31-40	22.47	37.72	16.67	17.35	25.62
41-50	29.86	32.46	29.17	29.08	29.75
51+	29.21	16.67	37.50	40.31	9.92
GRADE	**(625)**	**(114)**	**(194)**	**(184)**	**(133)**
High	49.44	34.21	61.34	46.74	48.87
Middle	29.92	55.26	24.74	20.65	28.57
Primary	20.64	10.53	13.92	32.61	22.56
FIELD	**(567)**	**(106)**	**(188)**	**(190)**	**(83)**
Humanities	27.87	33.02	30.32	21.58	30.12
Soc.Sci. & History	12.52	12.26	17.02	5.79	18.07
Phys.Sci.	14.64	29.25	13.30	8.95	12.05
Special	12.52	24.53	20.21	0.53	7.23
Elem. and Other	32.45	0.94	19.15	63.16	32.53
DEGREE	**(585)**	**(114)**	**(194)**	**(192)**	**(85)**
Bachelor	33	44.74	41.24	21.88	23.53
Master	60	52.63	52.06	66.67	72.94
Ph.D.	7	2.63	6.7	11.46	3.53

Note: ( ) = Number of cases. Other numbers are percentages

The differences in the structures of the four demonstration Institutes proved more revealing. The most important structural differences were:

- At Pittsburgh, two institutions of higher education, Chatham College and Carnegie-Mellon University, joined with the public schools as partners in the PTI. In response to Pittsburgh School District requests, the Institute also offered some seminars requested by the District, not the teachers, and took steps to insure that all units would help meet District goals.
- At Houston, the HTI sought to affect a school district far larger than at any other site and more than 10 times larger than New Haven.
- At Albuquerque, ATI seminars met several times a

week in a more intensive three to four week schedule each June and July. For a time ATI also had Co-Directors rather than a single full time Director.

- At Santa Ana, the Institute initially relied on a "lead teacher" more than a network of Teacher Representatives to solicit teacher ideas and participation. It later opened participation to schools outside its partner Santa Ana school district. It also received full funding from the University of California-Irvine, rather than a range of outside sources, as at the other sites.[21]

The partnership between Chatham College and Carnegie-Mellon University has on the whole operated well, though Chatham College has consistently provided more leadership, including the Institute Director, who is the former Chair of the Chatham Education Department. In response to strong District concerns to meet curricular standards and needs, the PTI also instituted workshops to help teachers and seminar leaders to prepare units in ways that explicitly indicated which district standards each unit would meet and how. It added seminars requested by the District in the areas of mathematics and science as well. These modifications made the Institute seminars somewhat less "teacher-driven" than they had originally been. But perhaps because the Institute had already achieved an effective Director, a strong structure of Teacher Representatives, and a solid and diverse funding base, in conformity with National Demonstration Project guidelines, these changes did not greatly alter the Institute or the seminar experiences overall.[22]

The Houston Teachers Institute has also conformed closely to National Demonstration Project guidelines throughout its existence, and it also has not been greatly impeded by its distinctive challenge of seeking to affect such a large school district. But it is seeking to do so through gradual expansion (now to nine seminars annually) and through leadership by example, rather than undertaking rapid growth that might endanger program quality.[23] The only major problem visible at HTI is a relatively low completion rate for teachers in seminars, but this does not appear related to any structural features of the Institute. Local evaluators speculate that this pattern may be due to a strong culture among University of Houston faculty of lecturing rather than leading seminars with broad discussion. Initially,

the Institute may also not have adequately prepared teachers for the greater demands of its seminars in comparison with other forms of professional development. These problems are lessening with increased experience.[24]

Though Fellows in the Albuquerque Teachers Institute seminars rated their experiences extremely highly, the compressed summer schedule, which clashes with many forms of summer employment and heightens the intensity of the seminars, may have made repeat participation less attractive than elsewhere. At the other sites, roughly 60% of all Fellows indicated they would definitely take another Institute seminar, while approximately 35% answered "maybe." At Albuquerque, only 24% said they would take another seminar, 41% said maybe, and 35% said no. University of New Mexico faculty and the Project's external evaluator also raised questions about the summer schedule, noting that it limited opportunities for teachers to obtain feedback on their units in progress from seminar leaders and Fellows alike. Recently, the ATI has chosen to focus less on these seminars and to join instead with various other forms of professional development, including a NASA program for science training, an NSF program for Math Science Partnerships, and graduate education in the UNM College of Arts and Sciences. It has added one day mini-seminars on Saturdays and is staffing a year long, on-site interdisciplinary seminar in a district high school. But it lacks resources to mount as many Institute-model seminars as it did during the course of the National Demonstration Project. ATI offered two in 2003, though it plans to offer three or four in 2004.[25]

The structural departures from National Demonstration Project guidelines at the Santa Ana Teachers Institute seem to have had the most serious consequences. During the Project, SATI Fellows reported significantly less opportunities to propose seminar topics than those at other sites. Though the "lead teacher" worked energetically, this structure proved not to be an adequate substitute for a thriving system of Teacher Representatives, and expansion of seminar participation beyond the partner schools further diluted the "teacher-driven" quality of the program. Exclusive reliance on University of California outreach funds also proved unreliable when the state developed severe budget difficulties. Lacking a broad, well-established base among Santa Ana teachers and

faced with sharp cutbacks in university outreach funds, the Santa Ana Teachers Institute was not offering seminars any longer by 2003. Even so, many of its teacher and faculty participants have gone on to play leadership roles in a variety of other university outreach and professional development programs, several of which involve curriculum enrichment modeled on SATI's curriculum units. These SATI veterans hope to resume the Institute if and when state funding problems ease.

National Demonstration Project: Conclusions

No single program can overcome the enormous obstacles to educational achievement faced by economically disadvantaged students, usually from racial, ethnic, and linguistic minorities, in large American cities today. But if recent researchers are right to contend that the single most important factor in student achievement is teacher quality, and if quality teachers are indeed knowledgeable, skilled, and enthusiastic, with high expectations for their students and the means to motivate students to reach those expectations, then the National Demonstration Project provides strong evidence for the value of the Teachers Institute approach. At four sites spanning the United States, institutions of higher education and public schools joined in partnerships that quickly established Institutes able to attract teachers seeking to improve themselves in all these regards, and to mount seminars that persuaded teachers they were improving in these ways. Institute Fellows generated curriculum units that teachers found they could use to motivate and educate their students, better than any available alternatives. Though each site presented unique challenges as well as opportunities, the basic Institute approach succeeded in every location. The main problems that Institutes encountered arose either from departures from Project guidelines, or from larger crises in the institutions and funding systems with which they worked.

At the same time, it is clear that successful Teachers Institutes are not easily achieved. They require, especially, skilled Directors committed to the Institute approach; support from top administrative officials on both sides of the partnerships between institutions of higher education and public school districts; the creation of effective mechanisms for broad teacher participation and strong teacher leadership; and solid, usually diverse funding sources. These are demanding requirements. But the National Demonstration Project has shown clearly that they can be met, and that everywhere they are met, the quality of teaching in America's schools can be significantly improved.

Notes

[1]This Report was prepared for the Yale-New Haven Teachers Institute by Rogers M. Smith, Christopher H. Browne Distinguished Professor of Political Science at the University of Pennsylvania, with the research assistance of Amel Ahmed, Hwa-ok Bae, Michael Clapper, Cheng Huang and Andreas Ringstad of the University of Pennsylvania.

[2]Coleman, J. S. et al. *Equality of Educational Opportunity*, Washington D.C.: Government Printing Office (1966); Jencks, Christopher et al. *Inequality: A Reassessment of the Effects of Family and Schooling in America*. New York: Harper & Row (1972).

[3]The most widely cited study on the importance of teacher quality is Sanders, W. L. and Rivers, J. C., "Cumulative and Residual Effects of Teachers on Future Student Academic Achievement," University of Tennessee Value-Added Research and Assessment Center, Knoxville, Tennessee, 1996. Similar conclusions are reached in Harold Wenglinksy, "How Schools Matter: The Link Between Teacher Classroom Practices and Student Academic Performance," *Educational Policy Analysis Archives* 10, no. 12 (2002).

[4]See Hanushek, E.A., Kain, J.F., and Rivskin, S.G. "Teachers, Schools, and Academic Achievement," NBER Working Paper No. 6691, National Bureau of Economic Research, August 1998; Kain, J.F., "The Impact of Individual Teachers and Peers on Individual Student Achievement," paper presented at the 20th annual research conference of the Association for Public Policy Analysis and Management, New York City, Oct. 31, 1998.

[5]The value of content-area knowledge is stressed in e.g. Monk, D. H., "Subject Matter Preparation of Secondary Mathematics and Science Teachers and Student Achievement," *Economics of Education Review* 13: 125-145 (1994).

[6]The impact on student achievement of teachers with better basic skills, and the impact of teacher's expectations, is documented in Ferguson, R.F. "Teachers' Perceptions and Expectations and the Black-White Test Score Gap," in C. Jencks and M. Phillips, eds., *The Black-White*

Test Score Gap and Can Schools Narrow the Black-White Test-Score Gap?, Washington, D.C.: Brookings Institution Press (1998).

[7]*Ibid.*, and see also Ferguson, R. F. and Ladd, H.F., "How and Why Money Matters: An Analysis of Alabama Schools," in H. F. Ladd, ed., *Holding Schools Accountable: Performance Based Reform in Education*, Washington, D.C.: Brookings Institution Press (1996).

[8]Raffini, J. P., *Winners Without Losers: Structures and Strategies for Increasing Student Motivation to Learn.* Boston: Allyn and Bacon (1993), esp. 245-247.

[9]*Ibid.* and Stipek, D. J., *Motivation to Learn: Integrating Theory and Practice*, 4th ed. Boston: Allyn and Bacon (2002).

[10]As one Houston teacher put it, "My experience with most professional development is that I dread it. They put me to sleep — they're mind numbing." Another added, "that's the general feeling of most teachers" (Lorence, J. and Kotarba, J., *The Houston Teachers Institute: Goals and Accomplishments, 1999-2002*. Houston: Houston Teachers Institute, 2003, 75, 86). See generally Corcoran, T. B. "Helping Teachers Teach Well: Transforming Professional Development," *CPRE Policy Briefs*, RB-16-June-1995. Philadelphia: Consortium for Policy Research in Education (1995).

[11]The Yale-New Haven Teachers Institute website has links to several pertinent sources. See especially the "Progress Report on Surveys Administered to New Haven Teachers" at http://www.yale.edu/ynhti/brochures/D6.

[12]Because all participants had to complete the Surveys on Seminar Experiences to receive their stipends, the response rate was almost 100%. The response rate of the National Demonstration Project Survey on Fellows' Unit Use was a robust 41.11% (185 responses out of 450 Fellows who received surveys at the four sites. Though another third of Fellows failed to receive surveys, the responses still comprise 28.4% of all Fellows). The response rate of the National Demonstration Project Survey on Non-Fellows' Unit Use was 12.59% (387 out of 3075 Non-Fellows in the participating schools). The low Non-Fellow response rate mandates great caution in making claims about how representative these surveys are of Non-Fellows generally. Nonetheless, the fact that at least 41

teachers at the four sites who never participated in a seminar still used Institute-created units, despite little formal means of dissemination, suggests significant teacher interest in these materials. Since it is likely that the response rate for Non-Fellows using units was under 100%, the actual number of Non-Fellow users must be at least somewhat higher. New Haven experiences also suggest that such dissemination increases over time.

[13]The site materials include transcripts of focus groups with Pittsburgh Institute Teachers provided by ACBCA Services, Pittsburgh, PA, and Lorence, J. and Kotarba, J., *The Houston Teachers Institute: Goals and Accomplishments*, 1999-2002. Houston: Houston Teachers Institute (2003).

[14]Haslam, B. M. and Rouk, U. with Laguarda, K., "Establishing Common Ground: A Report on the External Evaluation of the Yale-New Haven Teachers Institute National Demonstration Project." Washington, D.C.: Policy Studies Associates (2003), 43.

[15]All percentages reported here are percentages of the Fellows who actually responded to particular questions. This section reports data from the National Demonstration Project Surveys on Seminar Experiences. Because the overall completion rate for these surveys was over 98%, percentages of all Fellows surveyed, whether or not they responded to a particular question, are only slightly smaller. All the survey data reported here can be obtained through a link at http://teachers.yale.edu/publication/SmithReport/15.html.

[16]Huang C., "Conclusion of Further Analysis," research memo available at http://teachers.yale.edu/publication/SmithReport/16.html.

[17]See especially Bransford, J. D., Brown, A. L., and Cocking, R.R., eds., *How People Learn: Brain, Mind, Experience, and School.* Washington, D.C.: National Research Council; executive summary available at http://www.nap.edu/html/howpeople1/es.html; and Cotton, K., "Teaching Thinking Skills," NW Regional Educational Laboratory, available at http://www.nwrel.org/scpd/sirs/6/cu11.html.

[18]Overall statistics are drawn from the National Demonstration Project Survey of Fellows' Unit Use, Table 111. Data on relative ratings by teachers in different subject areas are drawn from Tables 311 and 321. All tables are

available at http://teachers.yale.edu/publication/index.php?skin=h&page=SmithReport/main.

[19]For qualitative evidence of these benefits, see the Pittsburgh Teachers Institute Transcripts of Focus Groups with Elementary/Middle School Teachers and Principals, and High School Teachers and Principals; and the publications on the Yale-New Haven Teachers Institute and the National Demonstration Project available at http://www.yale.edu/ynhti.

[20]Based on data from the National Demonstration Project Surveys on Seminar Experiences.

[21]Haslam, B. M. and Rouk, U. with Laguarda, K., "Establishing Common Ground: A Report on the External Evaluation of the Yale-New Haven Teachers Institute National Demonstration Project" (2003).

[22]For the PTI's current seminar offerings and plans, see http://www.chatham.edu/PTI/, 17-18, 41.

[23]Lorence and Kotarba, *The Houston Teachers Institute: Goals and Accomplishments*, 1999-2002 (2003), 126.

[24]*Ibid.* at 108-110. For the HTI's current seminar offerings and plans, see http://www.uh.edu/hti/.

[25]Haslam, B. M. and Rouk, U. with Laguarda, K., "Establishing Common Ground: A Report on the External Evaluation of the Yale-New Haven Teachers Institute National Demonstration Project" (2003), 12, 38-39. For 2003 ATI seminars, see http://www.unm.edu/~abqteach/.