Sustaining Innovation in Urban Schools

Introduction

Since beginning research for my book, Staying Centered: Curriculum Leadership in a Turbulent Era, (1998), I have been extremely interested in the course that schools set upon when they decide to innovate. The ten North American schools and districts in that study encountered many obstacles yet were able to maintain their program of development, at least for the first five years.

Sustaining innovation beyond that point is extremely difficult, especially in an urban setting. Some point to the issue of complexity and the problems of inter-agency linkages (Seppanen 1996). McCormack (1996) warns of trouble stemming from a disconnect between school level leaders and their supervisors. Others depict a variety of ways that schools and districts respond to state policy (Spillane 1998). In a related study, I described the fate of an urban school when its innovative program was bombarded with a series of overwhelming challenges. Thus, the question of meaningful school innovation, especially in our nation's urban areas, is timely, complex, and worthy of further exploration. This special section brings together five articles that I hope will illuminate the central question: *How might we better understand and promote sustained innovation in urban schools*?

Judy Stull, LaSalle University and Temple University, honors the work of our late colleague, Professor Margaret C. Wang, founder of the Temple University Center for Research in Human Development and Education. Professor Wang's unique approach along with specific examples of her work stand as guide posts for those who continue the pursuit of urban educational renewal.

My own contribution to this section, *Navigating a Gale: Sustaining Curriculum Change in an Urban High School for Immigrants*, depicts a highly innovative urban school that has sustained its course for the past sixteen years. I hope that the dynamic forces of dialogue, democracy and innovation described will be of use to others in similar settings.

Erin McNamara Horvat and Rosemary Traore, Temple University, provide a most instructive example of a successful and sustained program aimed helping out of school and out of work young people to reconstruct their lives. This is one important case of an urban program that fulfills its mission, despite serious challenges.

Thomas Reiner, University of Pennsylvania, helps us to see the larger context of urban education by considering demographic and socio-economic developments occurring now and likely to affect the future. This perspective is extremely useful as we contemplate the impact of multiple systems and complex forces that shape our work in schools.

Patrick James McQuillan, Boston College, challenges a notion, prevailing in some quarters, that strict accountability and high stakes testing will result in greater equity for low income students in urban centers. Since the accountability movement is at the heart of many educational change efforts at the state level and now national level, this case and its implications are especially timely.

If this special theme section promotes discussion, debate and an appreciation of the possibilities of sustaining serious innovation in urban schools, it will be a success. It has been a privilege to organize this compilation of thoughtful work. I would like to thank the authors as well as JRE's editor Don Biggs and his assistant Sheila Meissner for the superb guidance, encouragement and support.

Steven Jay Gross
Guest Editor
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Education as an Agent of Social Change: The Vision and Legacy of Margaret C. Wang

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The legacy of Margaret C. Wang is extensive and complex and is best understood in terms of the design of the center she founded. It continues to be interdisciplinary, includes early childhood through adult education, incorporates research through implementation and evaluation programs, and is dedicated toward improving the life chances of all students, especially those living in economically disadvantaged conditions. It is predicated on the belief that through developing and sustaining educational resilience can social change will be realized.

The key components are university-based researchers who develop knowledge about what needs to be done, school-based practitioners who implement and refine programs, and policymakers who provide the necessary support. It is the continuing dynamic interactions between these components that ensure relevancy and currency and directs the work that continues to this day

After a long and painful battle with cancer, Margaret C. Wang died on November 22, 2000. That she left a considerable legacy is not in doubt. What she did and how she did it should be of interest to many as there are many lessons to be learned. Margaret was an energetic and complex person who valued research not as an intellectual proposition, but for its potential for bettering the world. The vehicle through which this was to be accomplished was the educational sector. She felt that within the educational system, attention should be directed toward improving the futures of all students especially those living in circumstances that placed them at risk of school failure. She believed that by identifying and anticipating the needs of the students, the teachers, and the administrators, school structures could be altered and programs and services augmented to ensure successful transitions from the home to the school to the workforce.

In her schema, the key components were university-based researchers who developed the knowledge about what needed to be done and how best to do it, school-based practitioners whose main mission was to implement and refine proven strategies, and policymakers who provided the necessary support. In this model, while each group is essential to the whole enterprise as each brings a specialized perspective and skills, there are inherent limitations. Practice specialists are sometimes too deeply committed to a particular practice to see its limitations, policy specialists are sometimes too removed from program implementation to appreciate existing unique circumstances, and researchers are sometimes too distant from reality to be practical. It is through the integration of these three groups that significant results are to be realized. The dynamic interactions between these components ensured relevancy and currency.

The key concept in Wang's work was "resilience," defined as a psychological construct providing an integrative framework for interpreting individual and institutional resources that can be cultivated and mobilized to mitigate the effects of personnel vulnerabilities, risks, and environmental adversities. Resilience is not the product of a single precipitating event, but rather of continuous interaction between an individual and the features of his/her environment. A key premise is that protective mechanisms within the family, classroom, school, and community could foster educational resilience by buffering and reducing adversities children face, and providing opportunities for learning and healthy development. Thus, throughout her work and the work of those she supported, while the focus was on the individual, it was clear that the larger social context within which these individuals lived had to be factored into any solution if any improvements were to be achieved and sustained. Thus an interdisciplinary perspective was needed and multiple avenues of attack adopted.

The most obvious manifestation of Wang's view on what needed to be done and how best to do it is in the design of

the interdisciplinary center, the Center for Research in Human Development and Education, she established at Temple University in 1986 (TUCRHDE). The mission of the center was to investigate emerging and pressing problems and solutions to mitigate the life challenges facing children, youth, and families, particularly those living in economically and educationally disadvantaged circumstances. Trained as an educational psychologist, she incorporated a wide variety of disciplines into the research and development activities of the center.

By design, the center had four explicit goals: (a) the identification of effective educational practices and policies and ways to improve current practice; (b) the development of new strategies for efficacious classroom instruction; (c) the design and implementation of caring school environments that foster educational resilience; and (d) the demonstration of the feasibility and efficacy of a coherent and coordinated system of service delivery that connects families, schools, and communities in systemic ways in the service of children and youth. Research directed toward informing policymakers, research directed toward direct classroom interventions, and research directed toward strengthening supportive community ties was continues.

Temple University Center for Research in Human Development and Education

TUCRHDE activities have been concentrated in three main arenas: (a) long-term programmatic research on building a procedural knowledge base and then on translating these findings into realistic applications to improve teaching and learning in schools; (b) the establishment of long-term working relationships with schools with high concentration of educationally and economically disadvantaged students to develop and demonstrate the feasibility and effectiveness of instituting innovative programs and practices to improve student achievement; and (c) the synthesis and dissemination of a knowledge base for research and innovative practice in education and related areas.

Research and Development Expertise Long-Term Programmatic Research

Unlike other centers, TUCRHDE is not an umbrella R&D organization that houses discrete projects. Rather, the concept of "centering" guides its organization and activities. This means that common foci, themes, or goals run through all projects, resulting in a whole that is much greater than the sum of its parts. This type of organizational and intellectual structure is based on interdisciplinary teams of researchers collaborating in long-term research programs.

From its inception, TUCRHDE directed its research and development efforts on identifying ways to significantly improve the education in the inner cities. It has done so by connecting research on inner-city problems; implementing an interdisciplinary approach to research and development; and by building wherever possible on existing structures and mechanisms for widespread dissemination and research utilization. Initially there were three major research and development programs: (a) family as agents in the education process; (b) school factors that foster resilience and learning success; and (c) community connections with and capacity for education.

In neither the research arena nor in the provision of services has education been limited to the K-16 span. Early childhood and adult education and development have always been a part of TUCRHDE. The emphasis of those involved in early childhood has been on the continuous refinement of a interdisciplinary model for early assessment and data-based planning for early intervention. Advances in research and practical know-how continue to contribute to the development of the procedural knowledge on how to more effectively and efficiently address the special needs of young children. This is a service project, demonstrating effective services to several client groups: children, parents, and providers of early intervention, including therapists and teachers, promoting the use of the knowledge base to help children achieve independence as they grow and learn

At the other end of the spectrum are the TUCRHDE researchers and specialists working in the area of adult education and development. The overall goal of this program has been the development of a replicable adult education and related services delivery system that is effective for improving education and life circumstances of educationally and economically disadvantaged adults. The program is designed to: (a) demonstrate models of effective delivery of adult education services, including literacy and job skills development; and (b) provide technical assistance and training of adult literacy and related service providers.

Perhaps building on years as a classroom teacher, Margaret Wang initially focused on needed changes in classroom management and developed ALEM, the Adaptive Learning and Education Model. (Wang, 1992) This was later expanded into a whole school reform model, the Community for Learning (CFL). Currently, CFL is a comprehensive school reform program that draws from over two decades of research experience on what makes schools work and what helps students learn, even those students faced with some of the most challenging situations. CFL builds on the strengths of a community by tapping into its diversity and re-deploying its resources—especially human resources—so as to have the most positive impact on children's lives. The program develops the capacity of schools and districts to serve each student. It includes school-wide restructuring to encourage shared responsibility, the use of adaptable instructional strategies to meet students' diverse needs, and the development of plans to integrate the school with other educational environments such as the home and community.

In recent years, TUCRHDE research and program specialists incorporated computer technology into their research and implementation agendas with the overall goal of building a knowledge base and the capacity for implementing the effective integration of the learning

technologies to significantly improve teaching and learning in schools and in after-school settings. Schools with high concentrations of students from economically and educationally disadvantaged circumstances have received special attention.

Intensive Collaborative Work with Schools

Another area of R&D expertise at TUCRHDE centers on effective service delivery systems. This research has contributed to a knowledge base on the application of what is known that works from both research and practical experience to improve service delivery. To do this TUCRHDE has established a network of schools serving as co-development sites for intensive work to establish and maintain innovative programs over time. These development sites serve as the basis of an emerging database on the "can do" applications in particular contexts. It is continually being expanded and refined.

Synthesize and Disseminate the Knowledge Base

TUCRHDE has a rich history of large-scale research efforts in knowledge-based syntheses. Most noteworthy is the researchers' ability to write about their work for a variety of audiences, including researchers, policymakers, education and related services providers, and the general public. Also, the Center has brought together noted researchers, policymakers, and practice specialists in topical conferences that address important and pressing issues, with publication of the proceedings and recommendations for wide-scale distribution to targeted audiences.

The TUCRHDE Strategy - The Five Steps to Success: Build, Develop, Lead, Provide, Create

In order to continually update and monitor changing educational needs and to develop that capacity to implement identified solutions in the most efficient and efficacious manner, a five-pronged strategy was established as basic operating guidelines for all aspects of the TUCRHDE operation:

- *Build on the expertise and resources of standing structures*: One way to expand the capacity of the Center to serve the diverseneeds is to forge partnerships with standing structures, such as schools, professional organizations, community service providing agencies, and other R&D resources such as universities and other research agencies.
- *Develop the capacity to scale-up implementation of knowledge-based reforms: Linking research to practice*: A major problem in establishing and maintaining innovative programs/practices that work in large scale is the lack of a procedural knowledge base on how to bring what we know that works to bear in site-specific contexts. As of June 2001, TUCRHDE staff are working intensively with over 200 collaborating school sites in demonstrating the workings of these research-based programs/practices. The ultimate goal is the development of strategies for widespread implementation.
- *Lead regional and national dialogue on pressing and emerging reform issues and solutions*: If real achievement gains are to be realized, all stakeholders—including policymakers at federal, state, and local levels; preK–16 educators; researchers; program specialists; school administrators; parents; and the public—must become part of the discussion on the priority needs and solutions. TUCRHDE views this leadership role of forging focused dialogues among stakeholders as a key strategy not only for dissemination of research-based information to relevant decision makes and school reformers, but also as a strategic means of scaling up the implementation of solutions to pressing and emerging concerns of educational reform.
- *Provide leadership, knowledge, and assistance*: TUCRHDE researchers and program specialists work together to provide professional development and technical assistance on "what works" in implementation planning, monitoring or program progress, and program evaluation.
- *Create collaborative outreach and dissemination opportunities*: Improving student achievement, requires a multifaceted approach that incorporates multiple perspectives. In addition, people need to be informed of the problems and possible solutions. Researchers must work collaboratively with policymakers and school-based professionals. Given the magnitude of the problem and the limited resources at hand, every effort needs to be directed where real results can be realized and to where changes are possible. Thus information must be disseminated in a wide variety of formats and on a wide variety of topics.

The Research Initiatives: Underlying Models and Themes:

Two related models underlie the Center's work, one a macro perspective incorporating the multiple social factors affecting achievement, The Framework of Alterable Variables, and the other the micro perspective focused more on what happens within the school environment (See Figure 1). Taken together, these two models capture the full range of relationships within the educational sector and continue to drive the Center's research and development activities.

EFFECTIVE SCHOOL PRACTICES → EDUCATIONAL RESILIENCE → INCREASED STUDENT ACHIEVEMENT

Figure 1. Micro Level Educational Perspective

The Macro Perspective

The theoretical basis for this perspective relies on three lines of research: (1) differences in school achievement from a sociocultural perspective (Bartelt, 1994; Gordon and Song, 1994; Rigsby, Stull, Morse-Kelly, 1997); (2) the development of educational resilience among students who live in highly disadvantaged conditions (Garmezy, 1976; Masten, 1994, Taylor, 1994); and (3) effective school practices and intervention research (Arnold, 1995; Brookover, Beady, Flood, Schweitzer, and Wisenbaker, 1979; Finn and Rock, 1997; Wang, et al., 1993). Elements from all three research strands have been woven together in the "Framework of Alterable Variables" (Wang, Haertel, and Walberg, 1998a; 1998b). This model identifies both the positive and negative sources of pressures for the development of educational resilience.

In this model, educational resilience is viewed not as a product of a single precipitating event, but as a continuous interaction between a student's characteristics and the alterable features of his/her environment. The view is that educational resilience is an attribute that can be fostered through interventions that develop a student's competencies and establish an environment that provides protective mechanisms that mitigate these adversities (Katz, 1997). Success, increased achievement, depends on strategies that identify and incorporate the multiple factors that affect student achievement. Given the magnitude of the problem and the limited resources at hand, every effort needs to be directed toward realizing significant results and to recognizing what changes are possible.

The underlying belief is that it is only through a better understanding of the ways in which schools can promote and facilitate student learning and achievement that real gains will be realized. It is through the identification of students achieving despite disadvantaged conditions that effective school characteristics can be identified and areas for social policy intervention identified. The Framework of Alterable Variables facilitates and directs this discussion.

The framework provides a systematic, comprehensive structure for integrating the diverse research literatures that bear on student outcomes and informs the data analysis activities in consort with initiatives from the research and practice communities. Its six categories of variables provide the structure within which directed analyses on particular problems and allow for its continued orderly evolution as new variables and their relationship to systemic reform, educational resilience, and learning success are identified. Context specific issues can be distinguished from context general ones.

The Framework of Alterable Variables Micro and Macro Level Educational Perspectives

Teacher Practices and Classroom Instruction Variables

The first category, teacher practices and classroom instruction variables, deals most directly with classroom processes that affect learning. This set of variables has been found to have the largest effects on student achievement. Included are: curricula and implementation, the quality and quantity of instruction, the role of assessment, classroom management, student-teacher interactions, and the social-psychological climate of the classroom.

Program Design Variables

Program design variables, the second category, is primarily concerned with the nature and quality of instruction and learning within school. Included are: Settings under which instruction takes place, e.g., class size; grouping practice; instructional support resources such as teacher aides; in-class support by specialist professionals such as reading specialists, special education teachers, and speech therapists; instructional methods and strategies, e.g., explicit statements of learning goals and objectives, mastery learning approaches, cooperative learning methods, use of technologies; and instructional delivery and management system, e.g., curriculum-embedded tests as integral planning tools for diagnosing student learning, implementation strategies for responding to the diverse needs of the students and the complementary talents of teachers.

School Variables

Among the alterable variables included in the school variable category are: the allocation of school resources used to target support for the school-based reform plan; the structure of the school organization, including the organization of small learning teams to improve instructional efficiency and increased teacher/students contacts (the latter, a frequently cited detriment to achievement, particularly in schools with a large student body); the professional development of the school staff; and strategies for soliciting

active involvement of families and connecting with the community to support student learning.

Particularly during the past decade, research has clearly shown the school to be a key alterable determinant of student learning success. Thus, the category of school variables is currently receiving increased attention as an important reform focus. A proliferation of major initiatives at federal, state, and local levels has focused on improving the school as a targeted approach to improving student achievement. Prime examples include the Comprehensive School Reform Demonstration initiative (CSRD) established by Congress in November 1997; the inclusion of schoolwide programs as a strategy to improve implementation of the federally funded Title I program (The Elementary and Secondary Education Act of 1994); the mandate of implementing whole school reform as a part of the Abbott Decision for urban schools in poverty communities in New Jersey (Abbott v. Burke, <www.state.nj.us/education>); and the identification of low-performing schools as targets for special assistance in such school districts as Washington, DC, and Chicago.

Student Variables

Alterable student variables included in this category focus on learning competencies of students that can be enhanced through powerful instruction and nurturing home, school, and community environments. Instead of focusing on achievement deficits and the multiple risk factors in the life circumstances of students, the framework points to the positive and alterable variables that contribute to healthy development and learning competencies required to achieve educational success. They include: alterable cognitive, affective, and motivational characteristics, such as knowledge of subject matter; cognitive and meta-cognitive experiences for acquiring information and solving real-world problems; the development of a sense of self-competence and self-confidence; the sense of self-direction and motivation to sustain high standards of achievement; the ability to seek help and give help; the use of technology as a learning tool; and the engagement in cooperative learning and learning in a variety of contexts, including learning alone, in groups, and as a lifelong endeavor in response to inevitable changes in the local, national, and global contexts.

Family, Community, and Extra-School Contextual Variables

Students learn in multiple contexts beyond schools. Because during their 12 years of formal schooling students spend a significant percentage of their waking hours is outside of schools (Walberg, 1984), it is crucial to include family and community variables in any study of student learning. This category of alterable variables is often ignored because of the perceived non-alterable nature of the variables, such as family poverty, which has often been cited as a significant correlate of student achievement. Although family poverty may not be readily "alterable" by school reformers, many strategies can be used to overcome the disadvantages associated with family poverty. For example, creating after-school learning opportunities by connecting with standing resources in the community, such as libraries, museums, community colleges, and universities, is one such approach that has shown to be feasible and cost-effective. The lack of coordination of high-quality after-school programs in local communities with the needs of the school and students has been a major barrier to improving the capacity of the family and community to support student learning. Indeed, the increasing connection between families and communities is one of the required features of the federal CSRD initiative and Title I Schoolwide programs. The developing database at TUCRHDE on the implementation of CSRD and schoolwide programs is a valuable data source for advancing the procedural knowledge in illuminating the alterable school and community variables that contribute to student achievement.

State and District Variables

Although the extant research base shows that variables at state and district levels are the least influential in improving student learning, they have been identified by policymakers and practitioners as key factors in supporting and sustaining reform efforts aiming to achieve high standards of learning. Many states are showing an increasing influence of state-level policies designed to improve student achievement. In Maryland, Colorado, and Texas, for example, increased state and district involvement has been associated with achievement gains (Jerald, 2000). In addition, the failure of districts and schools to implement state standards has been cited as one reason for weak student learning.

The Micro Perspective

It is in the micro model that the process whereby the direct link between education and improvements in student's life chances are made explicit. The assumption is that achievement is directly related to one's life chances and that instituting and supporting effective school practices is the way to do that.

Current Examples of Research Projects

The TUCRHDE research projects cover a wide span of topics. Following are selected examples of current projects.

1. Characteristics of Schools Resilient Students Attend

In this study, statistical analyses of student achievement as a function of student (gender, race/ethnicity, school behaviors and attitudes), school (size, racial/ethnic composition), teacher characteristics, classroom practices (homework assignments, classroom management strategies, grading policies and procedures), and community (urban/suburban/rural) were used to identify resilient students.

(Rigsby et al, 1997) Data from the National Assessment of Educational Progress State 4th grade mathematics component (NCES, 1996) were used. Throughout the analysis, the dependent variable is the achievement scores on the mathematics test. The focus of this paper is on the characteristics of schools attended by students identified as resilient-not the determinants of mathematics achievement.

Educational resilience, in this project, is defined as students achieving considerably beyond expectations (information generated in the regression analyses) thereby encompassing students whose scores are not necessarily in the highest percentiles. What is extraordinary about all of the students identified as resilient is not the absolute level of achievement, but that the achievement is well beyond what is predicted in the statistical analysis.

Three general comments should be made about the findings. First, with a few exceptions the differences in the characteristics are not great. The real story lies in the cumulative effects of these differences. Second, there are more similarities between the ends of the distribution than expected. Indeed, it is the middle group that is different. Third, community type did not have any effect as any differences were negligible. Among the specific findings is that students exhibiting the most resilience attended schools where teachers reported a higher level of mathematics activity. This was the case despite having less preparation time and feeling the available resources were inadequate. Thus, increasing the "academic" nature of schools does appear to be related to educational resilience defined as we have to include all levels of achievement. Taken as a whole that is what was embodied in the Title I Schoolwide legislative expectations. What now remains to be done is to extend the discussion beyond "related" to causal. That will lead the way to specific prescriptions.

2. School Characteristics and Classroom Practice: Smaller Versus Larger Classes

One of the basic arguments for implementing class size reduction as a reform strategy to improve student achievement is that teachers would be more likely to employ effective instructional practices when teaching in small classes and that the resulting classroom process would be more conducive to student learning. (Wang & Stull, 2001) While there is a substantial research base that suggests that there are positive effects of small classes, there is less information on how this happens within these classrooms that lead to this desired result. It is this context, in the analysis of what happens in small versus large classrooms, that is the focus of this study.

Using data from the fourth and eighth grade student and teacher files State Grade Reading files of the 1998 National Assessment of Educational Progress (NAEP) two dimensions were addressed: (1) differences in teacher and classroom characteristics of small (1 – 20 students) versus large (21 plus students) classes and (2) differences in effective small and effective large classes (NCES, 1998).

The results suggest that teacher practices do make a difference in student achievement. In the fourth grade there are few differences in the use of teacher practices between larger and smaller classes, even when practices were examined between effective larger and effective smaller classes; however, this is not the case for eighth grade. Teachers in effective smaller eighth grade classes tend to use more of the practices that have been shown to result in improved student achievement.

This finding has important implications with regard to current class size reduction policy and practice. At present the focus is on reducing class size in the early grades, but given current concern about the low achievement and high drop out rates in middle and high schools, a reform strategy to reduce class size in higher grades is clearly an important consideration when designing state and local reform initiatives.

Of particular importance is the professional development of the school staff. This study uncovered a glaring lack in the number of hours teachers spend in professional development, whether they teach in larger or smaller classes. The mean hours of professional development of fourth grade teachers per year in the immediate past three years was 21.36 (about two hours per month) for teachers in larger classes and 18.9 (less than two hours per month) for teachers in smaller classes. Eighth grade teachers also reported a similar lack of professional development hours.

Another noteworthy finding is that teachers of smaller classes have significantly fewer hours of professional development than do teachers of larger classes. Perhaps one other reason why there were no significant differences in teacher practices among fourth grade teachers is that these teachers did not have more time to learn how to use effective practices in their small class situations. The presumed benefit of a small class might not be realized without further training and practice. Smaller classes can provide opportunities for teachers to teach better, they do not cause teachers to do so. Benefits to students' learning will not occur unless significant changes are made in the teaching process in small classes.

3. Schools Differ: A Comparison of Achievement in Schools with High Concentrations of Minority Students Compared to those with Lower Concentrations

The present study is a comparative analysis of schools with high concentrations of minority students versus those with lower concentrations (Stull, 2001). The 1998 National Assessment of Educational Progress (NAEP) State Reading files are used to investigate the relationship between teacher practices and achievement differences between minority and non-minority students. In these analyses, the focus was on differences in student achievement as a function of race/ethnicity (minority or non-minority) and different teacher practices. Students classified as being from a racial/ethnic minority are concentrated in urban areas while higher

percentages of non-minority students are to be found in rural (40.3%) and suburban (35.4%) areas.

Three questions are to be considered: 1.) How do schools with high concentrations of minority students different from those with lower concentrations?; 2.) How do schools with high concentrations of high achieving (75th percentile or better) minority students attend differ from those with high concentrations of low achieving minority students (25th percentile and lower)?; and 3.) How do schools with high concentrations of high achieving minority students attend differ from those with high concentrations of high achieving non-minority students?

In general, *schools with high concentrations of minority students* are larger, are more apt to have Special Education classes, experience more student mobility, have, on the average, more students eligible for free/reduced cost lunch, have less discretionary dollars per pupil to spend, and are more apt to assign students to classes based on ability. There is no statistically significant difference in the mean class size. Teachers in schools with high concentrations of minority students are more apt to be certified in reading, the discipline represented in the NAEP test being used in this study. They are also more apt use only whole class in their reading instruction, routinely assign paper of less than one page or 1-2 pages long, feel that is important to grade paper length, and expect students to write more than is the case in schools with lower concentrations of minority students.

The *schools with the high concentrations of high achieving students* are, on the average, larger, are less apt to have Special Education classes, and have more per pupil discretionary dollars to spend. These schools are less apt to assign students to classes based on ability.

Teachers in schools with high concentrations of high achieving students are more apt to have an advanced degree and are more experienced. They are more apt to think it was important to grade organization and coherence, but less apt to think it was important to grade the length of papers written. These teachers devoted less time to reading assessments and reading activities. They also routinely used fewer reading resources. When the absolute differences are considered, those variables exhibiting the greatest differences are in the areas of the reading instruction strategies and assessments routinely used.

When the *characteristics of schools with high concentrations of high achieving minority students* are compared with those with *high concentrations of high achieving non-minority students* other than the differences in two income related variables (mean percent of students eligible for free/reduced cost lunches and mean per pupil discretionary dollars), the results are virtually the same. It is apparent, that teaching practices do have an impact.

In conclusion, there are two important findings. First, the characteristics of schools attended by high concentrations of minority schools differ from those with high concentrations of non-minority students. Secondly, for both the minority students and the non-minority students, the schools with high concentrations of high achieving students differed considerably from those with high concentrations of low achieving students. Thirdly, the characteristics of schools with high concentrations of high achieving non-minority students are quite similar to those with high concentrations of high achieving minority students. More needs to be done to ensure that more of the schools attended by high concentrations of minority students incorporate the effective teaching practices of those schools attended by high concentrations of high achieving non-minority students as they evidence the highest mean achievement levels.

4. Head Start on Science and Communication

The Head Start on Science and Communication Program is an inquiry-based early learning program incorporating National Science Foundation benchmarks for students in kindergarten to second grade. (Hammrich & Klein, 1999)The program aims to create a science-rich learning environment, emphasizing various levels of questions to broaden young children's knowledge in life science, earth science, and physical science. Students are expected to acquire basic concepts and skills for expanding scientific inquiry and to develop appropriate language proficiency and literacy as they expand the content knowledge in science.

This project aims to create a science-rich learning environment, emphasizing an inquiry-based approach to broadening young students science knowledge and communication skills. The three objectives of the program include: (a) broadening participants science knowledge around three science domains-life, earth, and physical sciences; (b) enhancing participants ability to use an inquiry approach to learning; (c) increasing participants cognitive and linguistic knowledge; and (d) integrating the program with the core curriculum learning experiences.

Among the questions that are being explored are: (1) To what extent are learning activities of the program implemented?; (2) To what extent do students increase in academic achievement?; and (3) To what extent do teachers perceive a change in their own attitudes about student learning, classroom management, and their role in the classroom?

5. School-Family Partnerships Designed to Improve Academic Achievement and Social Competence of Urban Children

The School-Family Partnerships Program (SFP) is a research-based intervention program designed to develop and implement strategies that enhance two-way communication between parents and teachers, as well as increase parent involvement in both home and school learning activities. (Caplan & Weissberg, 1989; Dryfoos, 1997).

The project began with the identification of best practices. The research base was then augmented with data

collected by the SFP team and then used by them to develop, implement, and assess the important components of the school-family partnership. Attention was focused on parent-teacher communication, parent involvement at home, and parent involvement in school. Working collaboratively with the development sites, materials and activities designed to assist teachers and parents enhance their relationships were created.

In addition to developing and field testing materials and activities to assist teachers and parents in enhancing their relationships, a set of assessment tools was developed to help teachers and administrators assess and monitor program implementation. An SFP manual for teachers was developed and refined based on teacher and parent input. Also, a national invitational conference on "Enhancing Educational Outcomes Through Social and Emotional Learning: Implications for Practice and Research" will be held in Fall 2000. This will build on and extend the knowledge base of what has been learned from this project.

6. The Formation of School Communities

The initial goals of this project were to field-test Alliance for Achievement/School Community Councils in two sites, modify the program, add sites in order to provide a demonstration of the processes for building school communities in other schools, and study the relationship between aspects of community and student learning. (Redding, 1996, 1997) An additional goal was added: A planning process for a school-based support team would be developed and field-tested, equipping schools with a means for intentionally linking with community resources and systematically connecting students with needed services. The Alliance for Achievement model is based upon local selection of a set of character goals and academic values around which a school community is organized. Sets of behavioral expectations for parents, teachers, and students are developed relative to each value.

Currently development and implementation of the model is being tested and evaluated in 11 schools. Early findings indicate that there is a positive relationship between successful implementation and student achievement.

7. Achieving Coordinated Services for Children: Facilitating Effective Partnerships Between State and Local Agencies

In this project factors critical to the success of effective working relationships or partnerships between state and local agencies that are intended to achieve coordinated, school-linked services to reduce risk and foster resilience in children in at-risk situations are examined. (Boyd, 2001) Special attention is given to large urban school districts, where the need for collaborative services is greatest. Through the research and dissemination efforts of the project, the goal has been to increase knowledge to facilitate the success and improvement of coordinated, school-linked services efforts, at the state and local level.

Four central questions guide this research: 1) What are the goals of each city's coordinated services program and how is program effectiveness being measured and assessed? 2) To what extent is each city's program linked to and supportive of broader school reform efforts? 3) What does each city's program ask or expect of teachers and school administrators, and to what extent do these expectations compete with or detract from educators' efforts to focus on improving student achievement? 4) What lessons can be learned from a comparison of the four cities' programs on the topics outlined in the three previous questions?

Knowledge needed for the improvement of policy and practice in the area of coordinated, school-linked services has been identified by a variety of means, including review of the research literature, primary fieldwork (site visits, interviews, and telephone surveys), interviews with key practitioners, and the discussions and group work at two conferences on this topic to which a variety of experts and leading practitioners were invited. Findings have been disseminated through publications, conferences, conference proceedings, and, over the Internet.

8. A Study of Implementation and Outcomes of a District-wide Comprehensive School Reform Initiative

The goal of the proposed study of the Elizabeth School District is the systematic documentation of the model selection processes, implementation and effects of the comprehensive school reform as a part of the Abbott decision by schools in the Elizabeth school districts. (Wang & Wong, 1997; Wong & Wang, 1994) The project builds on earlier work on the implementation of the mandated components of the Title I Schoolwide program and the analysis of "Effective" versus "Ineffective" schools.

The Abbott decision supported New Jersey's ambitious agenda for systematic improvement in urban schools with high concentrations of students from at-risk backgrounds. The Court decision posits an establishment of school-wide programs to reduce curricular fragmentation and enhance instructional effectiveness for schools as whole. Comprehensive school reform has been adopted by these districts as a critical component for achieving the mandates of the Abbott legislation.

This project is currently involved in the development of a database on program features, implementation requirements, and outcomes of the implementation of the four whole school reform models in schools in Elizabeth School district. The goal is the identification of effective policies, implementation strategies, and school/classroom practices for achieving student success. Findings from the study are expected to not only provide data-based feedback to schools and school districts on their implementation and for future planning, but will also contribute to the procedural knowledge on how to scale up research-based reform in district-wide efforts to achieve student success by local schools. Both qualitative and quantitative data are being

collected in the schools in the Elizabeth School District. They include the following categories: surveys, interviews, observation, and archival data.

9. The Need for Developing Procedural Accountability in Title I Schoolwide Programs

This project is designed to address this gap in our existing knowledge base. (Wang et al, 2000; Wong & Meyer, 1998) Specifically, this project is designed to: (1) contribute to a national database on the implementation and outcomes of Title I schoolwide programs since the passage of the 1994 Improving America's Schools Act (IASA); (2) provide timely analysis on effective practices at the school and district level to foster a greater degree of schooling success in settings with a high concentration of children who come from at risk background; (3) enrich our understanding of urban school reform, including the ways in which schools are addressing external accountability standards; and (4) provide channels for collaboration among researchers within LSS as well as across different laboratories.

This project is composed of two complementary components: 1.) the establishment of a national database of schools participating in the schoolwide program, and 2.) the analysis of implementation of mandated components of the program in schools. In the case of the first component, data were collected from all of the state Title I coordinators on an annual basis. This information was linked to other school databases so that participation patterns in the program could be analyzed.

When the pattern of school participation in the schoolwide program was analyzed, it was apparent that the size of the school district was a key factor. Schools eligible by virtue of the number of students eligible for free/reduced cost lunches that did not participate were situated in small school districts. This should not have been unexpected given the extensive program planning and documentation requirements. As a result of the project findings, the program requirements were changed and consortia of school districts were allowed to apply.

10. Strengthening the Relationship Between School and Work for Noncollege Youth

The purpose of this project is to identify ways to improve the school's capacity to provide schooling success for students who are not college-bound. (Stull, 1998; & Sanders, 1999; et al, 2000) A series of national research reports beginning in the late 1980s raised serious doubts about the ability of the American education system to provide the required skills to the majority of its students without substantial reform. According to these studies, too many students leave school without the academic knowledge, personal qualities, and/or job specific know-how needed to establish themselves quickly in stable, full-time employment with reasonable earning potential. This lack of fit between the world of school and the world of work jeopardizes not only the economic future of many of our young people but also that of the nation as a whole. The education sector's response to these concerns is the school-to-work (STW) movement.

Currently, research is being carried out in three major areas. The first is focused on the successes and failures of the STW movement in bringing about real educational reform for high school students, particularly those who are not planning to attend a four-year institution of higher learning. The second is concerned with the determinants of STW programming at the school level. Schools across the country differ widely in the extent to which they have "bought in" to the core STW philosophy of raising student achievement by integrating the traditional high school curriculum more closely with the world of work for all students. The third attempts to determine the extent to which the high school experience of noncollege youth affects their decisions about post-secondary education and their early labor market successes as measured by wages and earnings.

Among the findings thus far is the crucial role of the principal in bringing in innovations, both academic and vocational, into the school. Interestingly, schools evidencing the greatest involvement in school-to-work programming are also the most serious about academic issues.

Conclusion

Social problems are complex and require complex solutions requiring a deep investment of time and an interdisciplinary perspective. To be truly effective and lasting solutions need to be developed, tested, and evaluated over a period of time. Since learning occurs over an individual's life time and not everyone exhibits the same commitment to learning during the same stage in their lifetime, the focus must extend to both the pre kindergarten as well as the adult learning phases. In the end while multiple factors affect an individual's educational attainment and learning, attention must be direct toward those where intervention is possible and there is a probability of success.

Margaret Wang's commitment to these beliefs never wavered. They guided her research and her design of the Temple University Center for Research in Human Development and Education and they guide the work that continues to be done today.

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