Education Policy Analysis Archives

Volume 10 Number 40 **October 3, 2002** **ISSN 1068-2341**

A peer-reviewed scholarly journal
Editor: Gene V Glass
College of Education
Arizona State University

Articles appearing in **EPAA** are abstracted in the *Current Index to Journals in Education* by the ERIC Clearinghouse on Assessment and Evaluation and are permanently archived in *Resources in Education*.

The Original Ten: A Multisite Case Study of Florida's Millennium High School Reform Model

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Citation: Mullen, C. A. (2002, October 3). The original ten: A multisite case study of Florida's Millennium High School reform model, *Education Policy Analysis Archives*, *10*(40). Retrieved [date] from http://epaa.asu.edu/epaa/v10n40.html.

Abstract
This study should have immediate utility for the United States and beyond its borders. School-to-work approaches to comprehensive reform are increasingly expected of schools while legislative funding for this purpose gets pulled back. This multisite case study launches the first analysis of the New Millennium High School (NMHS) model in Florida. This improvement program relies upon exemplary leadership for preparing students for postsecondary education *and* for a career or work. Using participants' feedback, the researcher conducted a pilot study of one prototype school and then investigated all 10 original NMHS prototypes. These were examined and compared with the benefits of and

challenges to the improvement effort in mind. In all, 15 school leaders were interviewed and 530 school personnel were surveyed for this sample. It was revealed that the millennium program is essentially a grassroots endeavor that continues to depend on the state for administrative and financial support. One lesson learned is that school leadership can function from deep within the organizational tissues of a restructured school. Reformers come in many guises, then, some without formal leadership titles and public recognition. Another lesson is that other schools should expect to achieve similar positive effects, but ongoing support from the public and government is needed for such significant developments. The state policy context of this school improvement model is considered along with implications for further change.

Introduction: School Reform Waves

A significant wave in school reform is gathering momentum from school-to-work (STW) initiatives that have been yielding positive results (Blank, 1997, 1999; Cassel, 1998; Lozada, 1999; Maduakolam, 1999; Mathews, 2000). Schools throughout the nation could find the perspectives and assessments provided in this paper useful for addressing this issue. High schools are being expected to function differently in their vision, purpose, and effects. State and national programs have offered incentives for whole-school reform that help ensure the goals of such legislation. Notably, the School-to-Work Opportunities Act of 1994 (Public Law 103-239) required that schools integrate academic and vocational education to aid the development all students. However, the status of federal law outlining expectations for academic-vocational integration is ambiguous at this time (Medrich, Merola, Ramer, & White, 2000). While the laws governing STW legislation lose potency with the withdrawal of the federal government from education (Scott, Stone, & Dinham, 2001), the trend toward integrated curricular reform continues to grow, with parallel movements across the state of Florida, Texas (Note 1), and elsewhere. This paper is concerned with the manifestation of academic-vocational curricular reform at the state and local level.

This article represents the first academic analysis of Florida's showcase school improvement model. The New Millennium High School (NMHS) movement grew out ofstate legislation that endorses STW as the basis of educational reform. The 10 original NMHS schools offer a vision and process of change that needs study (Florida Department of Education, http://www.firn.edu/doe). Such secondary schools that function as career pathways offer integrated learning and relevant schooling. They also foster the evolution of school-community organizations that partner the schools with business and industry (Mullen, in press; Blank, 1997, 1999).

The NMHS program depends for its success on exemplary leadership and teamwork aimed at preparing students for postsecondary education *and* for a career or work. However, the process of major change was not new to any of the participating schools, and decisions on how to approach this change were influenced by various existing key stakeholder groups, not just the building principal. The strategies used for penetrating the bureaucratic infrastructure of these schools enabled us to gain insight into the role of the principal within the millennium context.

Our results primarily derived from the perspectives of the grassroots reformers themselves. These concur with Schuttloffel's (2000) finding: "In the current school reform environment, crediting successful change to the action of a building principal may be as misleading as the assignment of failure solely to the same principal" (p. 3). Our lessons learned also reinforce Hargreaves' (1998) observation about effective principals and their role in shaping teacher leadership: "One of the most important functions that educational leaders perform is developing their staff. …The ability and desire [of teachers] to exceed expectations springs from discretionary commitment—from teachers being prepared to work above and beyond the official call of duty, entirely of their own volition" (p. 315).

Two points of validation for undertaking this study emerged during the work: One, the school teams did not have the time, as many admitted, to document their developments and problems, and this was viewed as a definite obstacle. Two, the millennium model exemplifies the kind of nationwide reform expected of many secondary schools, and they will find the results of this study useful as they embark on their transition (Florida Senate, 2001).

Macro View of Florida's Millennium Schools

The millennium project at the prototype schools was essentially a grassroots activity guided by the state of Florida. Spearheaded by faculty, personnel, and administrators, this improvement program is supported by principals and other administrative leaders. This model emphasizes interdisciplinary and cross-disciplinary teaching with a focus on work-based learning, team-building, and shared engagement of all critical tasks.

New Millennium High School is a designation granted to a select number of secondary schools that had initiated restructuring plans for a new school-wide curriculum prior to state-level funding. In 1998, policymakers established that a prototype curriculum system building on vocational education was needed to prepare students for work and postsecondary education (Brawer, 1998). The Florida Millennium Project Task Force claims the NMHS school curriculum is "as academically rigorous as the traditional college preparatory pathway" (Brawer, p. 5). The representatives in our study provided a similar description, with an added emphasis on the need for schools to develop "supportive learning communities with cross-curricular threads and tireless commitment."

Educational and vocational researchers argue that school-to-work initiatives, when combined with academic preparation, can promote many gains. Among these are the achievement of postsecondary goals, job readiness and career development, lifelong learning, and economic self-reliance of students (Maduakolam, 1999; Mathews, 2000). A major gain is nationwide and global competitiveness in a response to a trend toward the increased competitiveness of nations (Scott, et al., 2001). The relevance of schooling—regarding the academic performance and work readiness of students—has been a pressing concern for over a century. It is believed that many high schools continue to operate as outdated institutions almost exclusively focused on the college-bound population (Lozada, 1999). A possible solution to this seemingly entrenched problem is for high schools to integrate academic and vocational education in order to become centers of dynamic, relevant learning.

The NMHS schools were considered to be capacity-building institutions when funded. (Note 2) For this reason, respondents did not view the millennium program as a comprehensive reform effort per se but rather as an expression of ongoing change. Being designated as a millennium school was valuable because it provided an opportunity for the schools to make improvements along an already traveled path. However, the capacity-building strengths and contextual supports of these funded schools ranged widely, and so in some instances the changes seemed more significant than in others. Six of the 10 NMHS schools were rural (all of these were small except for one) and four, urban (two small and two large).

Although these were all programmatically accelerated schools, their socioeconomic situations varied considerably: Higher poverty and fewer resources characterized the small rural schools. The number of students at the schools ranged from approximately 1200 to 3000. The racial make-up of the schools also varied, with minority student populations ranging anywhere from 7% to 25%. The minorities were mostly African American with a rising population of Hispanics. In one school only, the minority population was relatively high, about 65%. English Speakers of Other Languages (ESOL) populations ranged widely across the sites from almost negligible to 40%. These populations were characterized as generally high-poverty and low-literacy, both in English and in the student's native language. While the numbers of students at the schools reflected the demographics of the surrounding counties, this did not always extend to their ethnic representation. Comments to this effect were: "We have fewer black students than blacks in our county but don't know why." The schools, all federally assisted Title I institutions, had a "free and reduced lunch" status. Students from the rural schools were living in circumstances that swung widely from comfortable to homeless: "We have kids living on their own, often with cousins, and with their families but with other families renting the same apartment."

Changing demographics and migratory populations were reported to have posed a significant challenge for all of the schools. The largest urban school in our sample faced a "tremendous demographic shift" reflected in a student population representing 40 countries and over 20 languages: "We have the largest Guatemalan/Mayan population in the U.S. And we've got language facilitators that speak Hmoung, Konjobal, Urdu in addition to Haitian-Creole." Ethnic groups at this school include Muslims, Christians, Jews, Hindus, Azerbaijani, Serbs, and Croats. The migrant Hispanic population was in flux at all of the millennium schools, but at this particular school the Hispanic population has a 40% mobility rate, the highest in the state. Because of its transitory migrant population, one rural county school was actually required to provide a second FTE (Full-Time Equivalency) count to the state.

As these statistics suggest, the NMHS schools all encountered various challenges of student poverty, diversity, and mobility. However, some were better positioned than others for capacity-building. Nonetheless, significant work was carried out across the sites, a development that could inspire onlookers.

Multisite Case Methods

Pilot Study of Prototype School

This New Millennium High School research was launched with a pilot study of one prototype school. This early study provided the groundwork needed for understanding the "millennium" phenomenon at the school level, and for producing tentative results. Through this process, five key areas of leadership were identified and further explored in the multisite case study: improved communications and collaborative support structures; development of a career guidance program as a lighthouse mechanism for change; encouragement of teacher empowerment, investment in research and development, and shared governance; curriculum integration for supporting students' career development; and creating school-community systems of accountability and applied learning.

These areas were turned into open-ended research questions on the interview/survey instrument, accompanied by additional probing questions. For the pilot study that was published, the self-report of the principal was elicited and compared with the school-generated data and the staff's progress reports. The school's changes seemed to bring about improvement in many critical areas, notably its overall profile with regard to racial diversity, student attendance, graduation, and achievement scores.

Overview of Qualitative Multisite Methods

All administrators and staff specialists who were contacted at the 10 NMHS schools agreed to participate. The 100% response rate was unusual for a study dependent on the good graces or interest of persons unknown to the researcher (principal investigator). As a bonus, we were also given access to reformers functioning deep within the organizational tissues of the restructured millennium schools. The typical profile of these individuals was a female staff member or specialist without a leadership title.

The cooperation of the school personnel may have resulted, in each case, from several factors. These include: 1) the researcher's lack of affiliation with the state funding agency and the non-bureaucratic, evaluative quality of this study; 2) the school's awareness of the value of applied/action research in helping informed changes to be made (Jacobs, 1991); 3) the school's desire to gain recognition for its goals and successes; 4) the school's desire to make its criticisms of the millennium program heard by the public and the state; and 5) the school's eagerness to share with other schools and to serve, where appropriate, as a template for change. (A caveat was placed on the role of change agent: Because programs were under development, results were not completely known.)

This follow-up study provided perspective on the millennium effort beyond that underway at one school. Through this expanded investigation, various kinds of leaders emerged, busy behind the scenes. For example, the vital role of the career specialist was revealed, and so the interviewing was adjusted to monitor this individual's contribution. Also, whereas the principal stood out as the catalyst of the pre-millennium and continuing reforms at the pilot school, this was untrue for most of the other schools.

Data collection. Multiple data for each school included not only taped telephone interviews and surveys but also relevant curriculum documents.In all, 15 school leaders were interviewed and 530 school personnel were surveyed, with 6 to 26 surveys completed by key players from each school. The interviewee pool consisted of one school director, six principals, three assistant principals, three career specialists, one

instructor, and a technology coordinator. Most of these individuals filled additional roles at their sites that included research coordinator, department head, teacher mentor, and dean of students. The interviews lasted between 20 and 60 minutes each.

Procedures. The same questions were used on the survey instrument as for the interviews. This way, the responses could be compared, especially since different stakeholder groups were being consulted. The scope of this study therefore extended beyond the principal's self-report to that provided by other school leaders. By involving various stakeholders, we were able to cross-reference statements (from the surveys and interviews) to see if the views that emerged revealed any patterns. As the next section will show, similar themes emerged that suggest a shared view was held by the stakeholders across the 10 sites, except where challenges and circumstances varied and idiosyncratic views were expressed.

The principal investigator and research assistant used established data coding methods in order to analyze the data (Miles & Huberman, 1994). Interview transcripts were read independently and analyzed in order to compare results. Key words and ideas were identified and salient pattern themes developed from the transcripts and surveys. Matrices were designed to display the overall results. Our conversations about the emergent themes were taped and analyzed. Support for claims was established through these systematic approaches to interpreting the data; the instrument itself had been validated by the pilot study.

Thematic Description of Results

As previously indicated, the change initiatives undertaken at the NMHS schools were mostly in gear before the state grant was awarded. Despite challenges, all grant recipients were able to enhance existing or planned programs, and to develop some capacity for continued developments.

The thematic description that follows emerged from the questions on the survey (provided in the form of subheads, such as "benefits of the improvement effort") combined with the patterns from the data. The results suggest benefits of and challenges to the improvement effort in these specific areas: vision guiding the school, work-based programs, role of school leadership, teacher involvement in change, collaborative character and team work, career academy reorganization, professional development and staff morale, student achievement, agendas for further change, ways to assist schools, points of pride, and messages for the state and nation.

Stakeholders' voices are represented in this larger depiction of a grassroots movement that was, paradoxically, spawned by state policy reform. Teachers' views have yet to be heard in the debate on educational reform, as their voices have "often been muted or stifled in the debates about schooling" (Mitchell & Weber, 1999, p. 187).

Benefits of the Improvement Effort

The question of benefits elicited reflection from stakeholders on what it means to be a millennium school. Responses converged, highlighting key areas. For example, the value of being acknowledged for doing something worthwhile and contemporary for one's students, communities, and state was repeatedly mentioned. One individual commented,

"It's nice being considered one of the top and to be associated with a select group in Florida." Words such as "recognition," "prestigious," "honor," and "strategic" were often used in this context.

Additional responses covered a myriad of benefits. Notably, these referred to the opportunity to *collaborate* and "learn from other people—obviously that's part of what it's all about"; to *mentor* by "taking responsibility for sharing the results of our work with as many schools as possible"; to treat the student population as an *investment* in the future: "Most of our students return to our county so we have a vested interest in doing a good job"; to *stand out* from other schools and "model something different"; and, importantly, to *make significant changes* in practice related to program and community development: "This program has given us the opportunity for re-examining practice, heightening integration, and making better connections across programs and with people internally and externally." Several people provided this important and enduring caveat—"Although being designated as a millennium school meant it was neat to be different, this feeling wore off when the state grew disinterested."

Another benefit was that the schools' popularity increased once perceived as relevant to the times: "Students are flooding our school, visiting us with their parents—once admitted, our career teams hook them up with their selected vocational field." In terms of public relations, the teams across the NMHS sites increased their advertisement of programs, presented to community groups, and involved more people from the community on advisory boards. For example, one school's advisory list increased from 43 business partners to over 650 after it was awarded the millennium grant. A smaller school currently has 45 businesses that participate in its program, after having had no such partnership.

Finally, the benefit of being a millennium school had apparently set in motion a more inclusive approach to learning for all student populations: "Regular high school focuses on students who will go to college where many non-college students fall through the cracks." This benefit was simultaneously perceived as an obstacle. Many critiqued how America has a rigid view of education that favors the college graduate: "If you don't go to college you're simply not successful as a human being. And we're fighting that view, which has to come from the faculty."

Obstacles to the Improvement Effort

Not surprising, problems of various types were associated with this millennium effort, a challenging reform initiative. (Two schools reported not having experienced any significant obstacles.) One issue concerned difficulty with soliciting "buy-in" and contributions from senior staff. Most of the schools had perceived their older faculty as counter-productive to the changes: "We have small groups of teachers who've been here forever and don't want to try something new." It was believed that most senior staff did not understand the relevance of career preparation classes or the movement away from strictly teaching academics. At one such school, a leader offered that everyone has a responsibility for enabling senior staff members to "feel safer in the new environment." On a positive note, a few individuals had experienced leadership from the veteran body of teachers: "Seasoned teachers saw some things that needed changing and shared their ideas with the rest of us."

A second problem raised by half of the schools was that the academy model had to be modified due to less-than-idealistic conditions. Most respondents raised the issue of discontinued millennium funding in this context and questioned whether the academies could be sustained. They foresee that definite changes will need to be made to their academy models. However, the strong conviction about the value of this restructuring model seemed to outweigh even these concerns: "Our academy model needs to be kept alive, even if what we end up with is a shadow of its former self."

A problem of significant proportion centered on financial support: "My biggest plea is that there be monies out there for continuing the good work already undertaken." The reports from this small rural school indicate that it is "just scraping by." A consensus was that vocational programs are very expensive to develop because they "require separate career support and equipment." To complicate matters, the software, tools, and materials used by the schools were apparently not packaged in a "teacher-friendly" way. It proved wearisome to be engaged in "a constant battle to stay abreast of technology and software, and somehow find the money to update equipment and replace old and malfunctioning computers." In contrast with this picture, two large schools claimed financial stability: "We've been very lucky; so far we've had the money to do what we really want, and now we have as many computers as students here." These schools were, needless to say, anomalies.

Speculation about the issue of how state funding is handled for schools undergoing reform led the majority of leaders to critique the motives of the state: "I think the whole NMHS thing has never been completely 'bought' by the Florida legislature, which is why there's no more money for us." One person ventured that "The word 'millennium' connoted some kind of humanism to the fundamentalist people in the legislature who reacted to that." Another believed that with the NMHS model "you're fighting the idea the public and legislature have that you're going to take a pediatrician and turn him into a plumber." Frustration over this issue of withdrawn funds culminated in the fear that "this millennium program will just blow away like everything else in education because we have a history of non-funded mandates."

Other complaints highlighted the overloading of faculty with teaching and planning responsibilities: "Our teachers have to keep up with the reforms while teaching six classes each semester while challenging each other's perspectives by hammering away during planning times." Also, teachers had to continue satisfying the state's curriculum benchmarks so that students would be prepared for the FCAT (Florida Comprehensive Achievement Test). (Note 3) At the same time, the millennium program expected the teachers to "think outside the box, which has been difficult." Toward this end, the teachers have been "forced to not use lesson plans as one strategy for helping them to look at teaching in new ways."

As a result of probing questions, some of the school leaders identified fear as an element of teacher innovation and change: "All of this [expectation for growth] has been a great consternation to the faculty, very scary actually." As Hargreaves's (1998) ground-breaking work on the sociology of emotions suggests, the risk of teachers' work is probably compounded in reform contexts that are imposed and associated with high-stakes testing. In the case of the millennium program, the teachers' emotions would have been shaped more by a feeling of power than powerlessness because of the self-initiated direction of the changes; however, the accountability climate was intense,

as was the external bureaucratic pressure.

Notably, managerial issues related to the grants had proven cumbersome and frustrating—new mechanisms had to be established. As one leader shared: "We had to create lots of forms and figure out how to record the information and code it." More bluntly put, "The kind of bean counting that I had with this grant was just outrageous. The DOE [Department of Education] didn't know the structure of what they wanted in the [curriculum] report until 6 months into the grant, and then you had to work retroactively to try to piece together the bean they wanted counting." (Note 4) As another example of a management issue, the marketing of the millennium program proved very trying for some of the schools. One shared, "People have an ingrained image of technical education that it's for kids who can't go to college or for those academically challenged." Apparently the mind-set of the guidance counselors and teachers had to change before anything different could be expected of the parents and the public.

Even the notion of leading change was associated with stress because of what seemed implicitly owed to the public: "It takes a tremendous amount of courage and commitment to be out front as a 'cutting edge' institution while being scrutinized." The public's misguided view of the NMHS initiative as a "been there, done that" step backwards was also considered challenging: "We struggle with using new terms to describe new situations to avoid hearing, 'Oh, that was tried in 1952 and it failed.'" A fresh language (e.g., millennium school and career academy) was hence used to foster new understanding.

Vision Guiding the School

Respondents described vision in a pragmatic way. Vision was equated with the mission of the school and collective efforts toward student improvement. Distinctions were thus not made, for the most part, between "vision" and "mission." These concepts were apparently viewed as one and the same within the world of practice. When asked what vision currently guides their reform work, leaders shared their schools' mission statements: These supported educational learning within a safe environment that is responsive to a continually changing, diverse society.

Connected to our purposes, the schools' vision/mission reflected the goals for improvement within the context of the millennium program. For example, the expansion of currently existing programs was highlighted (e.g., "Faculty are committed to creating curriculum that has been negotiated with business constituents and is problem-based with real-world applications"), as well as the academic readiness and technical preparation of students for work and for college (e.g., "Our student is going to graduate with technical knowledge and relevant skills that will let her get a job while she goes to college and at the same time be prepared for college"). These goals meant that the schools aspired to provide the learner with a *solid knowledge base* ("having the foundation students need to be secure and successful"), a *relevant and progressive education* ("preparing students to be on the 'cutting-edge' so they will have more options available," and *lifelong opportunities* ("having all doors open to our students and finances to get them where they want to go").

The mission/vision of these schools encompassed the demands of the broader community and specifically that learner not likely headed for postsecondary education.

A typical comment to this effect was, "We need to give those students options that aren't going to college so they will be vocational completers and be job ready." Indeed, participants hinted at the need for a strong political agenda that redefines the schooling process itself to accommodate a vocationally-oriented focus: "We changed how we educate so that all of our kids, no matter what they plan to do—go on to college, the military, or work, are suited for that purpose." This technical pathway is viewed as integral to, not separate from, a rigorous academic curriculum for all: "We're committed to a Tech-Prep pathway or comprehensive secondary education program of study that models academic achievement and rigorous real-world curriculum."

Work-Based Programs

The millennium schools used the state funding to implement new programs and strengthen existing ones. The focus on the academic-vocational connection, involving curricular development across departments, spawned teaming: "The grant allowed us to integrate academics with technical curriculum and to have teachers working side-by-side along with their students." Other benefits included making improvements in career academies already in place (e.g., "We had the monies to expand the capacity of our engineering and manufacturing academy"), and expanding enrichment opportunities provided to students (e.g., "We offered shadowing and internship experiences through the academies"). With funding available, personnel (e.g., career specialists) were hired in areas of need, faculty were trained in the context of the millennium goals, and expensive equipment was purchased.

The school teams studied relevant information pointing to areas of work in which employees were needed or would be before creating career academies and mustering appropriate expertise. Programs were developed across academies or departments in major occupational areas (e.g., business technology, engineering technology, health sciences, hospitality/tourism, performing arts, criminal justice, and air force). All programs included pertinent business and industry certifications.

Role of School Leadership

As indicated earlier, the catalysts within the schools that sparked the millennium program were typically persons other than the designated school leader. Principals shared, and with apparent pride, how "the initiative for the new millennium grant and model was grassroots, from the faculty up." Another's story of leadership relayed how "a couple of people, my assistant principal and career specialist, asked, 'How about if we apply for the millennium grant, since we're doing all this stuff pretty much anyway? I said, 'What do you need?' They replied, 'Time to be locked up in a room for a few days.' 'Go for it,' I said."

Change agents, defined here as millennium professionals committed to ongoing reform within the context of the school's collective goals, were hard at work behind the scenes. These individuals, mostly women holding fairly modest positions within the school's hierarchy, could otherwise go unnoticed. The person or group that wrote the proposal for the millennium grant at each school became the engine for driving the work aimed at both furthering and sustaining its positive effects. One message?—reformers come in many guises, some without leadership titles, hence unassuming and unsuspected.

The millennium principals were usually liaisons that interfaced with the district school office to provide administrative support and to use power where necessary. These school leaders were not micro-managers. One typical response was, "Our principal assumed an administrative role regarding district rules, regulations, and procedures, but did not get involved in spearheading the work or in the day-to-day workings of the program." Principals were also active to varying degrees during the implementation of the program as enablers. As one typical principal statement was, "I'd been a real leader in changing some of the programs when I came here but excellent people spearheaded and wrote the grant." The school's survey data concurred with this explanation of the different leadership roles assumed by the principal and the other leaders.

In exceptional cases, principals whose roles had gone beyond sponsorship to proactive leadership seemed to find it necessary. All three had essentially responded to challenging or unusual circumstances. In one instance, the principal had set the stage for vision-planning with the faculty, although the staff had, even in this case, discovered the grant opportunity and acted upon it. Context is crucial, and at this high school traditional structures that separated faculty were so entrenched that the principal "decided to be that person who pushes to get the teachers motivated so they can see the 'big picture.'" In another instance, a principal who was newly hired had "brought the millennium vision with him and introduced it to the faculty." Yet a third leader, the founder of a new school, envisioned using the new millennium program to design the institution. In order to accomplish this, this principal worked alone with a guidance counselor. She shared how he preferred to "hire those who could be molded to the philosophical orientation of the millennium school, unlike those who had taught for years and were not open to changing."

Alternatively, the norm that was established for the millennium sites involved leadership "from the trenches" where "teachers were very active in changing and improving our school." The staff was prepared for their leadership roles and aspired to higher professional development standards. Non-faculty leaders described how they had "offered in-service after in-service for teachers and also paid stipends."

Teacher Involvement in Change

With the millennium grant in hand, a staff team representing the curricular spectrum typically headed each school's program. This team was typically composed of an administrative council made up of department heads working specifically with teachers, educating them on the needs of industry and business. But not all of the teachers at the schools assumed ownership for the work or were invested in the importance of the changes: "The teachers did not all understand the concept of the new millennium and what it could do for our school; in fact, a few felt put upon to do extra work." Similarly, but from a career specialist's perspective: "Many teachers are leery of change so I encouraged them to see how the initiatives would benefit the students in the long run." The expectation for teachers to change may have been experienced by some as pressure to conform, as this statement suggests: "We [the career specialist and grant coordinator] recruited and interviewed the academic teachers to make sure they went along with the philosophy of the millennium high school—our vocational teachers were already invested."

The climate in which the millennium program was introduced seemed to vary somewhat from one school to the next. However, few schools revealed having to prod teachers to participate and most stressed that participation was enthusiastic. Thus, the pervasive climate across the sites appears to have been positive. As one principal reported: "I have a very participatory type of administration and everyone is on the leadership team here." Several specialists at another site shared how it was their "job to help guide the teachers who were already encouraged, wanting to participate to prepare their kids for careers." Similarly, at a different school "all staff who were active brought something to the table, either technical expertise or enthusiasm." In some cases staff showed a willingness to commit once the funding had been secured: "Once we got the grant and learned how to spend the money, the department heads and the vocational teachers became much more involved in staff development and inservicing."

Collaborative Character and Team Work

The collaborative work of the teachers and staff included both formal and informal elements, with an emphasis on the latter. Most schools, excepting the small rural ones, functioned "totally as teams, with everyone part of some team." Faculty and staff formed active technology teams, career teams, curriculum integration teams, community advisory teams, and more. An example of curriculum integration teaming was the pairing of academic teachers with vocational teachers. Administrators were teamed with particular academies. All work related to the millennium program was carried out in teams.

Teaming facilitated curriculum integration—departments working effectively intra-departmentally and inter-departmentally. Respondents explained that the individual disciplines became cross-curricular in design through such efforts as small engines teachers and math teachers team teaching, and English teachers creating curricula with vocational teachers. English teachers also partnered with local businesses on curricula aimed at, for example, effective job correspondence and interviewing skills. In the smallest rural school, the entire faculty team planned during shared breaks.

Career Academy Reorganization

The *career academy model* was defined as a "small school within a larger school whereby students and teachers develop identification with each other, which is essential." One practitioner's view of academies referred to "the layout of what we call 'teaching-learning spaces' for permitting us more individualized student attention." Career academies feature the arrangement of each vocational area (e.g., health education) in a designated building/space. Some act as magnets for the school. The overall effort involves collaboration across different program areas and early concentration on identifying the career interests of students. The career academy structure reorganizes school programs to promote relevant and rigorous curriculum using three major elements: small learning communities, a college preparatory curriculum with a career theme, and partnerships with the community. The success of career academies in improving student performance could help curtail Florida's 40% high school dropout rate.

Across the sites this consensus emerged: Regardless of what system of organization was

being used, the career academy model was, for each, a "work-in-progress." Also, the smaller schools had no choice but to develop their own variations on this program. Their arrangements resembled a departmental version of the academy model whereby students, enrolled in a program such as health education, took the required courses and received industry certification; teachers worked across the curriculum to provide integration. In contrast, the larger schools have found the full academy model to be essential for survival: "We're just too large with 3000 students, so we're creating smaller learning communities just to make educational learning manageable—modernizing in the process is a plus." One such school that has managed to create academies has yet to incorporate academics: "We've got academies with courses like carpentry without English and math integrated into them, as that's still on the drawing board."

Finally, the academy model was valued for the opportunity it gave students to make curricular connections and apply essential tenets: "Our kids are seeing the interdependence of all subject areas that combine academics with a career and real-world focus." Whether schools used the "pure" or modified academy framework, it was agreed that this system helped students who had not fared well in basic, conventional programs. On this note, respondents shared: "Our educators reinforce essential course concepts through curricular integration and extension into the community"; and "The academies facilitate the diversity of ways students learn and teachers teach, other than 'chalk and talk'."

Professional Development and Staff Morale

Professional development may have contributed to increased staff morale for the schools, as this powerful statement suggests: "Our school-community partnerships have definitely caused us to rethink, rewrite, open our minds, and change our old paradigms of learning." Isolation experienced by the teachers appears to have been ameliorated through cross-curricular team planning that was nestled within a local advisory council structure. These school-community councils provided realistic assessment and ongoing support: "People representing local businesses meet with us across all program areas on a monthly basis, and discuss concerns that the teachers have in the classroom and with the new curriculum." In addition to improving relationships, this cooperative learning and advising experience has given "the community a 'buy-in' now that they know what goes on at our school."

Another feature of teacher development was the extensive inservice training sponsored by the schools. Principals who were unable to describe in any detail the activities undertaken inadvertently reinforced the role of teacher leadership. Estimates of the number of participating faculty and non-faculty personnel ranged from over 50% to 100%. At least one school's budgetary investment in professional development approximated $100,000 annually. Teachers across the sites were paid a stipend for training in various areas: technology integration, cross-curricular development, the senior capstone project, and standardized test scores. Staff attended many state and national conferences, such as High Schools that Work and National Educational Technology. Teachers also found it useful to visit other prototype locations to learn more about the on-site implementation of well-developed academies.

These various modes of work apparently proved motivating. They were, for example, thought to increase teaching effectiveness through such means as access to technology.

New inclusiveness in decision making also appears to have contributed to the morale and empowerment of the staff across the schools, despite frustrations (reported earlier). Administrators shared, "Teachers now have choices, such as in the areas in which they want to team and how, and we don't tell them what to do—they figure it out." Importantly, faculty were heard to concur: "This millennium opportunity has been a big boost for us," and "There's empowerment for us in the ways that the teams work and how we want them to work."

In summary, respondents stated that teacher morale had increased via these three avenues: increased professional development opportunities, intensified relations with the community, and improved methods for enhancing student learning. This last is exemplified in the following: "Many teachers now have computers—the money has had direct impact on making life better for their students."

Student Achievement

When queried about evidence for claims that the millennium program had been responsible for increased gains in student achievement, no direct correlation was provided. However, factors identified as having made a significant difference for one school applied to the others. New and improved conditions, such as smaller class sizes and learning communities as well as applied work-based learning, were believed to have contributed to higher test scores. Typical comments were: "We came up on SAT's [Sanford Achievement Test, Ninth Edition/SAT-9)] last year [2000] 14% over the year before. The fact that we almost doubled the number of students taking them and still went up was a clear indication that the millennium program yielded major results for us." Another similarly echoed: "Given our large ES0L population, the fact that we came up at all in our scores is amazing." Someone else announced, "Our standardized test scores in the last 2 years have gone up and are among the highest scores in the county."

Through the pilot study that was conducted for this broader investigation, the school's test scores were carefully tracked in the context of the millennium program. In all areas of testing and overall success (graduation rate, college readiness rate, employment statistics) the school had shown a noticeable increase; scores on standardized tests for 2000–2001 had even risen above the state and national scores (Mullen, in press). However, as another millennium school pointed out, "It's hard to say how much of our improvement is based on the changes we've made [predictor variables] or on other things, such as the different groups of kids that come through every year [intervening variables]." Because all of the schools dealt with predictor variables (the millennium program and planned changes) and intervening variables (forces not anticipated or controlled, such as changing demographics), no direct correlation can be made. Although a corresponding link between the millennium reform and student learning cannot be assumed from these changes, the trend in this direction certainly seems promising.

Indicators of student success include the *teacher-student relationship* and its personal quality: "This program has really brought the whole school into a one-to-one relationship with each student; this process changes attitudes because you begin to see each other on a human level." Apparently students and teachers alike appreciated the new opportunity for closeness that the academies provided. Supporting this picture, the guidance department, functioning as a career team, was uniformly perceived as having become an

invaluable support to teachers, students, and parents.

Advisory boards, in their partnership with the schools, were positively assessed. They were believed to have supported student achievement in at least four ways: 1) providing input on instructional development, 2) sponsoring on-site internships, 3) assessing student progress, and 4) providing industry and local certification for work-based programs. As a major effect of this support, students were generally kept on track by the career teams whose work was synergistically enabled through the advisory boards.

Also, the establishment of career centers had assisted student achievement across the sites. The centers considered state-of-the art flourished: "We've got a career center with 21 new computers hooked up to the Internet—it's used a lot." Students were expected to use technology in their presentations and connect their learning to their career goals. For some schools, though, the logistics of using insufficient and outdated software was evident: "Imagine trying to prepare kids to enter the business world when you have a business lab that runs on Windows 3.1—we had to build the connections outside our doors."

Finally, deeper and more lasting effects underscored changes in the *value of learning* through practical application and real-life experience. The curriculum seemed to shift from being a state-imposed albatross to a source of internal engagement: "The millennium model made the curriculum come alive for the kids who could finally see the relevance of what they're learning to the real world."

Agendas for Further Change

Major agendas for further improvement emphasized areas needing attention and support. For example, all millennium representatives aspire to enhance their relationships with the business/industry community. They aim to increase opportunities for industry certification and alignment of the curriculum with the real world. Specifics along these lines included "adding more business partners," "increasing our exposure in the community by significantly enhancing our work-based learning environment," and "eliciting more buy-in from our school-community for distance learning and career initiatives." A few mentioned the need to improve the senior capstone project by working more closely with the community.

A school-based area targeted for further change was the somewhat murky notion of cross-curricular integration. School leaders called for clarification from the state regarding the expected dynamics of this kind of work. Specifically, they emphasized needing "more academic and technical development and integration to enhance the relevance of learning"; "an increased overlap of our vocational areas with academics," and "a deepening of the meaning of 'integrated curriculum.'"

Interestingly, several respondents identified the need for greater ownership over the practice of leadership at the school level: "Create an atmosphere that is called leadership—it's important to recognize that you can be a custodian and provide leadership for those people you work with." As an example of taking ownership, many articulated plans for obtaining funding to continue the work accomplished: "Our main focus is on hunting down more grants to make sure we have money for a guidance counselor and career specialist"; and, in summary, "Funding is our top concern—to

enhance and continue programs."

Ways to Assist the Schools

More guidance from the state was requested for carrying out the new millennium work. All agreed that this meant a focus was needed on "stronger DOE [Department of Education] support, less equivocation, and a concrete plan that doesn't vacillate according to political administration." Others called for assistance with the millennium goal of connecting with the real world of business and industry. The state was strongly advised to increase its effectiveness vis-à-vis the millennium program by developing "a better reporting system," "a streamlined bureaucracy," and "a clearer idea of expectations." Someone summed up these critical sentiments: "You've got a system here in Florida of encumbrances."

Participants thought that the Department of Education probably needed support from the state: "When the DOE does these programs Florida needs to acknowledge them." A strong message sent to the state recommended commitment to initiatives beyond the short term: "If you want teachers to stand behind innovation, then it has to be known that these are programs everyone is going to stand behind—they shouldn't just disappear." Scott and colleagues (2001) link this concern to a larger pattern of erratic school funding that contributes to teacher discontent and even erosion of the education profession.

The respondents asked for more time to work toward the expectations for outstanding performance. Areas specified to this effect were professional development, instructional preparation, curriculum integration structures, and shared workloads. The need for training in integrative instructional delivery strategies was underscored. Teachers also desire time to "visit other schools to find solutions to similar problems." In fact, some argued that "a comprehensive plan for professional development" could only continue with monetary support. Smaller classes were also supported for enhancing student learning.

Points of Pride

School accomplishments were generally expressed as points of pride. Student success received praise in such areas as the senior capstone project, the mock interview process, and especially accountability assumed for one's education: "Our students now feel they own their future and are responsible for it."

Program highlights were also mentioned as noteworthy. These include the infusion of career development from grade 9 to 12, the use of business/industry certifications, the high quality of vocational programs, the establishment of Bright Future Scholarships and others, opportunities for distance learning, articulation of credits with community colleges, responsiveness of business partners to sponsoring internships, active student-run school facilities (e.g., restaurants and banks), bustling career/technology laboratories and centers, popular health careers programs, increased standardized test scores, and the employment success of graduates. These features all evidently resulted from the integration of "real life experiences in the curriculum" combined with the increased motivation of students to learn.

Even the millennium vision/misson itself constituted a source of pride: "We provide a

learning environment with a practical yet visionary focus on integrating technology and education."

Messages for the State and Nation

Most notably, the schools called for improved efforts from the state in the areas of communication, recognition, support, and especially funding. In the absence of continued funding, schools are forced into creative solutions such as downsizing and reorganizing their academies.

This optimistic message was sent to high schools interested in adopting the career academy approach to student learning: "If we could do it, any school can." Other schools were advised to designate individuals as career specialists and program implementers, without teaching responsibilities. One individual encouraged that change can proceed more modestly: "Just work with what you have—we did not overhaul the whole school." However, the millennium schools generally warned that the effort is very demanding: "It's tough trying to be all things to all people, something comprehensive models expect."

A consensus emerged that the millennium model only makes good sense because it prepares students for the next level of their lives toward the "ultimate goals of being self-supportive and better prepared as citizens in the world." These programs were reported to be successful learning communities that provide a safe place for learning. Enthusiasm was clearly voiced: "The millennium school is a great place to send your kids to school."

The schools want the public to hear about the millennium concept and to learn firsthand what it can look like in practice. Even the most "challenged" school had this to say: "We may only be a small rural impoverished county with zero growth, but we've been able to do great things at our school—come visit us and see for yourself."

Reflections

This article responds to the call of Lieberman, Saxl, and Miles (2000) to describe how schools actually create structures for improvement: "There are few precedents, few models, and no guidelines" (p. 348). With this goal in mind, this study of Florida's site-based improvement model builds upon stakeholders' models of practice. Our results combined with the literature suggest that schools operating as NMHS prototypes can significantly and holistically improve (Mullen, in press; Brawer, 1998). Research indicates that students excel when schools offer a dual curriculum focused on postsecondary education and the career or workforce (e.g., Berryman & Bailey, 1992; Blank, 1997, 1999).

As has been described, the new millennium model attempts to make headway with internal and external development as well as accountability to constituents. A premium is being placed on educational institutions that can act as a catalyst for the nation's schools in developing a comprehensive, integrated system that closes the pervasive gap between academics and work. Generally, schools can probably benefit from exposure to such prototypes that show how leadership structures and program development can be redirected to focus on relevance and rigor.

Schools can also improve by decentralizing and hence increasing their capacity for site-based management through school-community control (Mullen, in press; Leithwood, 2001). The NMHS movement, while dependent upon local, grassroots involvement for its success, is not to be viewed as separate in its mission or operations from the state: The state's role in endorsing the millennium vision as well as related reforms (e.g., High Schools That Work) was paramount. Local and state leadership can serve to enhance and reinforce one another. Fullan's (1999) change model idealistically demonstrates in the context of school reform policy that top-down (state-to-school) and bottom-up (school-to-state) leadership can provide the necessary momentum for change toward coherence and cohesion.

Applying Fullan's model to this study makes one wonder wherein the balance of power lies between schools and the state. For those millennium schools that struggle as impoverished rural sites, their very real dependence on the state for financial support will determine their outcomes and successes over time. The reality for the NMHS prototypes as a whole is that their financial dependence upon the state is combined with the need for endorsement and approved guidelines for reform. Reform cannot occur in a vacuum without accountability to the state and public.

These funded schools could be viewed as a "legislated" or oxymoronic grassroots movement that is, in many ways, similar to other public institutions. Take the accountability of test preparation and scores, for example. The continuing responsibility for high performance on standardized tests for these over-loaded schools has heightened the tension between the decentralizing effort of the school-communities and the centralizing effort of the state. As has been increasingly shown, high-stakes testing weakens the position of schools and communities to control their own learning process (Caputo-Pearl, 2001; Waite, Boone, & McGhee, 2001). To what extent, then, even the millennium model can enable a grassroots base of power to endure remains to be seen.

Schools that are centralized or aligned with governmental mandates probably overly state the leadership role of the building principal. But the authority and even activism of teachers in concert with other stakeholders can shift this paradigm and even re-make it (Glickman, 1998). To varying degrees, the original millennium schools represent shared governance models, even in those exceptional cases where principals "kick-started" the initiatives and where not all teachers participated. The professional capacity of the staff—recognized by Sergiovanni (2000) as a critical ingredient in any leadership endeavor or school innovation program—appears to have increased through the millennium initiative.

Not to be overlooked, criticisms of the NMHS model from those who had experienced its daily ramifications were varied and at times stark. Notably, one undeniable issue concerned conformity—having to mold to the philosophy of the New Millennium High School. Those cast as non-cooperative may have been resistant, not simply disinterested—a recognized but untapped dimension of this research. As Goodlad (1984) and Mitchell and Weber (1999) have pointed out, teachers can subvert or deflect change when policies of curricula are viewed as imposed and even harmful, or not beneficial to student learning.

Policy Implications for Continued Success

The Florida Senate Bill (2001) would have promoted the cause of vocational-technical education at the high school level, but it failed to become legislation in 2001. We speculate that the policy, which would have legislated whole-school reform for all high schools in Florida, was probably considered overly ambitious and risky. The state legislature will need to provide dollars to fully implement any such policy. Schools that are "kick-started" in the direction of reform tend to be abandoned, as in the case of the millennium schools.

The question of sustainability for transforming schools is a national issue (Mullen & Graves, 2000). The literature forecasts that STW initiatives may erode or even disappear without federal funds (Hettinger, 1998). The investment of both capital and people is critical. It is expensive to fund the goals of millennium schools. Some of them have been forced to improvise to such an extent that their reforms may become tarnished. The irony is that schools expecting to build self-sustaining systems need continuing support as they work toward this goal because of the protracted nature of effort involved. Despite the successes of any school, improvements must be perpetuated and refined if they are to have impact over the long haul (Mullen & Graves, 2000).

The gap between the good intentions of policy and the reality of implementation at the school level is illustrated in another case study. This shows how a school's reliance on resources could lead to an "inevitable social construction of social failure" (Schuttloffel, 2000, p. 10). The assumption that schools that have been successfully initiated into change through temporary funding can somehow sustain changes on their own is probably short-sighted in most cases.

Although it must be taken into account that reformed schools can be quite resilient, the small rural millennium prototypes in particular will probably experience great loss and compromise. As Schuttloffel (2000) aptly sums up, school reform legislation must consider the situation of distressed schools if comprehensive reform is to develop along the lines envisioned—otherwise the nation could end up being littered with a series of quasi-modified sites at best. Support is needed for continuous adaptation within our schools; even automobile industries like Honda of America are ahead of schools in these respects (Weiss & Cambone, 2000). Sustained staff planning, shared decision-making, and professional development will require a system of supports beyond those available even within the millennium sites.

Possible recommendations from another study of site-based school reform (Weiss & Cambone, 2000) are relevant here: Ongoing stipends could be paid for teachers' extra work hours, continuing professional development, and time spent planning the (integrated) curriculum; also, school districts and legislators will have a key role to play in supporting the (millennium) reform program over time. Teachers in the NMHS schools currently see that support has faded, perhaps when it is most needed. Although they can write grants to continue the work, there are many dimensions beyond the financial—structural, informational, and developmental—that need support in order to allow visions to take root.

Finally, this improvement model has implications for change on a broader scale. High schools can modernize and adolescents can thrive where a dual purpose of schooling exists. The people we heard from seem to want the opportunity to both lead and serve in this respect. And they appear to have gained this opportunity through the millennium

model, at least in part. In today's world it might be that site-based reforms within the public secondary school system will need to be paradoxically "married" to the state beyond their infancy.

Notes

1. High Schools That Work, Texas Education Agency, http://tea.state.tx.us.

2. These "lighthouse" schools, as we refer to them, had been at the forefront of noteworthy Florida initiatives such as Tech Prep, High Schools That Work, and Blueprint for Career Preparation when they were funded. The NMHS schools were viewed as committed to developing their capacity to manage and sustain change (Brawer, 1998). Funding for the schools ranged from $100,000 to $200,000 the first year, with a second disbursement of $50,000. The NMHS sites were charged with becoming prototype systems with a relevant, work-based curriculum that integrated career guidance and sponsored strong business partnerships. The millennium theme was created from one of Florida's goals for reform and accountability of a high-quality school system (http://www.firn.edu/doe).

3. The FCAT is based on the Sunshine State Standards.

4. One respondent referred to a report that was developed by the millennium schools for the state during the first year of funding. The schools involved in this study shared their new curriculum guides (described holistically herein) but no such reports were provided.

Acknowledgements

This research was supported by a Research and Creative Scholarship Grant sponsored by the University of South Florida, a source that is independent of Florida's NMHS grant sponsorship. The Institutional Review Board at the Principal Investigator's university approved this study. The author thanks the NMHS participants for their generous sharing of insights and time. She especially extends her gratitude to Carol Burg, a talented doctoral student at USF who was the paid research assistant on this project; she facilitated the school contacts and collected the interview data.

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