

The Contribution of Teacher Networks to Systemic Reform

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Large urban school districts undertaking sweeping reforms need hundreds of skilled and committed leaders to spearhead and implement changes in policy and practice. Our research in Philadelphia has convinced us that teacher and school improvement networks--voluntary associations meeting over many years--have played an important role in the emerging success of efforts by the city's public school district to raise academic outcomes for its 216,000 students. Networks, it now appears, provide more than stimulating collegial activities for a handful of energized teachers: they provide the leaders needed to make large-scale reform happen.¹

Based either on academic subject areas or on school improvement more generally, the networks have been created and nurtured over the last fifteen years by national private foundations and the federal government. More recently, state governments have supported networks to build capacity for change or to carry out a state reform policy.

Participants in networks come together to pursue reform efforts within public schools but outside of a district's direct control. They embrace principles that are widely regarded as hallmarks of effective professional development: inquiry and reflection on content and pedagogy over a sustained period of time; explicit attention to leadership development; involvement in non-hierarchical collegial professional communities in the school and district; connections to national reform movements; and collaboration with local cultural and community institutions. Research findings on the effectiveness of networks consistently conclude that their mix of personal and occupational support spurs participants' professional growth, deepens their content knowledge, and fosters change in instructional practice.

Networks, however, have been vulnerable to the criticism that while they renew individual teachers, they have very little to do with change at the school level let alone at a district level. Indeed, some writers have noted that network members can be perceived as elitist when they return to their school settings after intensive summer work, and that network activities can even divert teachers' energies away from school-based reform efforts. In our view, however, evidence from Philadelphia shows that network teachers exert leadership at all levels of practice--in the classroom, school, feeder clusters of schools, and the district's central office.

Philadelphia's Externally-funded Networks

Philadelphia's teachers and administrators have been involved in a rich set of such networks since the early and mid-1980s. The abundance and longevity of the teacher networks have provided the School District of Philadelphia with a long-term professional development infrastructure available for mobilization in educational reform efforts. For the most part, these initiatives were conceived

and funded by national foundations and managed or supported by a cadre of local non-profit partner institutions: the Philadelphia Education Fund and its predecessor organizations, (PATHS/PRISM and the Philadelphia Schools Collaborative); universities, particularly the University of Pennsylvania and Temple University; and museums, especially the Franklin Institute.

Philadelphia's networks operating in the last decade include:

- **The Philadelphia Writing Project (PhilWP)**, one of 160 sites of the National Writing Project, supported by funds from the U.S. Department of Education and the Philadelphia Education Fund;²
- **Project 2061** created and funded by the American Association for the Advancement of Science (AAAS) for the purpose of creating national benchmarks in science;
- The **Interactive Mathematics Program (IMP)**, a nationally-promoted secondary school integrated mathematics curriculum and pedagogy initiative, funded by the National Science Foundation and based at LaSalle University;
- The **K-12 Math/Science Leadership Congress**, originally one of the 16 Ford Foundation-funded Urban Mathematics Collaboratives, now funded by the Philadelphia Education Fund;
- **Science Resource Leaders (SRL)**, a National Science Foundation-funded professional development effort for middle grades science teachers, co-administered by the School District of Philadelphia and the Philadelphia Education Fund;
- **Math Resource Leaders (MRL)**, similar in function to Science Resource Leaders but including both elementary and middle schools, funded by federal Eisenhower grants and administered through the School District of Philadelphia;
- **Library Power**, a 19 site national initiative that uses school libraries to catalyze schoolwide curricular change, originally funded by the DeWitt Wallace-Reader's Digest Fund and School District of Philadelphia, and managed by the Philadelphia Education Fund (and other local education funds in the other 18 sites);
- **Seeking Educational Equity and Diversity (SEED)**, a national project focused on making school curricula gender-fair and multicultural, based at the Center for Research on Women at Wellesley College and funded in Philadelphia by the School District and The Philadelphia Education Fund;
- Groups and schools associated with the **Coalition of Essential Schools (CES)**, a national effort to transform schools around Ten Common Principles formulated by Ted Sizer and promoted by the Annenberg Institute for School Reform at Brown University; currently funded through school budgets in the District and The Philadelphia Education Fund;
- **The World History Project**, one of the original Collaboratives for Humanities and Arts Teaching (CHART) sites nationally, funded by the Rockefeller Foundation, and its spinoff, the federally-funded **Women in World History Project**, both curriculum-writing efforts managed by the Philadelphia Education Fund;

- **American history projects** (e.g. Exploring the City; the Making of the Constitution) conducted between 1985 and 1990 at the Philadelphia Education Fund with grants from the National Endowment for the Humanities, the Rockefeller Foundation, The Pew Charitable Trusts, and a consortium of other funders;
- **Foxfire**, a national movement to make classrooms more student-centered with interdisciplinary curricula connected to the real world; funded in Philadelphia by the Philadelphia Education Fund;
- The **Pennsylvania Geographic Alliance/Philadelphia Region**, a geography education and training program for teachers funded through the state of Pennsylvania, the National Geographic Society Education Foundation, and Indiana University of Pennsylvania.
- **Arts networks**, including the Philadelphia Arts in Education Partnership, a new network based at University of the Arts linking arts organizations in Philadelphia, and supported by the Philadelphia Education Fund,

The Internal Networks

Besides the externally-funded networks, the School District cultivated teacher leadership internally over the years through a Title I-funded network of master teachers (Instructional Interventionists, Instructional Support Teachers, Program Support Teachers) in regional offices and in middle and elementary schools. This network, numbering about 200 in its heyday in 1993-94, met regularly after its formation in 1988. Its members had developed a strong sense of themselves as agents in a broad movement for change in instruction and schoolwide reform. The network was dissolved with the formation of new structures in 1995, but its members formed a significant talent pool available for leadership work.

The Reform Context since 1994

The District itself, the nation's fifth largest, has been engaged in a sweeping systemic reform effort, *Children Achieving*, since the arrival of Superintendent David W. Hornbeck in 1994. The School District has created internal networks as key delivery vehicles of *Children Achieving*. Overall, the goal of the reform is to raise student achievement through a ten point plan that includes new academic standards and assessments, a system of professional responsibility and accountability at the school level, intensive professional development, a decentralized governance structure that includes School Councils, and greater community engagement. Students' standardized test scores have risen over the period of the reform.³

The system has been decentralized into 22 clusters, each with a comprehensive high school and its feeder middle and elementary schools. The cluster's instructional supports include 1) the Teaching and Learning Network (TLN), consisting of a TLN Coordinator and Facilitators (2-17 teachers per cluster) to oversee professional development activities; and 2) an Equity Coordinator (usually a former teacher) to oversee implementation of categorical programs such as English as a Second Language, Special Education, and Title I. At the school levels, Urban Systemic Initiative (USI) Teacher Leaders in math, science, and technology have been appointed. This USI network has absorbed Math Resource Leaders and, to a lesser extent, Science Resource Leaders.

At the outset of *Children Achieving*, the District needed to staff these new networks plus recruit several hundred teachers to serve on teams that wrote and reviewed new academic standards for the system. This work took place over the 1995-96 and 1996-97 school years. In addition, the District

required that schools create “small learning communities” (SLCs, or schools-within-schools) in order to have more personalized teaching environments, and called on the leadership skills of hundreds of teachers across the District’s 259 schools who were asked to serve as SLC coordinators within their schools, or to play crucial planning roles in that effort.⁴ Teachers were also asked to serve on newly-formed School Councils and to participate in intensive rounds of annual school improvement planning.

Using Teacher Networks

An effort as ambitious as *Children Achieving* clearly required the active participation of an expanded leadership cadre of the District’s teaching force. Our research shows that network participants populated that cadre way out of proportion to their numbers in the District. This happened even though the externally-funded networks, with the exception of those in mathematics and science, were not formally included in the professional development structures and planning groups set up by the District. Teachers’ involvement in networks appears to have made them more likely to assume activist roles *as individuals* in a whole array of activities and structures spawned by the systemic reform effort. Further, the networks *as organizations* reoriented their work to be congruent with the aims of the District’s systemic reform, and many expanded their professional development offerings to meet stepped-up demands for training from schools and clusters.

Involvement as Individuals

Standards Writing and Review Teams

Five hundred teachers, administrators, parents, and community members were members either of teams that wrote the new academic standards for the District in eight subject areas and in six cross-cutting competencies or teams that reviewed the standards. The standards effort was a critical component not only of *Children Achieving* but of the push for higher student achievement across the country.

Teachers who had experience in teacher networks were disproportionately represented on the District’s Standards Writing or Review Teams. About 12-14 percent of the District’s teachers have been involved in teacher networks yet 43 percent of the teacher/administrator participants on these teams and 81 percent of the Writing Team Facilitators (22 out of 27) were from the networks.⁵ (Table 1) In the case of the Writing Project, its members composed 16 percent of the 380 teachers and administrators on the Standards Writing and Review teams even though they made up less than 3 percent of the District’s teaching force.

Table 1
Representation of Teacher Network Members in
Children Achieving **Networks and Standards Work***

Standards Writing and Review Teams	43%
Teaching and Learning Network Coordinators	45%
Teaching and Learning Network Facilitators	50%
Cluster Equity Coordinators	23%

*externally-funded teacher networks

Cluster-Based Networks

Members from a wide spectrum of networks contributed heavily to the makeup of the District's new cluster-based leadership. Two of the original Cluster Leaders themselves had been active in networks; one from the Writing Project, another from the World History Project. Ten of the newly-appointed 22 TLN Coordinators came from the networks (45 percent). Forty-seven of the 93 TLN Facilitators (50 percent) were network participants. Five of the Equity Coordinators were members of the Writing Project (23 percent). In addition, significant percentages of the TLN Coordinators (32 percent), TLN Facilitators (32 percent) and Equity Coordinators (36 percent) were drawn from the District's previously-existing internal network of Instructional Interventionists, Instructional Support Teachers, and Program Support Teachers. (Table 2)

Table 2
Representation of Members of Pre-existing Internal
Teacher Instructional Networks in *Children Achieving* Networks

Teaching and Learning Network Coordinators	32%
Teaching and Learning Network Facilitators	32%
Equity Coordinators Network	36%

Members of these new District networks have been actively disseminating the ideas and practices of the "old" networks. One TLN Coordinator, for example, explained how she immediately looked up network members in her cluster and brainstormed professional development ideas with them, leading to series of seminars and an arts program facilitated by leaders from two of the "old" networks. She also recruited new members to an established network, an important move since this cluster had so few who were involved. And she was able to infuse her teacher-to-teacher learning philosophy into the work of her cluster's TLN. In such ways, ideas from the pre-existing networks move into schools around the District.

District-Wide Curriculum and Professional Development Leadership Positions

The impact of networks could be seen as well in the leadership of curriculum areas within the District's central office. The Director of Curriculum Support, who coordinated the standards writing and review effort, had been an active member of the World History Project as was the Curriculum Coordinator in Social Studies. The Curriculum Specialist in African American Studies was an adviser to the Women in World History Project, and the Multicultural Curriculum Specialist has been active in SEED.

The leaders of the Urban Systemic Initiative in the central office along with the District's Director of Learning Technical Support (technology) are long-time members of Project 2061, one of the most cohesive and durable networks in the District. Indeed, Project 2061 created a talent pool for the School District. Its original 25 participants have become principals, assistant principals, department heads, Teaching and Learning Network members, and curriculum directors in Central Office. Math Resource Leaders occupy the positions of Teachers on Special Assignment to the federally-funded Talent Development Middle School effort, the District's Assessment Office, and the USI central office. The Collaborating Teachers (in effect, curriculum coordinators) in English Language Arts, Early Childhood Education Assessment, and Music are members of the Writing Project. The person serving in the School Library and Information Services support position was formerly a librarian in a Library Power school and now leads the district-wide Library Power activities.

Network members played leadership roles in organizing summer professional development

institutes for the District. All of the eight organizers of the 1997 well-received district-wide institutes for 1200 teachers in mathematics, science, and English/Language Arts, for example, were from one of the networks. The subject-area planning committee members drew heavily from the networks as well. Seven of the nine members of the English/Language Arts Planning Committee were Writing Project members. All of the 15 members of the planning committee for mathematics were from the networks, especially Math Resource Leaders. Many of these teachers and administrators were members of multiple networks. In science, five of the seven planning committee members were from Project 2061.

School Leadership Roles

Our research did not examine network members' leadership positions in their schools but anecdotal evidence leads us to believe that they were active in the formation of small learning communities (some of them as Coordinators), in leading school planning, and in serving on school Governance Councils. Indeed, several of those interviewed from the K-12 Math/Science Congress believed that the Congress itself had been weakened because so many of its members were devoting time to the change efforts in their schools associated with the implementation of *Children Achieving*. More than 90 percent of the Math Resource Leaders now hold the position of USI Teacher Leaders in their elementary and middle schools, and many of the former members of Science Resource Leaders hold that position in middle schools. People in these networks brought expertise in the use of calculators and computers, manipulatives and other "hands on" materials, cooperative learning methods, parental involvement strategies, integrated curriculum, portfolio assessment, and a familiarity with national standards in their subject areas.

Involvement as Organizations

Although networks are not found on the District's organization and planning charts, those that have remained viable over the years as well as the newly-formed networks have contributed as organizations in one way or another to the implementation of *Children Achieving*.

The Math/Science Networks: The system's professional development and curricular initiatives in these subject areas have been subsumed under the Urban Systemic Initiative (USI), a five-year grant (1995-2000) awarded to the District by the National Science Foundation. The District keeps track of math/science network members on a database explicitly created to keep them included in the evolving initiative.

As the math/science arm of *Children Achieving*, USI has drawn on the leaders of previous math and science initiatives (most of them also funded through NSF) and on the pedagogy and curriculum models encouraged by those efforts. The IMP curriculum, for example, is one of the two secondary school mathematics curricula currently being promoted through USI and has now been adopted by teams of teachers in 17 schools. Its materials and training methods have resulted in gains in student achievement in local and national sites. IMP faculty teamed with members of the Writing Project and the Coalition of Essential Schools "Philadelphia Faculty" in a summer laboratory school for 750 rising ninth graders entering eight high schools in 1995. A core of IMP teachers have gone on to occupy key administrative positions within the District.

Project 2061 has played an important role in the reform of science education in the District since its formation in 1989. Funded by the American Association for the Advancement of Science, and based in its early years at Drexel University and the Philadelphia Education Fund, Project 2061 sponsored the most intensive and sustained training and involvement for its participants (25 in the original cohort, now grown to 40) of any of Philadelphia's teacher networks.⁶ Because its members had spent years developing curricular benchmarks and designing workshops for

teachers, they were able to provide expert in-house assistance when Philadelphia took up its own standards-writing effort in 1995. Further, under the direction of AAAS, the network has continued its work beyond benchmark/standards creation and has worked at the Central Office and cluster levels on analysis of curricular resources (texts, materials, software) that meet the requirements of the science benchmarks.

Project 2061 members were early reviewers of a national standardized test now used by the District (the Stanford Nine). The network has assisted with new teacher induction in secondary science. Overall, the 2061 teachers brought important perspectives and expertise to the District's efforts: knowledge that standards creation can be frustrating and takes time; experience in articulating work across all grade levels; skill in analyzing textbooks and materials to see if they are standards-driven; experience with constructivist teaching methods; and a commitment to addressing diversity.

The K-12 Math/Science Leadership Congress, an organization open only to those teachers who have participated in other math/science networks, has been running an annual one-week summer institute for 50 of its members focused on issues of academic standards, pedagogy, leadership development, and technology. It also publishes an annual magazine showcasing teachers' innovations in mathematics, science, and technology, and holds quarterly networking meetings during the school year. Although totally self-governing and independent of the District and the USI, the Congress has worked to align its activities with the goals of *Children Achieving*, and its leaders have played important roles in designing and leading components of District and USI-funded professional development.

The Philadelphia Writing Project: The work of the Writing Project has expanded significantly at the district, cluster, and school levels in response to the professional development demands of *Children Achieving*. It provides intensive seminar series on a range of topics to schools and clusters across the District, responding to schools enhanced freedom to hire their own professional development vendors. The Writing Project was a formal partner in a consortium of groups responsible for kicking off the reform effort in two-week summer sessions in 1995 for teams of staff and parents from every school in the six pilot feeder clusters. It is also one of four partner groups (along with the Philadelphia Education Fund, the Franklin Institute, and Beaver College) offering courses and customized professional development for schools in two clusters as part of a national multi-site initiative professional development initiative.⁷

The Writing Project also runs school-year study groups for its members on academic standards, on the use of the internet, and on the development of leadership and facilitation skills. The Writing Project also offers its two three-week annual summer institutes in Reading, Writing, and Literacy, one for teachers wanting to join its network (dubbed "Teacher Consultants" after completion of the introductory summer institute) and a second for veteran teacher consultants. Members can meet during the year in informal Literature Circles, Writing Retreats, seminars, and follow-up meetings for new Teacher Consultants.

Coalition of Essential Schools (CES): The activities of the Coalition have been ongoing in one form or another since 1990. The Philadelphia Education Fund nurtured CES work through its early years, and now supports CES' efforts through its independent center. Administrators and teachers who have been immersed in the Coalition's perspective have found Coalition principles and practices useful in fashioning school and cluster responses to the requirements of *Children Achieving*.

Although never a highly visible network in the District, the Coalition's influence is quietly at work in two ways. First, components of Coalition methods have been adopted in some schools,

particularly Critical Friends Groups (CFGs--groups of 6-12 teachers or administrators) that meet regularly to discuss common issues in an open and supportive way. Thirteen such groups are in operation. Second, whole school change work continues: six schools are members of the Coalition and others are in the planning or "exploring" stage. The administrative leadership and principals of the schools in an entire cluster use Coalition principles to give direction and coherence to their work. Several schools have joined in the ATLAS model of the New American Schools effort, components of which are drawn from the Coalition's work.

Library Power: A network of 30 librarians trained since 1994 in student-centered and standards-driven curriculum and pedagogy, continue to push for the efficient use of school resources and faculty collaboration as routes to higher student achievement. The District has begun disseminating the Library Power approach (curriculum mapping by the school staff, collaboration with teachers, flexible use of the library, collection development that dovetails with the enacted curriculum, independent checkout of books by students, and an enhanced collection) to non-Library Power schools. An organized network, based at the Philadelphia Education Fund with ties to Drexel University, is continuing professional development activities for new recruits and veteran members.

SEED.: All of the District's Equity Coordinators and some of the Teaching and Learning Network Coordinators have received intensive SEED training to enable them to lead teacher and parent reading groups that deal with equity in school curricula with regard to gender, race, and social class. SEED seminars, focused also on looking at students' work with an eye to academic standards, are being run in two clusters for teachers and are being explored by staff in other clusters. Central Office administrators, some of whom have participated in the training, regard the SEED approach as a useful vehicle for integrating the District's new Multicultural Cross Cutting Competency standards into teaching practices and curricular resources.

Variations in Networks' Roles in the Reform

The contributions of the networks to the District's systemic reform effort have played out in different ways. While individual network members have led a variety of the reform's activities, the externally-funded groups were not openly embraced or officially recognized by the District's central office as organizational partners in formal planning for professional development. As the reform unfolded at the cluster and school levels of the District, however, the networks were tapped in more formal ways as organizations.

The Philadelphia Education Fund, a non-profit school reform group, was formally linked to the networks either as local network developers (Project 2061, IMP, Library Power, various history and arts projects), as funders (the Math/Science Congress, PhilWP, SEED) and/or fiscal agents (Coalition of Essential Schools) or as equal partners in initiatives (e.g. with PhilWP in Students at the Center; with the District in Science Resource Leaders). Overall, the Fund's role has been critical in the formal development and maintenance of the networks, and it has drawn on the networks in a number of its initiatives.⁸ Other local education funds across the country, notably those based in Cleveland, Los Angeles, and Chattanooga, have also incubated and sustained similar networks.

Two of the math/science networks, Science Resource Leaders and Math Resource Leaders, were designed from the start to be closely associated with the District's Central Office. Their members, however, saw themselves as a network and one or more staff members coordinated and brokered their activities. Although Project 2061 was also integrated into the District's work and eventually became located in the central Curriculum Office, it had a substantial degree of autonomy. This is because half of its funding came from the American Association for the Advancement of Science

through the Philadelphia Education Fund and because it was a test-bed site of a high-profile national standards effort. It retains some independent identity because of its ongoing close connection to the standards work of the American Association for the Advancement of Science.

With the arrival of the Urban Systemic Initiative and the evaporation of the original funding sources of the math/science networks, their resources and expertise became folded into the broader effort of the USI in math, science, and technology. This change, along with the removal of staff support, has caused these networks to lose some of the “movement-like” self-governing quality that is characteristic of many teacher networks. The fact that these groups were more “inside” than “outside,” however, had the advantage of making them immediately available to the District in carrying out systemwide professional development as part of USI.

The independently-funded self-governing K-12 Math/Science Leadership Congress aligned its work with the District’s goals but continued to function more as an “outside” organization, providing long-term information-sharing and networking among its members. The IMP network represents a true partnership with the District: USI funds have sustained the work during a hiatus in funding, and an IMP teacher-on-leave provides staff support for the initiative in the USI office. At the same time, IMP operates independently: its technical assistance and training components are based at LaSalle University; it is part of a broad national and regional initiative; and it has continued to raise funds from NSF.

The Philadelphia Writing Project operates as a self-governing entity on the periphery of the District. It has maintained its strong affiliation with the University of Pennsylvania and its tradition of grassroots teacher leadership. The core activities of the Writing Project, however, take place inside schools and classrooms, and it promotes the view that change takes place through teacher-to-teacher communication. Its veteran members yearn for a return to the days when the District provided substitute coverage for the Writing Project Teacher Consultants to be released on a part-time basis from their classes to work with other teachers in their classrooms. The organization has searched for ways to be of use in the reform effort without sacrificing its belief in the efficacy of “bottom up” reform guided by teacher inquiry. The push for professional development at the school and cluster level, along with work in partnership with the Philadelphia Education Fund, has led to a proliferation of the Writing Project’s activities and a broadening of its impact.

Other networks are gradually being drawn into *Children Achieving* activities as clusters and schools make decisions on expenditures of the professional development funds available to them. In some instances, this means adopting or expanding models from Library Power, the Coalition of Essential Schools, or SEED, or connecting to one of the national New American Schools change efforts (as the District has encouraged them to do). Increasingly, ideas and practices from several networks are being used to deepen the impact of whole school change models. The history networks, having largely disbanded over the last few years, are less able to provide immediate support to clusters and schools.⁹

A new consortium of arts groups has grown out of previous arts networks. The Philadelphia Arts in Education Partnership, (a group that includes the University of the Arts, School District, the Philadelphia Education Fund, the Pennsylvania Council on the Arts, and the Archdiocese of Philadelphia), has come together to promote an arts orientation within the school reform effort. Its conferences and meetings address issues such as the role of the arts in integrating standards and assessments that are aimed squarely at the District’s current reform agenda.

The Continuing Power and Needs of Networks

Our ongoing involvement in network events and meetings along with our interviews, focus

groups, and surveys of teacher network members in Philadelphia in 1995 and 1997 confirm the conclusions of other investigators that teacher-centered networks provide powerful learning experiences for their participants.¹⁰ Teachers praise the networks for creating collegial communities, enhancing subject matter knowledge in intellectually stimulating ways, expanding their repertoire of instructional strategies, facilitating access to new materials and resources, validating their philosophies and teaching practices, and developing their confidence and leadership skills. Further, evidence from our research indicated that network members were facilitating change in their own school settings. Even in the case of networks that have withered, participants talked about the lasting impact of that work. A few of their comments about leadership development are illustrative.

"What the Math/Science Congress did for me was it opened up a broader sphere of influence beyond the classroom and the school. This was a significant leap in leadership."

"The World History Project was a way to get teachers connected and visible. People [who went on to become leaders in the District] established their reputations in those projects. We then knew who were the movers and the shakers and who could do things well."

"I really appreciated Science Resource Leaders. It gave me the ability to lead a workshop and feel like I was on the cutting edge of new developments. I know that we were talking about learning outcomes when nobody else at our school had any idea what we were talking about."

"For the teachers who've been in the Writing Project a long time, for most of them it is absolutely key in their professional lives. Because that was the institute that changed them or that led them to do other things and to take leadership, or they still see it as their main support group."

But networks are inherently fragile organizations. If they stray too far in a direction independent of a District, they run the risk of becoming irrelevant and marginal to the work lives of teachers, and becoming divorced from a District's political and fiscal support. If they become too closely tied to one Superintendent's agenda and to Central Office direction, their identity as teacher-centered sources of vitality will atrophy. Preserving open access to network involvement as well as flexibility in selection of participants for network opportunities is critical as well. These groups not only have to figure out the nature of their relationship to a District, but also must recruit new members and develop new leadership. Equally important is the need to keep raising money in order to carry on substantive work. Without ongoing opportunities to engage in meaningful work, a network will die. Collegiality alone will not sustain the group.

The issues of greatest salience for survival vary by network. For example, the Writing Project has developed workable mechanisms of self-governance and recruitment but faces constant pressure to raise more money to fund its expanding workload since its fees for services to schools and clusters barely cover costs. Its leadership must also resolve how to remain an organization with a personal face as its numbers grow. New leadership emerging in the Math/Science Leadership Congress must become firmly rooted as it replaces the founding leaders who have moved on to other lines of activity, and it must work to draw participants across all grade levels.

Project 2061 needs to find ways to remain efficient and responsive now that its funding is constrained by bureaucratic delays and requirements. All of the math and science networks subsumed under USI must fashion ways to recruit new members and raise money once USI ends.

As their networks become more amorphous within this larger effort, they must also struggle to retain the “movement-like” quality that characterized their earlier work. Library Power librarians need to set up self-governing structures that will wean them from the leadership currently provided by the Philadelphia Education Fund.

Another concern is that the District's effort to move funding and decision making closer to clusters and schools can, if not carefully orchestrated, deplete Central Office of knowledgeable network-trained people who can provide needed support for curricular change and professional development activities. Staff will always be needed to create and maintain databases, broker and coordinate professional development opportunities, evaluate the quality of curriculum resources, and to serve as a contact for collaborative local and national ventures.

We asked network leaders what advice they would give to external funders about the kinds of activities and connections that would be most fruitful if networks are to be re-funded. Several suggestions cut across many of their responses:

- Provide funds for substitute coverage so that network teachers can observe and provide support in other teachers' classrooms.
- Earmark funds for explicit training in leadership development.
- Provide places to practice those leadership skills outside of one's school such as a district-wide summer institute, a summer laboratory school, or a year-long study group.
- Require that a network develop a solid and long-term affiliation with a university and one or more of its faculty.
- Provide funds for teachers to attend national conferences and to develop affiliations with professional associations.
- Ensure that large portions of meeting time are devoted to teachers sharing ideas and practices with one another about what works and what doesn't work in specific subject areas.
- Where appropriate, build in connections across the K-12 continuum.

The Network Impact

A reform agenda as ambitious as the one underway in Philadelphia could not have been designed and implemented without the presence of so many teacher leaders whose experience in networks prepared them for diverse leadership roles. They work out of Central Office in key curricular positions, move in and out of schools and cluster offices as Teaching and Learning Network personnel, lead study groups or “critical friends” groups, write grant proposals, design district-wide summer institutes, encourage others to attend national conferences or to sign up for a professional opportunity, or organize chats on the internet.

Networks generate new knowledge and skills but they develop an even more valuable commodity-- social trust. The trust developed over years of personal interaction in these projects enabled network members to reach consensus and launch District-run professional development programs with relative speed. The “social capital” generated through these relationships facilitated the cooperation needed for the new ventures: people spoke the same professional language, knew of

colleagues they could call on to do solid work, shared doubts and concerns without fear, and operated from shared curricular and pedagogical philosophies. They could move ahead quickly to an implementation stage since so much of the hard work of exploring issues of teaching and learning together had been taken up in previous years.

External networks and internal District-run networks have, for the most part, had a symbiotic relationship. The outside networks have been a primary path to leadership positions in the District, especially in the fields of mathematics, science, and English/Language Arts. They have also provided a well-honed philosophy and method of doing the work to the internal systems, and they have collaborated with universities, national school reform leaders, and other local non-profits with related missions to run initiatives with the District. Networks have also operated as vendors hired by the inside networks or their contacts in schools. The inside infrastructure, in turn, through overlaps in membership and through overt outreach to the external networks, has kept them closely tied to the ongoing “real work” of the District's reform efforts. Tensions over approach and method are in the nature of insider/outsider relationships, but this dialectical relationship has kept the external networks from drifting into irrelevancy and has brought fresh ideas, access to national affiliations and resources, and new personnel to the internal networks.

While the District itself has also cultivated leadership through internal projects and structures, the contributions of private foundations and the federal government in creating teacher networks have been pivotal in developing the infrastructure for change currently being used to implement the system's reforms. Network leaders also credit the important role of the Philadelphia Education Fund and its predecessor organizations along with local universities in providing a “home” and intellectual vitality at various points in the networks' histories. These outside organizations enabled the groups to develop considerable autonomy and to have ready access to and control over their funds.¹¹ According to network leaders, the lack of red tape and the teacher-centered nature of the work were major factors in the success of their groups.

The Philadelphia experience shows how professional development in a large urban district benefits mightily from the participation of a whole array of institutional partners and networks. Their impact is captured in the following observation of a veteran teacher leader from the K-12 Math/Science Leadership Congress about her work designing a district-wide summer mathematics institute with three other teachers (one from the Congress, two from IMP):

Everything I hear about *Children Achieving* fits where I am coming from. Sometimes the theory is not always the practice and in the rush to get something done, you revert to the old ways. It takes a lot of commitment and integrity to hold on to what you believe is the right way to do things. Everything is a compromise but it is a darn sight better than it was in the past. We will use manipulatives and have reflection on practice and modeling teacher behavior so that teachers will get to experience learning as a student might. It is not just a 'stand and deliver' model of professional development. So we are planning, and it is helpful to have colleagues from IMP and the Congress.

As network people move about in leadership roles, they bring with them a clear commitment and understanding of the kind of professional development that leads to lasting change: work over an extended period of time; a spirit of reflection and inquiry, an approach that stresses teacher-to-teacher sharing and learning, intellectually stimulating work in a content area, a commitment to diversity, a belief in collaborative work in teacher teams, and links to scholars and national reform efforts. Ambitious change efforts require leaders with this experience and vision.

¹ See Elizabeth Useem, Judy Buchanan, Emily Meyers, and Joanne Maule-Schmidt, "Urban Teacher Curriculum Networks and Systemic Change," Philadelphia Education Fund, Paper presented at the Annual Meeting of the American Educational Research Association, San Francisco, April, 1995; and Elizabeth Useem, Judy Buchanan, and James Culbertson, "The Contributions of Teacher Networks to Philadelphia's School Reform," Philadelphia Education Fund, 1997. These papers draw on two rounds of research into Philadelphia's teacher networks. During the first round in 1995, data on four networks--the Philadelphia Writing Project, Science Resource Leaders, the K-12 Math/Science Congress, and the World History Project--were collected from the following sources: observations of network activities; 20 in-depth interviews with network teacher leaders; four focus groups with 34 network participants in four networks; a surveys from 193 participants in four networks (57% response rate). In 1997, we interviewed 25 teacher leaders (some now administrators) from 13 networks, we reviewed lists of participants in the District's reform work, and observed selected network activities.

² The Philadelphia Education Fund currently supports six teacher networks through a grant from The Pew Charitable Trusts. These include the Philadelphia Writing Project, Library Power, the Pennsylvania Coalition of Essential Schools, the K-12 Math/Science Congress, SEED, and the Arts Partnership.

³ Consortium for Policy Research in Education, Research for Action, OMG Center for Collaborative Learning. *Children Achieving: Philadelphia's Education Reform, Progress Report Series, 1996-1997, A Second Year Evaluation* (Philadelphia: The Children Achieving Challenge, 1998).

⁴ This work builds on that of the Philadelphia Schools Collaborative. The Collaborative established small learning communities (called charters) in all of Philadelphia's 22 high schools between 1988 and 1995. Many teachers formed informal networks in the process of conducting the work. For details, see Michelle Fine (ed.). *Chartering Urban School Reform* (New York: Teachers College Press, 1994), and Jolley B. Christman and Pat Macpherson. *The Five School Study: Restructuring Philadelphia's Comprehensive High Schools* (Philadelphia: Philadelphia Education Fund, 1996).

⁵ The past and current networks included in our 1997 study included: American History Projects (at PATHS/PRISM); Arts networks (Arts Empower and After School Arts); Coalition of Essential Schools; Foxfire; Geographic Alliance; Interactive Math Program; Library Power; Math Resource Leaders; K-12 Math/Science Leadership Congress; Philadelphia Writing Project; Project 2061; Seeking Equity and Diversity (SEED); Science Resource Leaders; World History Project, and Women in World History Project.

⁶ Participants had four weeks of training in Colorado in the summer of 1989; four weeks in Madison, Wisconsin during the summer of 1990; two weeks in Seattle in 1991; and two weeks at Cornell University in 1992. During the first two years when the 2061 team was writing benchmarks, participants met one day a week while substitutes covered their classes.

⁷ Students at the Center, a national effort to promote constructivist teaching and learning, funded by DeWitt Wallace-Reader's Digest Fund.

⁸ The Philadelphia Education Fund is a member of the Public Education Network (PEN) in Washington, DC, an educational reform group that links 41 local education funds (LEFs) in a national network. Long-term support for teacher networks has been a strategy in the work of several of the LEFs, and they share some of the same networks.

⁹ Key history networks have atrophied along with the Foxfire initiative, testimony to declines in external support for initiatives in the humanities. However, a Geography Alliance and a Japan Project have injected some life into network activity in this area of the curriculum.

¹⁰ Pamela R. Aschbacher, *The LAEP Teacher Professional Networks and Schoolwide Change Project; Final Evaluation Report*, Los Angeles: Center for the Study of Evaluation, University of California, 1994; Ann Lieberman and Maureen Grolnick, "Networks and Reform in American Education," *Teachers College Record*, Fall 1996, pp. 7-45; Ann Lieberman and Milbrey W. McLaughlin, "Networks for Educational Change; Powerful but Problematic," *Phi Delta Kappan*, May 1992, pp. 673-677.

¹¹ For a description of the work of public education funds linked to the Public Education Network, see Elizabeth Useem, "Maneuvering for Reform: How Local Education Funds Foster Change at Century's End," Public Education Network, Washington, DC, 1998; and Elizabeth Useem, "What Do Local Education Funds Do, How Do They Do It, and What Difference Do They Make?" Public Education Network, Washington, DC, 1998.