Section IV

Strategies for Moving Toward

District-wide Hands-on Science Education

at the Elementary Level

STRATEGIES FOR MOVING TOWARD DISTRICT-WIDE HANDS-ON SCIENCE EDUCATION AT THE ELEMENTARY LEVEL

Key Project Design Decisions

The longest journey begins with a single step, and in this section we discuss some of the strategies the projects represented at the conference are using to build the capacities that are needed to put in place all of the critical elements that are needed for district-wide sustainable reform.

In particular, we agree with the leaders of the projects which came together at Inverness -- their reform efforts are more accurately seen as building capacity, rather than directly producing changes in all classrooms and students. As we have pointed out, widespread, significant change is not going to happen in large urban districts, and it certainly will not be sustainable, until the elements of our checklist are in place. Thus, the key goal for projects such as these is to begin to use their relatively scarce resources in optimal ways to begin to move their districts toward inquiry-based, hands-on science education.

In the sections that follow we describe some of the "lessons learned" about the design of projects that seek to build the requisite capacities for hands-on science teaching. These lessons are often put in the forms of "tensions," "trade-offs," and "myths," rather than as definitive statements of "what works." This, we feel, is a more honest reflection of the wisdom of the field, and does not continue the all too-common process of conveying the illusion that we either know how or have achieved the capacity to create good hands-on elementary science education in the schools of our cities, or for that matter, in the classrooms all across our country.

> Two brothers were walking down a deserted beach when they came upon a very long stretch of sand where the receding tide had left thousands and thousands of starfish high and dry well away from the surf. Realizing that the starfish would die if they did not get back in the water, one brother began to slowly and methodically throw starfish back into the ocean. The younger of the two brothers watched for some time and then commented, "You know at the rate you are throwing them back, you will never be able to get even one percent of them back into the water. Overall, in the larger scheme of things, what you are doing is not going to make any difference at all." The older brother did not stop or even slow his work. He looked at the starfish in his hand and replied, "Yes, you may be right. It may not make much difference in the larger scheme of things." "But," he smiled, "it does make a big difference to this starfish!"

The projects which are funded to foster district-wide reform efforts in elementary science education have to make choices about how to use their limited resources and limited time. Each has to choose an overall approach to moving their district toward universal hands-on science teaching. They have to figure out an overall "change strategy" that will move the district as far as they can in the right direction. In particular, they have to make some important strategic choices as to:

➢ their approach toward change. Do they seek to infuse current teaching practices with more hands-on science? Do they want to try and replace currently established pieces of the curriculum with a few hands-on units? Or do they want to try and effect a more complete transformation of teaching and learning using science as the vehicle?

➢ the unit(s) of change they will focus on. Do they wish primarily to work with individual teachers? Do they want to help develop teacher networks? Do they want to focus on school-wide change? Or do they want to work with the district as a whole?

➢ the distribution of their limited resources and efforts. Do they wish to spread their efforts equitably across the schools and teachers throughout the district, or do they feel it would be better to concentrate their work on a subset of teachers or schools?

The approach toward change

Projects have to decide how to begin the process of developing good hands-on science teaching. How do they envision teachers in their elementary classrooms moving from little or no hands-on science teaching to a steady diet of good inquiry-based learning?

In terms of professional development one choice is between long-term, in-depth professional development experiences for a relatively few number of teachers, and less in-depth, shorter experiences for many more. Is it better to help teachers get a little bit of science taught and then gradually improve their abilities? Or, is it better to invest the time and resources to help teachers deeply understand the nature of inquiry and then assist them in making that real for their own students in their own classrooms? A related question is whether it is necessary to "transform" teachers and their own notions of teaching and learning? Or, is it a good starting point to help them simply implement, in a rather mechanistic fashion, some well-designed science kits? At the conference the choice was expressed this way:

> *Is it better to get teachers going (and doing at least some hands-on science), and then get them good (at doing inquiry)? Or is it better to get them good (at inquiry), and then get them going (and teaching hands-on science)?*

The inquiry/hands-on tension emerged not only in discussions about starting approaches, but also in the conversations about whether or not those approaches were successful. These concerns were raised with a tone of cautious self-examination. Are the teachers *really* doing inquiry, or are they just using hands-on materials? This notion of "mechanical versus sophisticated use" was considered with patience and understanding. As experienced leaders of reform efforts, the participants seemed to have an intuition that many of the teachers in their communities had not yet reached a level of "sophisticated use."

> *We put a lot of energy in our program, trying to do something to make teachers more inquiry oriented, still, there are people who are just still doing it mechanically.*

Yet most project leaders had faith that, while recognizing that practice wasn't yet where it needed to be, they already had made great strides and were progressing toward an "ideal."

In terms of curriculum implementation, the questions are related but slightly different. On one end of the spectrum there are efforts that help teachers simply infuse their current curriculum with a little bit more science. In the middle of this spectrum there is the notion of a "replacement unit" where teachers teach one well-designed unit for a few weeks in a way that is congruent with good inquiry teaching, and in a way that might well be a departure from their past science teaching practice. At the other end of the spectrum teachers would be attempting to replace all of their science teaching with a whole year of innovative curriculum (e.g. Insights or FOSS) and with full-blown inquiry teaching strategies.

Many districts chose to do a little bit of each of the above strategies. With their leadership teachers they tended to focus more on the transformation of the teachers and less on the implementation of kits. At the same time there was a sense that the bulk of the teachers in the district "could not wait," and that it was important for them to begin using kits and doing hands-on work with their students, even if this teaching did not produce high-quality inquiry experiences.

The debate is not settled, however. For those whose goal is simply to get students to learn some science, they favored a more widespread kit approach. For those whose goal was inquiry, including the deeper transformation of the nature of teaching and learning, some doubted that it was possible to incrementally work one's way into inquiry; rather

they felt that it required personal immersion and transformation -- that it was a process of revolution, not evolution.

Choosing the "units of change"

In helping to develop the capacity and provide the critical elements to support good hands-on science teaching, projects found themselves thinking about working at four different levels of the system:

➢ individual teachers

➢ teacher cadres and networks

➢ schools

➢ districts

Each of these entities may be thought of as a "unit of change," or perhaps more appropriately as a unit of development and capacity building. In each of the district projects, the overall strategies adopted consisted of work being done at all of these levels, with different projects weighing some levels more than others, and also varying the phasing of their work at each level.

Individual teachers

Working with individual teachers as a unit of change is choosing the smallest "grain-size" when imaging the change process. Individual teachers are the atoms, the fundamental particle, of the educational system. The advantage of developing the knowledge, skills and attitudes of individual teachers, independent of the schools and districts within which they work, is that the teachers will (mostly) remain working within the system while various reforms may come and go. Individuals committed to good inquiry-based science education are not as vulnerable to district political and financial turbulence as are school-based efforts. Also, it is easier to arrange appropriate professional development opportunities for individuals than it is to engineer activities that bring about district-wide or whole-school change. Much along a college or university model, investing in individual teachers carries with it a belief that individual teachers and individual classrooms are the key to change. Working with individual teachers represents a belief in a grass-roots approach to reform[2]

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[2] The Writing Project model (based on the Bay Area Writing Project) represents, perhaps, the purest model of working with individual teachers. Their institutes and workshops deliberately do not attempt to work with schools and districts, but rather focus on helping each individual teacher become more masterful and reflective about their teaching.

Teacher networks

Some projects focused heavily on developing teacher networks or, more simply, cadres of teachers who connect with each other around their interest in and commitment to hands-on science teaching. Recognizing the benefits of working with teachers collectively, as well as individually, some districts created teacher leadership cadres that could serve the entire district. The notion of a network or cadre is that it can bring together the most interested and committed teachers across the district, and provide them a "home" and a shared sense of identity as science lead teachers. The choice to focus on the development of teacher networks is compatible with a constructivist approach in that it believes strongly in the collective and social nature of learning. It also implicitly acknowledges the importance of practitioner knowledge and makes it a high priority of the project to engineer situations that allow teachers to share that knowledge. There are other strengths of teacher networks in that they are discipline-centered and outside the culture and structures of the schools.

Schools

Some projects decided to focus intensely on working with the school as the unit of change. This makes the problem of scale, in some senses, more manageable, as it is easier to conceive of working with 100 elementary schools than it is to imagine supporting 3000 individual teachers. Also, of course, the school is a community in itself with its own values and priorities, and thus the school serves as a powerful context that strongly shapes what happens in the classrooms within it. Many would argue that it is nearly useless to work with individual teachers, or even teacher networks, if one does not directly address the context within which teachers must work -- namely, the schools. Especially in those districts that were engaged in a move toward site-based management, projects focused heavily on the school as the unit of change. In at least one district the science reform project was a major catalyst to the site-based management reform that was happening simultaneously.

School-based change was at the heart of several of the urban elementary science projects at the conference. These projects focused on the task of building the capacity at a school site with the aim of helping local school people support their own school's internal reform process. If many schools could develop such capacity, then, it was hoped, that they could sustain reforms through periods when the central administration of the district was not strongly engaged in promoting science education.

> *If there is success in building the school-level capacity then the problems that arise because of the constant changes at the district level are not so critical. Now I don't mean to defend that kind of unpredictable district-level change. Such changes*

present a big glitch for our own work, that comes in the area of resources....With the constant change happening in the central district, and without the constant support of the top administrator, the resource issues for hands-on science teaching are enormous....But it is also interesting to see the strength of what can happen without district support, at least in some schools...

All the projects felt that school sites required someone with real expertise to be available to visit their schools and its classrooms on a regular basis. This person, a sort of school science coach, could be a visiting resource teacher, project personnel, or a lead teacher inside the school. These school visits were important not only for offering instructional and moral support to teachers attempting reform in their classrooms, but also for the project leaders to have "feelers" for what is happening in the schools. It was also seen as highly desirable to have someone "on call" to visit schools and problem-solve, if necessary.

One aspect of project design concerns the selection of participating schools, during all phases of a multi-year project. Which elementary schools should be invited to participate, and on what basis? To some degree, the answer to this question may depend upon whether the science reform project is at an initial or experimental phase, or whether the project is in a phase of "district-wide implementation."

The experiences of the participants suggested that it might, in fact, be wisest for a project to first begin working with a small set of schools in order to work out "the major kinks" of the project and to cultivate experiences that a later, larger, and district-wide phase can build upon. If one or more pilot schools are adequately supported in the beginning stages of an effort, then they themselves, can become the avenue by which the districts gain the broader capacity for change.

Districts found that their early work in pilot schools gave them an initial set of experienced teachers whom they could later use as lead teachers. In several sites, the demonstrated success of their projects' program at the pilot schools allowed them to "sell" science reform on a district- wide basis. There are also counter-examples of districts that began their projects using large numbers of pilot schools (11 in one district), or that attempted district-wide reform at the outset (one large district took on 45 schools in both years 1 and 2). These districts later concluded that they had attempted "too much too soon" or found themselves rethinking program strategies in light of those schools in which science reform had not taken hold.

Few conference participants believed that school-based strategies could happen successfully without strong district support. Professional development, it was argued, must occur at both the school and district level. Some aspects of reform are better centralized (e.g. the support of lead teachers, principal education, the purchasing of

materials) and some appear to be better done at the school level (teacher workshops, coaching arrangements, and sharing of materials). One can imagine a school-based change strategy that involves an analysis of the status of current science teaching, development of an individualized plan, regular "check-ups" (sometimes from visiting professionals) and ongoing support from district resource or lead teachers. Unfortunately, this is not always realistic, not only because of how reforms are designed and because of limited resources, but because of staff and priority shifts within the district which can destabilize school-level plans and efforts.

There are other risks and downsides in adopting a whole-school change model. In one district there was little history of site-based management or whole-school change efforts. Accordingly, schools lacked a school community infrastructure, making "whole-school change" very difficult. In another district there seemed to be an assumption that simply by putting a lead teacher at a school, that the school is somehow "handled." In another rapidly growing district the composition of individual schools changed every year so drastically that a principal and/or lead teacher were as likely to be moved as to remain in the school each year. In another district only one-third of the lead teachers remained after the first three years of the project. In fact, this kind of turbulence raises the deep and troubling question as to whether the "half-life" of the school community (the average number of years it takes turnover to significantly change a schools' make-up, mission, or priorities) isn't much shorter than the time it takes to develop a school's capacity to support good hands-on science teaching. In short, the question is this: will the school stand still long enough for the work to get done? The question is critically important and not theoretical. We have seen many cases where a school that successfully developed itself over a period of a few years would, upon a site visit in the following year, have lost all of its expertise in and commitment to science teaching because of staff and administration turnover.

Some participants argued, by contrast, that a whole-school approach could make the reform more robust and impervious to district turbulence. This idea grew out of the fact that all of the district stories at the conference reflected some degree of turbulence at the district leadership level, in some cases, quite extensive. Yet, though district instability was potentially devastating to some components of a program, schools which had an opportunity to create a foundation for their effort seemed to be able to continue (relatively) unaffected.

Districts

There are some aspects of the reform process that can only happen at the district level. Aligning policies and testing practices, setting overall priorities, and garnering the resources necessary for science reform all fall within the district domain. Even if one adopted a strategy that emphasized whole-school change, the engineering of district

supports is critical in helping schools go through their own internal change processes. Because many urban districts are large, and they operate in a departmentalized (fragmented) fashion, it is perfectly possible, even probable, for one part of the district to act at cross-purposes with another part. Some participants talked explicitly about the need to combat this departmentalization and the need to create a "learning community" within the district itself:

> *It would be very interesting to think much more about how we might organize a learning community and learning organizations inside of districts -- so that we can continue to build and implement and change on an ongoing and self-sustaining basis -- and have that be very powerful.*

District actions and policies were particularly important in each of the following areas:

➢ Resources: Resource allocation decisions at the district level are critical, and directly related to district administration and communication with the project reform effort. The use of Eisenhower, Chapter One, and other categorical dollars can only be organized at the district level and is particularly important.

➢ Professional development support: Providing district-coordinated professional development offerings, especially for the leadership cadre, is very important. Districts can support workshops for individual teachers, district-wide teacher networks, and activities that support school-based efforts.

➢ Materials acquisition and coordination: Some districts have succeeded in creating centralized materials resource centers. Where they work well, they have been invaluable in helping projects to get widespread implementation. Also, it is important that those district administrators who are making decisions about large, district-wide purchases of materials be well-connected with the project leaders.

➢ District instructional programs: Many districts have their own processes of setting district wide curricular expectations. It is very important that these efforts are congruent with and support the reform project, and also be aligned with decisions about material acquisitions.

➢ Textbook adoptions: A key political battle for many of the projects revolved around approval of district materials funds for purchase of science instructional materials, not just textbooks. The adoption process is sometimes seen by district administrators as a district-level process that may not necessarily connect with an existing reform project.

➢ Testing practices: The district testing policy speaks louder to teachers, administrators and parents than educational reforms. If district-wide testing practices discourage hands-on science teaching, then little else will matter.

Because they played a central role in many of the projects, it is worth saying a little bit more about the critical role of district-level resource teachers. District-based resource teachers are a very important asset that can be made available to support teacher networks and/or schools engaged in their own processes of change.

The resource teacher role could be perceived as a "triple-agent" of sorts, supporting the teachers directly and serving as a "peer-advocate" and as a "reality check." As a peer advocate the resource teachers provide the motivation for many teachers to continue trying new things. Then, as a program promoter, the advocacy of district resource teachers can be critical in the debate over priorities and resources, especially in districts where there is "competition" from other programs. Finally, in providing feedback both to district administrators and project leaders the district resource teachers are the eyes and ears of the project.

Districts that had science resource teachers found that they could be very influential in helping a cadre of lead teachers in the district. From the point of view of the lead teacher, good resource teachers were very important:

He is literally a resource to me -- somebody to lean on, a person who comes to work with me on-site -- and that makes all the difference in the world...just the moral and psychological support that resource teachers can provide...for example, after I had just gone to a training, and looking at the new kits we had been given....It was great just having someone there as I went through them for the first time...

There were some specific lessons learned about resource teachers:

➢ It is important that the selection of resource teachers be done carefully and involve the project leader. When districts choose the person, independent of project input, the person may not meet the needs or qualities that are required to promote inquiry-based science teaching. It is probably best when such leaders "rise to the top" through their own work, talent and commitment.

➢ It is also important that the resource teachers be allocated specifically and exclusively to doing the work of the project. Too often, the district may decide to use the person in other roles, ultimately removing them from being able to assume a central leadership position in the reform effort.

➢ The position is inherently a multi-year position. Playing the role of the resource teacher supporting school-based change is a very demanding job and very different from being in a classroom. It can be a very powerful professional development experience and most teachers feel that it takes them at least one year to "grow into the job."

➢ It is important for resource teachers to learn to work strategically. It often happens that resource teachers are drawn into assisting teachers in a non-leveraged way. That is, the job of resource teacher should be conceptualized as building the capacity of lead teachers and their schools, not helping some teacher move their science fair materials, or substituting for another teacher so they could go to a workshop.

Unfortunately however, when districts sought ways of meeting the demands of a reduced budget, the science resource teacher position was one of the first to be cut:

If we want stability in the programs in the district, then they should have the salaries for the stable people to stay. We are finding the role of the resource teacher to be critical....To suddenly not have them available to go into the classroom, and to do the direct support, and to problem solve and to be the trusted person -- and suddenly not to have that anymore....Well, for the schools who are struggling, that is a very serious loss.

Too often, I think that districts see the investment in a resource teacher...and the investment in the professional development and growth of teachers as a frill...I don't know how to get the system to see how important they are...the battle for the resource teacher is one of the most critical.

The distribution of project resources and efforts

Should a project concentrate its efforts or spread them more evenly and equitably across the district? This question is closely related, and even inseparable from, the previous questions about approach to change, and units of change. All districts found themselves struggling with this issue. More specifically, all projects had to deal with the choice between focusing one's efforts on a subset of teachers and/or schools, or by contrast, providing equitable, but far less intensive efforts to all teachers and schools in the district. There are clear perils in either direction. If one spread one's efforts equitably, they might be so diluted as to make no difference. For example, in one district the project's resource teachers are only able to visit each of their assigned schools 2 or 3 days a year. And yet if one chooses to work more intensively with a subset, how does one make sure that the effort will "scale -up" or "spread its influence" so that all schools, teachers, and students ultimately benefit? Also, there are serious political risks whenever the resources of a project are seen as favoring some group over another.

If one does decide to concentrate their efforts, on what basis should they make the selection choices? Some argue that one should work with the schools and teachers who are most "ready"; others argue that more attention should be given to those who are most in need. Either way there are dangers that are both substantive and political in nature. Both the necessity and difficulty of these choices are driven by pressures that arise from the fundamental fact that the reform efforts are underfunded in relation to the expectations they bear.

It was interesting to note that most projects tended to evolve over time toward strategies that involved a higher concentration of their efforts. Initially, it was all too easy to become overwhelmed by trying to serve everyone. Even when efforts were concentrated, for example, into serving a few pilot schools or a cadre of lead teachers, the projects, much to their dismay, often found that their time and resources were still too limited.

Summary

Becoming more strategic

The Inverness conference participants felt they had increasingly understood the importance and necessity of being strategic in their work. Part of this "strategic-ness" means being more explicit about the nature of the change effort that is being attempted. Part of it is being more deliberate and more explicit about key dimensions of reforms and critical elements described above. Although each project has a basic plan for implementation, much of what actually happens is a result of unforeseeable factors that happen in the larger system. Consequently, it is increasingly difficult to keep distinct what strategies are in place, why they are in place and how well they are working. This, in some ways, makes it all the more important to clarify the underlying strategies of the reform effort:

> *It seems to me that one of the things that we could do is be much more articulate and clear about the big strategy...it seems to me a lot of times it evolves in almost haphazard ways because of political things....When a whole range of different things happen, and we have a mixture of strategies going, we need ways to be clear about what the next step is for us...*

Another aspect of being strategic was identifying a basic model of change (e.g. a kit-based approach) and then adapting it to take advantage of existing resources and trends. Conference attendees recommended that those interested in designing similar systemic professional development efforts be "proactive" in initiating their designs. In this sense, pro-activity refers to looking at the capacities, resources and culture already in place, and using them as a starting point for a larger systemic plan.

> *I think one of the critical features is taking a look at the resources you have available, and not only is it a system resource issue, but it is also looking at the strengths of the individuals that are going to have to be critical players. Being able to take advantage of people from different backgrounds, from different viewpoints has made our project strong...*

> *Maybe we should formalize what we actually do informally which is to identify the real capacities and strengths that we have, and that is where we start -- realizing that we have to move from here to there...but we will have to go through lots of different arenas along the way.*

In addition to focusing on being proactive by building on known strengths, the participants also discussed the importance of being proactive in recognizing and solving weaknesses.

This required courage and candidness. Some found this problem-solving process as an integral part of the continuing adaptation and improvement of their overall effort.

> *You have to know how to identify the next major problem and have a plan and a multitude of strategies to solve that problem...and you need to have a kind of flexibility to negotiate solutions...*

Another important aspect of being strategic is limiting one's own expectations. That is, one should be very realistic and cautious, as well as visionary and optimistic. Few of the projects had progressed as quickly as they had hoped, nor was the teaching of hands-on science as good or widespread as they might have imagined. They acknowledged that their efforts were perhaps too ambitious as originally scheduled. Once again there was the theme of "too much, too soon."

Building learning communities at all levels

Throughout the conference, there was an understanding that each of these projects was a "prototype" of sorts, with different characteristics being tested under widely varied conditions. Still, despite the disparity in the plans, there was a belief that there were common understandings about strategic design of such programs that could be gathered and shared with others interested in engaging in system-wide reform efforts.

> *These programs are prototypes for lots of other urban systemic projects...there are some very valuable lessons to be learned from all of this...*

However, at the same time that participants were eager to share their experiences and suggestions for other districts hoping to implement systemic change efforts, they hesitated to create any sort of prescriptive list of "should do's." Even though there was a sense of "if I knew then what I know now," there was a reticence to share some of the details for fear that other districts would be deterred from even trying or that the ideas would be tried out in a simplistic or mechanistic way.

Rather the lessons to be shared, participants felt, were best shared not as "findings" but rather as conversations and even shared inquiries. The concept of a project-level "learning community" was strongly endorsed.

> *In this group there is an enormous untapped wealth of knowledge and first hand experience with the design of professional development of teachers...and with the whole promotion of inquiry-based science teaching....And, yet we are like those expert teachers who are isolated in their own classrooms...we also have expert knowledge to share. What we need to do is create for ourselves places and opportunities for that knowledge and experience to be shared; we need to generate a*

collective wisdom through a national conversation and dialogue...we need to create some mechanism, some entity...that can support this conversation, that can be of service to the whole reform community and that can evolve and develop.

Even among the conference participants, there was overwhelming agreement that there needed to be future meetings, and there was a range of suggestions focusing on what those meetings would entail. The suggestion of bringing together people who had particular roles in the context of these efforts (project leaders, resource teachers, materials coordinators) was raised as one valuable approach. These meetings could focus on specific problems to be addressed. Other suggestions recognized the value of key players from communities meeting together as a team with other teams. Future meetings could bring in other communities who could then become part of an on-going network. Following the principle of symmetry the leadership of these projects deserve and need the same kinds of supports that they are working so hard to provide to teachers and schools.

Creating the beginning

Overwhelmingly, the project leaders admitted that only now, after several years of working on elementary science reform, did they feel they were ready to start.

Everybody looks at our district and says, "Wow, you have really done it," but we feel the exact opposite -- now we feel we have done enough to get us to a place where we are ready to begin.

There were some shared and general conclusions that are important for funders to consider, as well as other project leaders about to undertake similar endeavors.

➢ Five years is simply not enough time, if the expectation is complete system-wide change. Project leaders need to create more realistic plans and have more realistic understandings. In thinking about what it takes to produce good hands-on science teaching in an urban district, our hypothesis is that a worst case scenario is probably more accurate than a best-case one. It may well take a dozen critical elements to come together all at the same time -- an occurrence which is unlikely without a large increase in the resources devoted to the effort.

I think that the recommendation to NSF would be that if someone said that they want to do a proposal for urban systemic change in five years, to say immediately, you know that can't happen.

➢ The political and financial instability of urban districts is a very large factor in shaping what happens in each of the projects. Unforeseen major changes are, paradoxically, one of the most predictable parts about working in an urban school system. Most change efforts ignore or underestimate the degree to which their efforts are going to be undermined by these changes. Perhaps such instability suggests focusing more on individuals and less on institutions, that is working more at the teacher and teacher network level, with less emphasis on pursuing district-wide or whole school change models.

➢ Premature calls for evaluation, accountability and measurable student outcomes are not only inappropriate, they are detrimental to the work. On the other hand, projects need to be much clearer about the nature of the work they are going to do and more proactive and creative about documenting the benefits of that work.

To some extent, the conference illustrated the "realities" of education reform that runs alongside the theory and rhetoric of systemic change. This is not necessarily to say that those realities negate the vision and commitment of those involved in the effort, rather they lend a legitimacy to the difficulties of what "changing the system" really means. The discussion and candid sharing about these realities also provides for a chance for collegiality for those engaged in the effort nationwide. Perhaps a major contribution of these pioneer systemic change efforts is that they will help us think about the task more honestly.