

First Year Evaluation of the Implementation of the *Core Knowledge Sequence*: Qualitative Report

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Introduction

A wide variety of school designs have demonstrated that they can result in academic and other socially desirable student gains in individual schools or small numbers of carefully selected schools. However, over the past twenty-five years, very few designs have clearly demonstrated the ability to have educationally significant effects when implemented in large numbers of schools (Goodlad & Klein, 1970; Stallings & Kaskowitz, 1974; for limited counter-examples in primary education, see Slavin, Karweit, & Wasik, 1994). A variety of studies have suggested that replicating the successes from a limited sample to a large sample of schools is possible but very difficult (Crandall et al., 1982; McLaughlin, 1990; Stringfield, Millsap, & Herman, 1996). If programs that have the potential to improve students' academic progress exist, but have not been readily transported using what has been known about "scaling up" promising programs, then studies of the components of effective "scaling up" of potentially successful reforms become a critical next step toward continuous improvement of our nation's schools.

Therefore, much attention has recently shifted from the development of change-bearing school improvement designs to finding ways to successfully bring those designs "to scale." Today there are over 200 Core Knowledge Schools (Hirsch, 1987). There are now also over 200 schools attempting to implement one of the seven New American Schools Development Corporation designs, one of which, Modern Red School House, includes the Core Knowledge curriculum (for descriptions, see Stringfield, Ross, & Smith, 1996).

This evaluation will address the issues involved in scaling up and implementing the Core Knowledge Sequence. Developed by the Core Knowledge Foundation, the Core Knowledge sequence provides a planned progression of specific knowledge in language arts, history, geography, math, science, and fine arts, designed so that students build on knowledge from year to year in grades K-6 (e.g. Hirsch, 1992). The Core Knowledge Sequence represents the first major effort to specify a common core curriculum for children in American schools. Unlike other countries, including France, Japan, Korea, Sweden, and Denmark, where the use of a common core curriculum is often regarded as having led to more nearly universal competence and excellence, the United States does not have a national common core curriculum (Hirsch, 1996). This evaluation of the Core Knowledge sequence provides an opportunity to assess the effects of a common core curriculum on students in a sample of schools across the United States.

The most distinguishing feature of the Core Knowledge Sequence is its content specificity. However, while the Core Knowledge sequence specifies content, it does not specify process. It does not provide guidelines for how to teach the material, and it provides only general guidelines about how a school might implement the sequence (Core Knowledge Foundation, 1995).

Overview of Evaluation

This is a report of the preliminary findings at the end of the first year of the evaluation of Core Knowledge Sequence implementation. This evaluation is being conducted by researchers at the Center for Social Organization at Johns Hopkins University and the College of Education at the University of Memphis and is funded by the Core Knowledge Foundation.

The goal of this evaluation is to determine the effects of Core Knowledge Sequence implementation in a variety of contexts. This is a three year, longitudinal evaluation that began in November, 1995, and will end in September, 1998.

The major research questions of this evaluation are:

- Under which conditions is the implementation prognosis favorable?
- Under which conditions is Core Knowledge unlikely to achieve reasonably full implementation?
- What actions are necessary to achieve reasonably full implementation?
- As contrasted with reasonable controls, how effective is the Core Knowledge Sequence under conditions of reasonably full implementation?

In order to answer these questions, we are conducting a study of six schools deemed by the Core Knowledge Foundation to be relatively advanced in their implementation of the Core Knowledge curriculum and six schools deemed as promising implementation sites. For quantitative comparison purposes, control schools have been chosen for four of the advanced implementation sites (two were unable to find control schools); there are no control schools for the promising implementation sites.

The twelve Core Knowledge schools are located in seven states, including Texas, Maryland, Tennessee, Florida, Washington, Colorado, and Ohio, and are situated in various community (urban, rural, suburban), racial, and socioeconomic contexts.

We are following the 1995-1996 first- and third-grade cohort at all schools. The first grade cohort will provide information on the relationship of the Core Knowledge sequence to the beginning years of students' academic lives. The third-grade cohort will (a) allow for some overlap in analyses with the first-grade cohort, which will progress through grade three by the end of the study, and more importantly (b) allow for analyses of students' progress as they move into the middle academic grades, in which the focus of schooling shifts from "learning to read" to "reading to learn."

This evaluation includes quantitative and qualitative components.

Quantitative component

The quantitative component of this evaluation examines the relationships between level of implementation (determined through three year case studies) and academic gains, on differences in gain by cohort (1st-3rd grade vs. 3rd-5th grade), experimental-control differences in gain over three years, and differences between effects between advanced implementation and new implementation sites. While "state of the art" statistical procedures will be used in some analyses (e.g., Hierarchical Linear Modeling, Bryk & Raudenbush, 1992), the relatively small "N's" make well displayed descriptive melding of quantitative and qualitative data the major focus of the outcomes analyses. Only students for whom both pre- and post-testing data are available will be included in any "gain over time" analyses.

Two subtests of the Comprehensive Test of Basic Skills (CTBS-4) have been administered to first and third graders at the beginning of year one as pretest data. The subtests are reading comprehension and mathematics concepts. Each CTBS subtest was administered by our research team to all first and third grade students in all sixteen schools (six advanced implementation schools, four controls, and six newly implementing sites) in

November/December, 1995, with the exception of some sites in which the school district conducts their own CTBS testing and sites which use comparable tests (e.g. CAT, ITBS). We are in the process of gathering archival data from each of the schools regarding student demographics and school-level demographics.

We are gathering two types of outcome data at the end of third and fifth grades on all students in the sixteen schools. First, we have re-administered the CTBS reading comprehension and math concepts subtests to all third grade students in the sixteen schools (again, with the exception of schools already administering comparable tests) at the end of year one (May, 1996).

We will assess all third and fifth graders again in year three.

Second, in collaboration with the Core Knowledge foundation, we have developed a third grade test of Core Knowledge, which includes language arts, social studies, and science subtests derived from content in the What your grader needs to know volumes and the Core Knowledge Sequence: Content Guidelines for grades K-6. This test, of forty-five minutes duration, was piloted in a Maryland Core Knowledge school (not part of this study) and administered in all sixteen schools in this study in the Spring of 1996. Similar Core Knowledge tests will be administered to third and fifth graders in the third year of the evaluation.

Qualitative component

The qualitative case study component of this study relies upon the triangulation of data from multiple sources, including whole school day observations, classroom observations of each teacher at each grade level, focus groups, interviews, and questionnaires. Data are analyzed using cross case displays (Miles & Huberman, 1994). All advanced implementation sites were visited for several days of classroom observation and interviews in the Fall and Spring of the first year and will be visited again in the two successive years. The most intensive site-based data gathering will occur during year two. Classroom observations and interviews were conducted at recent implementation sites during Fall and Spring site visits in year one and will be conducted again in year three. In summary, we spent several days at each of the twelve schools in the Fall of 1995 and again in Spring of 1996.

Low-inference classroom observations have been conducted at all implementation sites using an instrument derived from the Stallings Observation System (Stallings, 1980), and refinements derived by Carolyn Evertson and Steve Ross. The instrument gathers data on students' time on task rates, questioning procedures, students' apparent motivation levels, and the extent to which specific Core Knowledge content is covered during instruction. During the first year of the study, we concentrated our observations in the first and third grades of each school; however, in most schools we also observed classrooms at other grade levels. Extensive observations at all grade levels will be conducted over the next two years.

Two students (a first and a third grader) have been identified at each school for more focused observation. Each was followed through whole school days (WSDs) during year one, and will continue to be followed at least once per year through the next two years of the study.

One is student beginning the study somewhat below the school's academic average, and one above. These qualitative descriptions of students' whole days will help us to assess the longitudinal effects of Core Knowledge implementation.

Using semi-structured protocols, we have conducted interviews and focus groups (Krueger, 1994) with first and third grade teachers and all school principals (including control schools) during year one, to determine the extent to which each group continues to be supportive of Core Knowledge, and to better understand the factors they believe are responsible for their schools' relatively high (or low) levels of implementation. Interviews with school district administrators who are in positions to facilitate or inadvertently hinder full implementation have also been conducted. In the next two years, we will conduct interviews with teachers in the remaining grades,

and we will continue to interview administrators. In addition, we will conduct focus groups with parents during years two and three of the study. All interviews are taped and transcribed verbatim at the completion of each visit.

School satisfaction questionnaires will be administered to all teachers in the sixteen schools during the third year of the study. School satisfaction questionnaires will also be administered to the fifth grade students in the third year.

Preliminary Findings

The purpose of this first year report, not intended for public dissemination, is to give the Core Knowledge Foundation an update as to our progress, and early analyses of data gathered in year one. Qualitative data are presented in this report. A second report will present quantitative analysis.

This qualitative report contains some of our preliminary findings regarding the benefits of teaching Core Knowledge (as assessed by educators in the twelve Core Knowledge sites), the factors that affect successful implementation, and the challenges involved. Analysis of the factors impacting successful implementation of Core Knowledge is presented in two sections. First, we present a description of the factors we found to overwhelmingly affect early successful implementation. Next, we describe important, emerging implementation issues that we will continue to monitor over the next two years.

QUALITATIVE FINDINGS

Benefits of teaching Core Knowledge

Schools had a myriad of reasons for initially adopting the Core Knowledge sequence, ranging from "we didn't like the fact that we were all doing our own thing and that there was no continuity for children" to "we were looking for a reform that was not a passing fad" to "the parents wanted a literature-based sequential curriculum." While these motivations are clearly varied, one thing that was clear at all schools was that no matter how much or how little Core Knowledge was currently being taught, educators were able to articulate clear benefits. Some of the many benefits that were mentioned are described below.

Children gain self-confidence

Educators at almost all of the schools recounted stories of their students approaching visitors to the school to tell them about what they had recently learned. A teacher explained: "When we have company come in, our children are now in the docent mode. They look so professional telling everybody what's going on and how to do it. Our children are gaining a lot of confidence." A teacher at another school commented: "They think they're big people, important people, because they're talking about the seven continents and Ancient Egypt."

Students connect to material learned previously

One of the tenets of Core Knowledge is that it builds on knowledge that students gain over time. This allows for reinforcement and a coherent learning sequence. A teacher in a newly implementing site reported that her third grade students came in with more knowledge than past classes she had taught: "When we did Rome, we also talked about the Greek influence on Rome and they connected it, which helped."

Teachers noticed that another benefit of the spiraling curriculum is that students retain more information from year to year. A teacher explained: "I am hearing teachers (in the grades ahead) say that they don't have to back up as far as they used to." Core Knowledge appears to lessen the need for reteaching concepts at the beginning of the school year.

Students are more interested in learning (and reading)

Teachers offered anecdotal evidence to suggest that Core Knowledge has positive effects on students' reading ability and interest in learning. For example, a teacher stated that since the implementation of Core Knowledge, "students are learning to read bigger words sooner. There's an interest to read and to learn." Another teacher explained that Core Knowledge even inspired a low achieving student to learn to read: "There was a student in my class last year who could not read and he definitely could not write. But there was one thing in the Core that really clicked with him. It has a unit on the Egyptians, and he's collecting all this stuff on mummification and learning to read about it."

At a number of schools, educators cited the fact that students are more interested in reading non-fiction as one of the main benefits of Core Knowledge. A principal stated: "We producing writers and readers of non-fiction. Our librarian cannot believe that these kids use the library the way that they do." A teacher explained: "In the past I never had a first grader who wanted to know more about Peru or the Aztecs."

Over and over again, educators told us that their students are much more excited about learning since they began teaching Core Knowledge. A teacher commented: "They're enthusiastic and excited. Our school held a science fair just after our solar system unit and my kids were going nuts!" Another teacher stated: "The kids just love to learn."

Decreases discipline problems

Educators at a number of schools reported that one of the benefits of teaching Core Knowledge was that it resulted in fewer classroom discipline problems. A principal explained: "The kids are more interested in what's being taught" and less likely to be distracted in the classroom.

Core Knowledge is good for all kids

Educators at many of the schools stated that one of the major benefits of the curriculum is that it can meet the needs of all students. A teacher explained: "It's like a gifted curriculum for all kids." A principal stated: "I think the strength of the Core Knowledge program is that the students, no matter what their ability level, can pick up that background information. And that's the idea of leveling the playing field."

Schools have found that Core Knowledge works well with students who are below grade level, because while they may not be able to read at the level of their peers, they are able to grasp Core Knowledge material which is presented through activities or hands-on projects. Core Knowledge also works well with high achieving students. For example, in order to make sure all students are challenged, one school has established an "enrichment plan" for every student in addition to what they consider to be the baseline of knowledge for all kids. Because all students are allowed to achieve to their own potential, this has allowed them to maintain their population of students who qualify for gifted and talented programs elsewhere in the district.

Increases interaction among teachers

At many of the schools, teachers discussed the fact that teaching Core Knowledge has increased the amount of interaction they have with each other. A teacher stated: "It has really made us closer because you're forced to work together....You can't be territorial. You have to share everything. You just have to." Another teacher explained: "We probably have at least one formal meeting a week, and maybe five or six other informal meetings in the hallways, talking about where we are, 'what are you doing?', 'does anybody have anything neat on South America?' We're pretty much in constant contact, and our doors are usually open between classrooms." She added: "We share materials. We share our resources, and we share ideas."

Not only has interaction among teachers increased, but also accountability for the curriculum. Teachers reported that they keep each other on track. A teacher stated: "I know we'll get through all of the Core Knowledge information for first grade because we hold each other accountable."

Makes teachers work lives more interesting

Teachers at many of the schools told us that teaching Core Knowledge makes their work lives more interesting and exciting. A veteran teacher of fifteen years who was initially resistant to adopting the curriculum poignantly stated: "I have never felt more like a teacher than I felt since we've been teaching Core Knowledge. Before, I was just repeating what was in a book." Another

initially resistant teacher explained: "Here I am, five years down the road and who would have thought? I grew as an individual. I grew in my teaching. I feel much more confident. I feel like the kids really benefit."

Teachers credited the hard work that goes into preparing to teach Core Knowledge as one of the things that makes their work life more rewarding. A teacher explained: "The energy I put into it makes it more meaningful for me."

Support from teachers increases over time

Unlike some reforms where teacher enthusiasm wanes after the first two years, our data suggest that teacher support for Core Knowledge increases over time as teachers attain mastery of the curriculum. As a teacher who had been teaching Core Knowledge for three years stated: "The more you've taught it, the more comfortable you become, and the more enthusiastic you are."

Satisfied parents

In all of the schools, educators reported that parents are extremely happy with Core Knowledge. Echoing the comments of many, a teacher at a newly implementing site stated: "The parents are thrilled, thrilled, thrilled." She added: "They tell me all the time how excited they are that their children come home talking about the Aztecs or the Spanish or just different things we've talked about." Another teacher reiterated: "The parents let me know that they are amazed at what their children can come home and discuss with them at such an early age." A teacher who is also a parent stated: "My fourth grader had to look up an article. They're getting to learn how to use an encyclopedia, their dictionary, and indexes. I think they're getting a very broad and intense overview and that's what I like about it."

Factors affecting successful early implementation

In our analysis of the qualitative interview and observational data collected in the first year of the evaluation, we found that there were a number of factors that greatly facilitated successful early implementation, including 1) extra funding for start up; 2) common planning time; 3) parent and community support; 4) site-based management; 5) district support; 6) a staff interested in teaching the Core; 7) team teaching; 8) sharing lessons and experience with teachers at other Core Knowledge schools; 9) assistance in finding materials; 10) local adaptations.

Extra funding

Almost all of the schools in the sample benefitted from foundation start up grants that allowed them to purchase materials and send teachers to conferences and to visit other Core Knowledge schools. A principal described:

Grant money has gone along way in letting us buy materials and do a lot of teacher in service. It helps pay for teachers going to the National Core Knowledge conference and visiting other schools. We've been able to talk various organizations into giving us money because of the value of the program.

One school acquired a grant of \$200,000 per year for seven years for materials, upgrading technology, and staff development. Other schools had far less start up funds (ranging from \$2000 to \$26,000), but all benefitted from at least some money initially. This funding was seen as critical in all cases to the implementation of Core Knowledge. Both the Challenge Foundation in Texas and the Abell Foundation in Baltimore have been particularly supportive of Core Knowledge schools.

Common planning time

Implementation is strengthened by common planning time for teachers. Shared planning time during implementation, especially in the first several years, was critical for most teachers. As one teacher stated: "The biggest reason we've been successful is because we've been given time to plan these units."

Most schools did not give teachers paid time to prepare their scope and sequence before implementation, but attempted to compensate by providing time for teachers to get together during the school week in the first several years of implementation. For example, one school has an hour per week of "team time," where students are released early and the staff works in grade level and cross grade level teams to share ideas and prepare and review lessons. At two other schools, the principals created common planning time by scheduling all grade level specials (e.g., art, music, gym) at the same time; one school has also shifted teachers' extra duties (e.g., lunch duty, recess duty) to administrative and paraprofessional staff. Some schools also release teachers one or two half-days a month to plan units in teams.

Parent and community support

Parent and community support of the Core Knowledge curriculum facilitated successful implementation at a number of sites. Interestingly, parent support has come not only from traditionally involved (middle class) parents, but also parents who are traditionally less involved. One advanced implementation school succeeded at gaining this support by offering parent information sessions where parents were given information about Core Knowledge from staff and other parents, sending out newsletters before the first year of implementation, and continuing to inform parents about Core Knowledge. At the beginning of every month, each teacher sends home an outline of the curriculum that they will be teaching for the following month.

At another site, parents were surveyed about their opinions about the Core Knowledge curriculum before it was instituted at the school. At this site, several parent involvement initiatives were introduced in tandem with the introduction of Core Knowledge. The curriculum coordinator explained: "Our parents are a very important component of the entire curriculum. So therefore we opened our doors to parents and our parents are a big part of what has happened."

The support from this school's low income parent population is seen as contributing to the success of Core Knowledge at this site.

Site-Based Management

The implementation of Core Knowledge at several schools in the sample has been facilitated by the schools' relative autonomy from their districts through site-based management plans. At one school, site-based decision management has allowed them to ward off a district-mandated program that might compete with the Core. The curriculum coordinator explained:

"The beauty of it is that the district could have told us 'you're going to do it' but they know that it's up to us whether we want to use it or not."

The three newly opened schools in our sample benefitted from freedom to decide how to allocate funding. Principals were able to use funds to equip the schools with Core Knowledge content materials, greatly aiding in the provision of necessary resources. One of these schools is part of the district but has extreme site-based management. A parent explained: "We get to hire the teachers, and we do get to choose our curriculum. And we have been able to waive some of the district programs that haven't fit into the Core Knowledge package." A parent advisory board makes most policy decisions at this school, but there is also a site-based management team, upon which teachers and the principal are represented.

We should be cautionary about extrapolating from this finding, however, as studies of efforts to improve students' schooling through simple shifts to site-based management without the provision of alternative uses for schools new freedom have resulted in no net academic improvements for students (Murphy & Beck, 1995). However, coupled with an a solid reform program, the relationship of site-based management to school improvement may be stronger.

District support

While schools enjoyed the autonomy to make site-level decisions, educators also felt that district support for Core Knowledge was key to successful implementation. Although Core seemingly could be implemented without this support, the absence of district support was noticed by principals and teachers alike. A teacher described her district: "Like all regulatory bodies, they want all kinds of change and innovation, and as long as the individual school is willing to bear the cost, they're all for it." She expressed insult that their school board and district did not recognize their achievements, nor look further into Core Knowledge.

Another principal also wished Core Knowledge had district support: "You could do so much more because then you can order books that are more tied in with Core materials... You're all working for one purpose." In fact, this is exactly what has occurred in the district of one of the newly implementing sites. Because the superintendent strongly supports Core Knowledge, all of the schools in the district have adopted it. Now, schools can share the work of developing units. A teacher explained: "Last year we were starting from scratch and we had to develop whole units. We were totally overwhelmed. Now this year, since it is county-wide, we've divided up the units. Different schools took a topic and really did the units very nicely."

A newly implementing site also described an encouraging amount of district support. Not only does their district provide financial support in the form of start-up and conference travel funds, but also the superintendent has taken an interest in learning about Core Knowledge. The principal explained: "When we first started gathering the teachers together and sharing what Core is and talking about the difference between content and skills, he came to everyone of those meetings. He didn't say anything, but he didn't have to. Just his presence spoke support."

A staff interested in teaching the Core

Certainly, successful implementation is facilitated by teachers who are interested in teaching the Core Knowledge Sequence. Three of the schools in the sample (two advanced; one new) benefit from the luxury of having been able to hand select teachers. These three schools opened under rather different circumstances. One opened as a charter school, one as an innovative "alternative school" under its district's guidelines, and the third was created to relieve overcrowding. At each of these schools, Core Knowledge began at the same time the school was created. Therefore, prospective teachers were informed about Core Knowledge by their respective principals during the hiring process. As one principal stated: "No one would have chosen this assignment if they were not willing to work hard to make Core Knowledge succeed here." A teacher explained that before she

applied at a Core Knowledge school she "did a lot of research reading the Hirsch books and talked to the teachers who were at the school already."

These teachers often chose to teach at Core Knowledge schools because they felt that the curriculum matched what they believed in. A teacher explained: "I liked the idea of being in a school where I know that the expectations that I have are the same as the expectations for the whole second grade."

The sites that have been implementing Core Knowledge the longest have become well known in their areas as Core Knowledge schools, and therefore the teachers that tend to apply for jobs are those interested in teaching Core Knowledge. A principal explained: "People interested in teaching Core Knowledge are sending out resumes when we don't even advertise that we have positions available."

Team teaching

At several schools, teachers have found that teaming with other grade level teachers has facilitated successful implementation of Core Knowledge. A teacher at an advanced implementation site explained:

(Teaming) works really well, particularly for new schools that are starting. It enables you to concentrate on the new curriculum areas that you've never taught before. I'll take an area, and then the other two teachers will take an area. It's particularly important that first year, but we're still doing it because it's fun.

A seasoned principal explained the importance of team work, both in teaching and planning: "Core Knowledge requires people who enjoy working as a team, because it is not going to work unless there is that teamwork involved." At this school, we observed the first grade teachers rotating students for the "Christmas Around the World" unit. Each teacher specialized in the holiday celebration of a different country. A teacher explained: "We each take a country and then we go to the library, and we try to get as much as we can on that country. We pick the interesting facts that the kids really like." Because the teachers at this school have been working together for a number of years, they plan together as needed, not on a scheduled basis. A teacher explained: "We used to plan religiously once a week, and now we meet sporadically, whenever there is something we need to discuss." However, team work in planning is still of utmost importance. She added: "When we did the Revolutionary War, that was new to the sequence and it was overwhelming. So one teacher took Paul Revere, one teacher took the Boston Tea Party, and so on. And then when we put it together we had a terrific unit, and nobody is burned out because they each took one little piece."

Teachers at a newly implementing site also use a team teaching approach. Even though this school has not fully implemented the Core, they have gradually added several units each year, many of which are team taught. A teacher stated: "The Mayas and the Aztecs was a 15 day unit, and there was no way you could prepare for everything alone." Her colleague added: "It's more fun when you split it up. It also promotes collegiality."

Sharing with teachers at other Core Knowledge schools

Teachers reported that successful implementation was also facilitated when they were able to share lessons and experiences with teachers at other Core Knowledge schools. Many teachers stated that the main benefit of attending Core Knowledge conferences was to be able to connect with teachers in other schools. A teacher at an advanced implementation site stated: "I have made some really good friends at the conferences throughout the years. We see each other and we trade things back and forth." This was especially true for teachers in schools in more remote areas with no other Core Knowledge schools in close proximity. It was also true for teachers at a school which often has to defend its choice to teach Core Knowledge. A teacher explained: "In this city, this is not a politically correct school. It's doing better but it is very controversial, and so other than people on the staff, there aren't a lot of people who are excited about it. So it was fun to be [at the conference] with people who share the energy."

Assistance in finding materials

Teachers at several of the schools benefitted from people who helped them do their research for Core Knowledge units. At one school, their university partners assisted them in finding materials. At two schools, parent volunteers serve as research assistants. A teacher explained: "We have so much parent help. The parents have been doing research. One of my parents found all the poems we needed [for third grade]." When asked how it would be to teach Core Knowledge without the parents' help, one teacher at this school responded: "There is no way." Another reiterated: "It would be impossible."

Local adaptations

Several schools have made local adaptations to the curriculum to better serve their diverse student populations. For example, the first grade teachers at an advanced implementation site with a 25% Hispanic population stated that they place special emphasis on the unit on Aztecs, Incas, and Mayas and on Mexico. A teacher explained: "That's part of their culture and heritage, so it does benefit them." At another site, teachers have integrated content about the city in which their school is located into the curriculum. This integration took place as the teachers were developing their scope and sequence, the summer before the implementation of Core Knowledge began. Teachers in bilingual classrooms have also attempted to make adaptations for their Spanish-only speakers; however, finding materials is rather challenging. Overall, these local adaptations are beneficial as they appear to increase the teachers' ownership of curriculum and student engagement in learning.

Factors hindering implementation

There were several factors that tended to slow implementation or create dissatisfaction from teachers attempting to implement Core Knowledge. First, teachers found that implementation took a lot of hard work, and some were less willing than others to do it. Second, many teachers lacked the background knowledge contained in the curriculum, and this made them fearful of teaching it.

Third, teachers found that despite start-up funding, they were still forced to spend a considerable amount of their own money on resources. Finally, all teachers experienced some difficulty finding age-appropriate materials for teaching.

"If you 're afraid of hard work, it's probably not for you."

Like most curricular reforms, successful implementation takes hard work on the part of teachers, and, as one principal stated, "If you're afraid of hard work, it's probably not for you." Not surprisingly, all teachers found that the first year of teaching Core Knowledge required considerable amounts of hard work because of the time needed to find materials and plan lessons. As one teacher described: "That first year, I'd get the kids to bed then my husband would go off and do his thing, and I'd be sitting up there with the encyclopedia researching the colonies." A first year teacher who was also implementing the Core claimed that she spent an astounding 92 hours a week planning her lessons.

Most teachers admitted that the time commitment and level of work required for preparation lessened over time, especially after the first two years.

Lack of background knowledge

At several of the schools, teachers and principals stated that one of the factors hindering implementation was that some teachers initially lacked the background knowledge in specific content of the Core Knowledge sequence. A principal explained: "For example, world civilization in the primary grades, the teachers had to learn that along with the kids. The arts has also been a real challenge. That's been our weakest area as far as full implementation." A superintendent reiterated: "Teachers look at the curriculum and say 'I don't know anything

about this, and I don't have time to learn it' and they brush it aside." However, while this may be an initial hindrance, several teachers remarked that one of the benefits of teaching the Core was all the knowledge they were gaining themselves.

In order to solve what she called the "fear of content" problem among teachers, a principal at a newly implementing site arranged a staff development where she brought in experts from the local colleges and high schools to address the topic areas that the teachers found most daunting. She explained: "We got waived from district staff development, and we set up content seminars... Physics and world history were the biggest areas." These seminars were so popular that they drew interest from teachers from other schools.

Teachers feel obliged to spend their own money on resources

In all schools, including those where start up funds for purchasing Core Knowledge materials were provided, teachers spend a considerable amount of their own money on materials. A teacher explained that she spent \$1300 of her own money when she moved from teaching fifth to first grade: "I mean that's a pretty significant chunk of my household income to buy resources." Another teacher concurred: "It's very expensive for teachers because we have to buy all the materials, and we keep hearing that we have a lot of Core money, but no, it doesn't cover that." Teachers at this school were each given fifty dollars for the first two years of implementation.

Difficulty finding age appropriate materials

Every teacher we interviewed expressed difficulty in finding age-appropriate materials for various units. For example, teachers had trouble finding materials for first graders on the Westward Expansion. Teachers at a school in a remote rural area had a particularly hard time finding some materials and stated "it would be wonderful if there was a booklet or a sheet that listed where we could order resources."

Emerging Implementation Issues

The most interesting aspect of our qualitative findings is in the area of emerging implementation issues. First, we discuss early implementation issues including the fast vs. slow phase-in of the curriculum, the degree of specificity of implementation, and the degree to which Core Knowledge is integrated with other programs and the instructional approaches used. Next, we discuss more advanced implementation issues including how to keep the energy of Core Knowledge alive over time and how to integrate new teachers into the school who have never taught Core Knowledge. Finally, we address two important policy issues: Core Knowledge in the context of Modern Red School House design and in charter schools.

These are the issues that are most key to the successful scale up of Core Knowledge. However, while we report our preliminary findings here in this first year evaluation, these are issues that we will need to monitor over the next two years in order to get a better sense of their effects on the scale up of Core Knowledge.

Fast vs. slow phase-in of curriculum

Schools adopted a variety of strategies for implementing the Core Knowledge sequence. Several schools in the sample "jumped into full implementation the first year." Others chose to phase in grade by grade or parts of the curriculum one at a time. A teacher at one of these phase in schools recommended: "Don't jump in. You don't have to have done all in one year." Another school had several teachers experiment with teaching Core Knowledge before it was finally adopted by the whole school the following year.

One school had several teachers experiment the first year, and then the following year the principal encouraged each teacher to teach the units they thought would be the most fun. "The goal was to get them familiarized with integrated teaching," explained the principal. Gradually, over the course of two years, teachers at this school

developed units during established meeting times. It will be a total of three years before full implementation begins at this school. The principal explained: "We'd rather take our time and have some really strong units."

An advanced implementation site used a phase-in implementation approach, beginning with the first and second grades in the first year, adding third grade the second year, and fourth and fifth the following year. This strategy was chosen because there was initially greater consensus for implementing the Core in the primary grades, and while the upper grades supported the school's adoption of the curriculum, the phase-in approach allowed them to "look at it, test it out, and maybe even try it in their classroom without committing to it." After four years, there is now widespread support among teachers for Core Knowledge. Resistant teachers have since become interested or have transferred to other schools.

A teacher at another advanced implementation site found fault with this phase-in method: "I wouldn't want to see a school start one grade at a time. Because if they all jump in at once, the kids can look forward to it. And I wouldn't want the fifth graders to miss out because the school is starting only in first grade."

A related issue to fast vs. slow phase-in is that a planning year before implementation appears to be a component in successful implementation at some schools and not in others. At one advanced implementation site, teachers were pleased that "we had a year to prepare before we had to teach it. We weren't just thrown into it. We could just gather supplies, gather information, become familiar with it, and try the units we had material on already."

The fast vs. slow phase-in issue is a key element of the scaling up and successful implementation of Core Knowledge, and we will continue to gather data in this important area.

Overcoming teacher resistance

Overcoming initial teacher resistance to Core Knowledge is an important implementation issue that many Core Knowledge schools have to address, to some degree or another. However, what appears to make Core Knowledge different from some other reform efforts we have studied is that there appears to be less teacher resistance. This may be because teachers are generally more sensitive to changes in instructional approaches than changes in curriculum.

Resistance also seems to decrease over time, as teachers become more familiar with the content. As a veteran teacher explained: "Most of us are resistant to change. We could see what kind of work it was going to be. It was kind of threatening because there would be no textbook.

You had to go out and get your own materials. We were used to opening up a manual and it telling us exactly what to do.... But after we saw content, and after we got past the fear factor, and then the ones that got into it really quickly helped to sway the others. Now, I would say 90% of the teachers are really happy with it."

As the Core Knowledge foundation continues its scale up efforts in more schools, how to get teacher buy-in at some schools may be an issue. Thus we will continue to evaluate this issue over the next two years.

More specificity in implementation vs. less

School personnel ranged in the degree to which they felt the implementation of Core Knowledge was specified enough or not. For example, a principal at an advanced implementation site felt that the lack of specificity about how to implement the Core was a strength:

I'm a firm believer that each school has to do it for themselves. What makes it successful here is the hard work that went into it, the staff sharing the frustrations and the successes. I hope we don't ever get it to the point that it's a packaged program.

A teacher at an advanced implementation site agreed, stating: "I think when you get into how to teach, that's when you meet resistance... When you bring in a new package that says 'this is the stuff we want you to teach and this is how to teach it,' I think a wall comes up immediately." Another teacher reiterated: "I really appreciate the fact that the foundation deemed classroom teachers educated enough to handle it."

On the other hand, there were teachers who would prefer more specificity. Some teachers believed that Core Knowledge should encompass more than just content. A teacher explained: "I think the Core Foundation would be doing a great service if they looked seriously at the skills that go along with content...I think the scope and sequence should be set...I think there is assessment that should be added as well."

This is another issue we will continue to follow.

The degree to which Core Knowledge is aligned with other programs

Most of the schools in the sample are involved in a variety of other instructional and organizational changes. Few of the schools are using Core Knowledge only. Some schools have found ways to strengthen the implementation by effecting changes or reforms that are in direct support of the Core. For example, at one advanced implementation site, the adoption of the Core happened in concert with a school-university partnership, which included an intern program and professional development, YMCA and Museum partnerships, a strong parent involvement initiative, and a reorganization of teachers' schedules to allow for teaming. All of these reforms were coordinated to support the Core. However, other programs in a school can hinder successful implementation of the Core if they compete with the Core for resources or teachers' time, or are simply disconnected from the Core all together. An experienced teacher at an advanced implementation site explained:

We're implementing technology this year. That's time, that's energy. We're doing a lot of things like student of the week and principals parties, advanced workshops and this and that. And of all of these things are frosting on the cake... The frosting on the cake is taking teachers' time away from Core Knowledge.

Teachers at two sites struggled to fit Core Knowledge in while also doing the district-mandated performance assessment tasks designed to align the school with the district's new assessment program. In fact, achievement on the new district tests seemed to take precedence over Core Knowledge. While performance assessment could be used as a complement to Core, the two were not yet aligned. Not surprisingly, these teachers saw Core Knowledge something else to add to their list of things to remember to do in the classroom. At yet another school, a newly implementing site, a group of overwhelmed teachers stated: "I think we have almost every program known to man."

Varied instructional strategies One of the most interesting things about the implementation of Core Knowledge across these twelve sites was the diversity in instructional strategies that we observed. Most schools admitted to changing their instructional strategies with the introduction of Core Knowledge. For some, this meant "more project teaching, more hands-on, build-it, create-it types of teaching, and less dependence on textbooks than ever." A principal described:

We used to be a basal reading kind of school, and with adopting Core Knowledge, which has a lot of content that you won't find in the basal reading series, we went to a children's literature, whole language approach to teaching reading and writing.

An educator at another school concurred, explaining that they had integrated whole language and a multiple intelligences, varied learning styles approach as they implemented Core Knowledge. Core was seen as a way to thematically blend the curriculum and provide all students with opportunities to learn.

By contrast, two schools use a "back to basics" approach which includes phonics and a direct instruction, traditional, whole group delivery system. Like the educators using the less traditional approach, the educators in these schools also felt that they were using instructional approaches that were best suited to teaching Core Knowledge. At this point in time, we cannot say which instructional approaches tend to work better with Core Knowledge; we will be better able to make an assessment after the second and third years of the evaluation.

How much Core Knowledge is enough?

The Core Knowledge Foundation suggests that Core Knowledge material comprise fifty percent of what is taught. In our interviews with teachers, we asked them how much time they spending teaching Core Knowledge. Overwhelmingly, teachers at the advanced implementation sites stated that they spent more than fifty percent of their time teaching Core material. Estimates were generally in the sixty percent range, with some as much as seventy-five percent.

At one advanced implementation school, the teachers are held accountable to their principal and parent advisory board for teaching all of the Core Knowledge material in a given year. A teacher explained: "We go through and check off (the concepts in the Sequence) to make sure that we cover everything because we're responsible for everything. That's part of the deal of being here."

Conversely, teachers at most of the newly implementing sites had lower estimates of the amount of time they spend teaching Core Knowledge, generally in the range of twenty to forty percent. A teacher at one new site with a slow phase-in approach stated: "I'd call Core Knowledge the icing on the cake. I approach it with a very relaxed, fun tone. We usually do it in the afternoon...And the children love it because there is no pressure." She added: "Each year I'm adding more. I started very slowly." Another teacher explained that it comprised about a quarter of what she teaches, especially as in the first grade, teaching reading is the top priority.

Despite these difference in the amount of Core Knowledge material, all of the teachers felt that they were able to see positive effects, mainly in the areas of student excitement about learning and parent satisfaction. Only in the next two years will we be able to better assess the effect of the amount of Core Knowledge taught on student achievement or successful scale up of the curriculum across the country.

How do you keep the energy alive after years of implementation ?

Two of the advanced implementation sites who have been implementing Core Knowledge for four or more years have confronted the question of how do you keep the energy of the Core alive after several years of implementation. Teachers at one of the schools agreed that two things have contributed to maintaining the excitement about teaching Core. First, that there have been refinements in the sequence and the moving of units from one grade to another have caused teachers to continue to grow and be involved in creating lessons. A teacher explained: "I think if Core is going to be successful, it has to be a living, breathing, changing thing, not something you pull out of your March folder, year after year, say 'well it's March, and it's time for Johnny Appleseed."

Second, the healthy turnover in staff that has occurred at the school over the years created opportunities for renewal. A teacher explained:

With every new teacher who joins your grade level, you go back and review what Core is about, why you think it is neat, why we do this, and how it helps our children. As you become a disciple, it helps to build your excitement.

A teacher at another school felt that this type of renewal could also be accomplished through networking with teachers in other schools. Networking can provide teachers the opportunity to be "disciples" for teachers in new schools and also the chance to learn new ways of presenting Core material. A teacher explained: "How people

interpret it and use it is very different from region to region, and to see how things are infused into the Core is neat because you can look at it in a fresh, new way."

How schools manage to keep the energy of Core Knowledge alive is a critical issue that we will be able to better assess over the next two years.

How to bring new teachers on board

Several of the advanced implementation sites have struggled with how to incorporate new, but interested and willing, teachers who were not at the school when Core Knowledge was initially adopted. One school has successfully integrated new teachers by passing on previously created Core Knowledge lessons. Another school tends to hire student teachers or long term substitutes who are familiar with the curriculum. At an advanced implementation site, new teachers are told to "do as much Core Knowledge as they can until they feel comfortable with it" and to "use their basal readers and textbooks if they would like to." This is another important issue that we will continue to watch.

Core Knowledge in the Modern Red Schoolhouse

At the end of year one, it is unclear how the implementation of Core Knowledge will play out in the context of the New American Schools Modern Red Schoolhouse (MRSB) design. The MRSB school in the sample was in its first year of implementation of MRSB and had not yet begun to implement the Core Knowledge component of the design. Implementation of the Core Knowledge Sequence is scheduled to begin in the 1996-7 school year. At the end of year one, while some staff seemed quite eager to begin Core Knowledge, others were not aware of this component of MRSB. The eager teachers feel it will complement their MRSB efforts and fit in with the school's current emphasis on thematic projects. At this early stage, it appears that the implementation of Core Knowledge is likely to be impacted by the fact that in addition to MRSB, the school is a performing arts magnet school in which performing arts is integrated into all areas of the curriculum.

In addition to the newly implementing MRSB site, an advanced implementation site in this evaluation is part of a district which is pushing MRSB. The school chose not to become an MRSB site, but to continue teaching the Core. The principal explained:

When we looked at [Modern Red], we found that we already had all of those components, and that was another initiative where you need training and networking, and we chose not to do it because we're already doing that through the Core Knowledge Foundation... We a didn't need another program in order to validate it.

The introduction of MRSB by the district has created some resentment at the school. The curriculum coordinator explained: "For four years we've done wonderful things with our Core Knowledge curriculum and... yet nobody paid attention to us. But now that there is this nice Modern Red School House package deal, they're looking at that."

Core Knowledge in charter schools

This evaluation will provide opportunities to assess how Core Knowledge functions in a charter school setting. Charter schools are part of a larger movement toward decentralization of public schools. Designed to encourage innovation, charter school legislation provides schools with increased flexibility, autonomy, and exemption from the rules and regulations generally governing public schools. However, at this point, little is known about whether charter schools lead to improved student outcomes.

One of the newly implementing sites in the study is a charter school, and an advanced implementation site considered becoming a charter school. A small group of parents at the advanced implementation sites hoped to turn the school into a charter school because it would provide them greater opportunity for governance and

control. However, the teachers at the school voted against chartering because they felt that the parents "do not expect teachers to be partners in the governance of the school." The amount of Core Knowledge taught became an issue in this debate, as the charter advocates claimed that not enough Core Knowledge was being taught at the current school. Now, teachers hang laminated check lists of what they have covered on their classroom doors.

This group of parents decided to propose a separate charter school, which would be an exact clone of the existing Core Knowledge school, but would allow for parent governance. The proposal was rejected by the district, remanded to the state board of education, and finally approved. The opening of the charter school is pending the establishment of a location for the school.

The charter school in this study, a newly implementing site, was started by what the principal described as "a group of parents from very conservative backgrounds. Not ultras, but pretty doggone conservative." The ten parents presented a proposal for a "back-to-basics, traditional, fundamental school." With Core Knowledge as a key component, the school was modeled after a successful back-to-basics school in the district. Initially, the school board did not approve the proposal, arguing that a back-to-basics approach was not innovative. The state board of education asked the local school board to reconsider, and the charter proposal was approved.

The principal, a dynamic leader with experience in the private school sector, was hired to lead the school shortly thereafter. This charter school is governed by a seven member board composed of six parents and the principal. The principal hired the staff of ten teachers.

By all measures, this school is successful. As the principal explained: "We have a reputation for being the only charter school in the state that doesn't seem to have any problems....And I think a lot of it has to do with our staff being professional in what they do." He added:

And we're doing what we told [the board and the parents] we would do. We're going to teach in a traditional format, a lot of whole class instruction. We're going to use the Core. We're going to use the Open Court reading and math systems, and we're going to deliver. And that's exactly what we've done. We've delivered in every key area, from budget to curriculum, and test scores have gone up.

The district office administrator attributed the success of the school to the principal. She stated: "He knows what he's doing." She added, however, that Core Knowledge is a big part of why the school is successful. She explained: "Because you're not rewriting the curriculum every week. This is it. This is what we teach."

Because this school has been so successful and has 780 students on the waiting list, the parents who started the school are working with the waiting list parents on a proposal for a clone charter school. Certainly, this school is a positive example of what happens when Core Knowledge is implemented in a charter school. We will continue to assess this issue and the growth of Core Knowledge in charter schools over the next two years.

References

- Bryk, A.S., & Raudenbush, S.W. (1992). **Hierarchical linear models**. Thousand Oaks, CA: Sage.
- Crandall, D., et al. (1982, March). **Models of the school improvement process: Factors contributing to success**. Paper presented at the annual meeting of the American Educational Research Association, New York.
- Core Knowledge Foundation. (1995). **Core Knowledge Sequence: Content guidelines for grades K-6**. Charlottesville, VA: Core Knowledge Foundation.
- Goodlad, J.L., & Klein, M.F. (1970). **Behind the classroom door**. Belmont, CA: Wadsworth. Hirsch, E.D., Jr. (1987). **Cultural literacy: What every American needs to know**. Boston: Houghton Mifflin .
- Hirsch, E.D., Jr. (Ed.). (1993). **What your 5th grader needs to know: Fundamentals of a good fifth-grade education**. New York: Delta.
- Hirsch, E. D., Jr. (1996). **The schools we need and why we don't have them**. New York: Doubleday.

- Jones, C.. (1991). **A school 's guide to Core Knowledge: Ideas for implementation.** Charlottesville, VA: Core Knowledge Foundation.
- Krueger, R. A. (1994). **Focus groups.** Thousand Oaks, CA: Sage.
- McLaughlin, M. (1990). The Rand Change Agent Study revisited: Macro perspectives and micro realities. **Educational Researcher**, 19 (9), 11-16.
- Miles, M., & Huberman, M. (1994). **Qualitative data analysis (2nd Ed.).** Thousand Oaks, CA: Sage.
- Slavin, R., Karweit, N., & Wasik, B. (1994). **Preventing early school failure.** Needham Heights, MA: Allyn & Bacon.
- Stallings, J.A. (1980). Allocated academic learning time revisited, or beyond time on task. **Educational Researcher**, 9 (I 1), 11-16.
- Stallings, J., & Kaskowitz, D. (1974). **Follow through classroom observation evaluation 1972-1973** (SRI Project URU-7370). Menlo Park, CA: Stanford Research Institute.
- Stringfield, S., Millsap, M., & Herman, R. (1996) **Special Strategies for educating disadvantaged students: Findings and policy implications of a longitudinal study.** Washington, D.C.: U.S. Department of Education.
- Stringfield, S ., Ross, S ., & Smith, L., eds. (1996). **Bold plans for school restructuring.- The New American Schools Development Corporation models.** Hillsdale, NJ: Erlbaum.