Cargill Core Knowledge Connection

Summary of evaluation findings in the third year

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Summary

Background

The Cargill Core Knowledge Connection is an initiative, funded by the Cargill Foundation and administered by the Minnesota Humanities Commission, to help nine Minneapolis-area elementary schools and preschools introduce the Core Knowledge curriculum. Six schools began their implementation in September 2002, and three others began in 2003 (including one preschool that was discontinued at the end of that year). The participating schools include:

- Two Minneapolis public schools (Dowling Urban Environmental School and Longfellow Elementary School)

- Three charter schools (Carter G. Woodson Institute of Student Excellence, or WISE; Excell Academy for Higher Learning; and Twin Cities International Elementary School, or TIES)

- One alternative school (Urban League Academy Elementary School)

- Three preschools (Longfellow's "Hi-5" preschool; Elim Nursery School; and Urban League Academy's "Hi-5" preschool, now discontinued)

This third-year evaluation report provides an update, as of the end of the 2004-05 school year, on the progress of implementation at each school, together with insights on factors that have affected the success of implementation, and some indicators of how the use of Core Knowledge may affect students' interest and learning. With the grants to the first round of schools expiring in December 2005, the report also assesses the intention and preparedness of these schools to sustain the implementation of Core Knowledge following the end of the grant period.

Methods

Evidence for the evaluation comes from five main sources: interviews with the principals or directors of each school; surveys of teachers at the two Round 2 schools in February and again in May; focused discussions with Humanities Commission staff at the end of the school year; and an analysis of test scores for students in the two Minneapolis public schools, conducted by the staff in the district's Office of Research, Evaluation, and Assessment. In addition, research staff consulted schools' proposals and reports to the Humanities Commission, and the Humanities Commission's regular reports to the Cargill Foundation, for background information and further perspective on information gained from the other sources.

Findings on student achievement

The analysis of student test scores found significant gains in math achievement for Core Knowledge students compared to other students in the Minneapolis school district. Overall reading scores were not significantly better for Core Knowledge students. However, in a separate analysis of scores on the Oral Reading Assessment given only to first graders, scores for Core Knowledge participants were slightly higher than those for non-participants, indicating a possible positive impact for Core Knowledge. In addition, analysis of Kindergarten tests (which assess some reading skills, but no math skills) also provide some evidence of an advantage for students who attended the Core Knowledge Hi-5 program.

More qualitative findings on student enthusiasm and learning

In each of the first two years of implementation, teachers in participating schools were asked to comment on the extent to which they observed differences in their students' response to instruction as a result of the use of Core Knowledge. After discounting the possible influence of year-to-year differences among students, a conservative estimate of the impact of Core Knowledge for the Round 2 schools in their second year of implementation shows a modest positive impact on student enthusiasm, but minimal or no effect on attentiveness, quality of homework, classroom engagement, or cooperation. These results are lower than for the Round 1 schools in their second year. However, they appear to be related mainly to the difficulties involved in serving a very challenging population of students, rather than to problems relating more directly to Core Knowledge itself.

At the two Round 2 schools surveyed in 2004-05, one-quarter of teachers (24%) reported that "students with prior Core Knowledge experience are better able to connect facts to their own lives," and slightly over one-third (38%) reported that "students with prior Core Knowledge experience have a higher level of factual knowledge." No teachers disagreed with either of these statements; the remaining teachers selected the "neutral" response to these statements. Furthermore, these results are more positive among teachers with more experience using Core Knowledge, giving some evidence for gains as teachers and students acquire greater experience with the curriculum.

Other school outcomes

Based on interviews, teacher surveys, and document analysis, this evaluation found that:

- Almost all of the Round 1 schools were meeting their goals for implementation by the end of the third year (in terms of the amount of Core Knowledge being taught, in the content areas planned).

- Teachers in four of the five Round 1 schools are showing a significant level of commitment to, and investment in, the use of the Core Knowledge curriculum. At the remaining school, the Humanities Commission staff do not perceive the same level of commitment, but the school administration reports that teachers there strongly support the curriculum.

- According to principals and teachers, parents in the participating schools are not highly aware of "Core Knowledge" by name, as a specific curriculum or philosophy of education, but are relatively familiar with the kinds of content being taught. Principals report that parents are pleased with the amount and kind of learning their children are displaying.

- In all of the Round 1 schools, Core Knowledge has been institutionalized into the school's on-going operations in at least one way. These include organizational structures for planning and monitoring content to be taught (annual curriculum mapping), routinely screening candidates for professional positions based on their Core Knowledge experience, organizing school schedules to facilitate common planning time for teacher teams, and instituting accountability structures that incorporate teachers' reports of content covered, instructional methods used, and/or reflections on the effectiveness of lessons. Most Round 1 schools have incorporated most of these practices, indicating high chances for successful continuation of Core Knowledge after the end of the grant period.

Findings on implementation

Level of implementation (amount of Core Knowledge content taught)

Each participating school proposed a unique implementation plan for the three years of the grant period. Some intended by the end of the grant to fully implement the entire Core Knowledge scope and sequence, while others (including the Minneapolis public schools) chose to adopt only selected subject areas. Some chose to start with only one or two subject areas and/or grade levels and add others gradually, while others expected to implement the entire scope and sequence in the first year.

Based on teachers' reports of Core Knowledge units taught during the year, most schools have maintained relatively high levels of Core Knowledge use from 2003-04 to 2004-05.

In schools where new content was introduced gradually, the overall amount of Core Knowledge being taught appears to have stabilized in the earlier subject areas and continues to grow in the newer ones. In schools that started all at once, the amount of content shows more fluctuation. It appears that some downward adjustments have been made to try to keep expectations manageable. Based on spring surveys, the median estimate given by teachers in the Round 2 schools is that around 20 to 30 percent of classroom instructional time was spent on Core Knowledge in the last three months of the third school year of implementation. The level of implementation appears to be in line with schools' plans.

Factors affecting implementation

Staff factors. Full implementation of Core Knowledge requires that teachers have a minimum level of understanding of the goals of the curriculum and its scope and sequence, knowledge of the content matter that they are responsible for teaching, and familiarity with appropriate options for assessing students' progress in mastering that content. Teachers without prior training and experience in Core Knowledge may require a significant amount of time and effort to acquire this new understanding and knowledge, which can involve a significant professional shift of gears. Successful implementation thus also depends on teachers' being committed enough to the curriculum to be willing to invest their time and energy in making this transition.

In all of the participating schools, the additional year of experience with Core Knowledge has resulted in strengthening of each of these factors. In particular, principals at Round 1 schools all report that teachers' commitment to Core Knowledge has been an important reason for the successful implementation at their school. Reflecting their one fewer year of participation, Round 2 schools are not as far along, but appear to be at a stage comparable to where Round 1 schools were in their second year.

Resource and structure factors. The staff factors depend not only on professional development, but also on the availability of resources and structures to support the effective use of individual teachers' knowledge and skills. These include a resource collection of relevant instructional materials, the regular availability of common planning time, and the completion of a thorough process of curriculum alignment, in which the new curriculum is compared to previous curriculum and to applicable district and state standards, as well as compared and integrated to different grade levels and disciplines within the school.

In most schools, a strong foundation of resource materials has been acquired and made accessible to teachers, although two schools continue to struggle somewhat both with acquisition and availability. Common planning time is in place in all schools but one, although it is less helpful in the smaller schools where teachers do not have grade level peers to work with. Most schools have done the larger curriculum mapping in comparison

to prior curriculum and/or standards. Among all Round 1 schools but one, there is considerable evidence of integration of curriculum between grade levels and across disciplines. In the remaining school, there is evidence of progress in this kind of integration.

School leadership. The leadership, support, and accountability that a school's principal or director provides to school staff is another important factor affecting the level of Core Knowledge implementation. In some schools, the direct work of monitoring implementation has been done by the principal, while in others it has been delegated to an administrative aide or to leaders among the staff. These differences have been unimportant compared to the overall effectiveness of the principal in taking responsibility to ensure that there is a clear vision for Core Knowledge's importance to the school, and for the development and implementation of plans for accomplishing the implementation, and processes for assessing and adjusting how these plans are carried out.

The key nature of the leadership role is seen in observable differences between schools in implementation levels. Implementation, as measured by the other factors already discussed, is considerably more advanced in schools where a clear vision for Core Knowledge has been articulated; where this vision has been matched with implementation plans that are shared and regularly discussed with staff, and where there is regular follow-up to see that they are being carried out; and where schedules have been developed to ensure that teachers have time with each other for common lesson planning.

Parent and community awareness and involvement. Compared to work to familiarize school staff with Core Knowledge, relatively little effort has been made to acquaint parents with the Core Knowledge curriculum and philosophy. However, all of the Round 1 schools report numerous Core Knowledge-related events to showcase students' work for parents. One principal reported that "most parents wouldn't know the name 'Core Knowledge,' but they're fairly aware of what content is being covered," and another reported that "parents are always blown away by the content" their children are learning.

Other factors related to implementation level

Training. A key lesson learned in the first two years of the initiative has been the importance of tailoring professional developmental to the specific needs and interests of each school. Round 1 principals generally report that they feel the Humanities Commission has managed this responsiveness very successfully. One Round 2 school continues to feel that their training needs are not well understood. For this school, the tension around the issue of training appears to be related to differences between the school leadership and the Humanities Commission in the relative priority of specific Core Knowledge content compared to other more basic training needs of a relatively young and inexperienced staff; and differences in perceptions of the role and importance of artwork in the curriculum and in the culture of the school and its families.

Other technical support. Besides the training opportunities, other supports offered by the Humanities Commission in 2004-05 included "roundtables" in January to connect teachers with grade-level peers from other schools in the initiative; a limited amount of opportunity to connect with other Core Knowledge schools outside the initiative; and a variety of other supports individualized to a school or specific teacher.

"The roundtables were fabulous," according to the principals. "The teachers loved them," especially those from the charter schools which, as smaller institutions, are less likely to have grade-level peers for teachers. There is some hunger among initiative participants for more connections to other Core Knowledge schools, and especially to those that are further along in implementation. On the other hand, schools report finding limited value in attending the national conference, to which they can afford to send only a small number of staff; they prefer to use limited funds on opportunities that can be more widely shared.

Individualized help provided by the Humanities Commission included helping teachers at several schools find and use resource materials for specific units, helping one school obtain specialized support to develop plans for integrating Black History with the Core Knowledge curriculum, and providing structure and accountability for overall Core Knowledge planning and curriculum mapping at a third school. These have been perceived as helpful.

There is some difference of opinion on the relative importance and value of the Humanities Commission's technical support, compared to the cash grants provided by the initiative. The work of the Humanities Commission staff has shown an evolving sense of how to achieve the delicate balance between supportiveness and directiveness. This has been greatly facilitated this year by the greater degree of stability in project staffing at the Commission, and the staff's consequent ability to develop and build on good relationships with the schools.

Main challenges reported by schools

The implementation of Core Knowledge has been affected by a number of other factors that are less subject to control by the terms of the grant or the support of the Humanities Commission than those outlined above.

Student mobility. Schools in the initiative have relatively high turnover among students both within and between years, eroding the validity of the premise that content taught in one year can be built upon in following years. Schools typically address this challenge by using some instructional time for review, to an extent greater than presumed in the Core Knowledge philosophy.

Staff mobility. Some schools have also experienced high levels of turnover among staff, due sometimes to district budget cuts, layoffs, and re-assignments, sometimes to

expansions in grade levels or sections per grade, and sometimes to school-level fiscal or administrative difficulties. Many of the schools in the initiative respond to this challenge by requiring applicants for teaching positions to either have experience with Core Knowledge, or to be committed to learning and using it.

No Child Left Behind testing requirements. The No Child Left Behind (NCLB) Act has resulted in a high emphasis on basic reading and math skills in order to meet school testing requirements in those subjects. As a result, some schools have intensified their curricular emphasis on math and reading, making harder to devote time – for professional development, planning, or classroom instruction – to the subject areas in the humanities in which Core Knowledge specializes. This effect was seen mainly in the public schools, including the alternative school that is accountable to the public school district by virtue of its contract. The charter schools, by contrast, reported less loss of instructional time or staff emphasis due to the NCLB testing requirements.

Time required to introduce Core Knowledge. The implementation of Core Knowledge requires time in a number of different ways. First, it needs a substantial amount of instructional time to incorporate all the content into the classroom schedule. Second, the staff need a considerable amount of professional development time to gain new skills. Third, on-going staff time is needed for the common planning and preparation that are important in maintaining the needed curricular integration. The initial investment in professional development is now being reflected in greater levels of comfort and confidence among teachers in the use of the curriculum, easing the second of these concerns. In all but one of the Round 1 schools, the first and third (instructional and planning time) appear to be fully incorporated into school schedules in sustainable ways. The remaining Round 1 school, and the two Round 2 schools, continue to explore ways to make their schedules work to include the needed time.

Curricular adaptations. Schools, including highly-implemented Round 1 schools, continue to report that they are challenged by the need to adapt instructional materials, or the curriculum itself, to meet the needs of students. This reflects a scarcity of suitable materials at reading levels that are accessible to the children; materials and strategies for students with limited English fluency; and curriculum content that adequately reflects the heritage and culture of African American and immigrant children.[1] Help addressing these needs has been one of the most common kinds provided by the Humanities Commission, and has been appreciated.

Cost of materials. Another recurring theme throughout the three years of the initiative has been the cost of implementing Core Knowledge, including not only professional development time but also instructional materials. For most schools, the grant has been

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[1] Cultural appropriateness for American Indian children is also a concern for at least one school. That school has found ways to address this issue, which has not been as great a need in the other schools.

enough to make this cost possible, and most of the Round 1 schools feel prepared to meet the remaining on-going expenses when the initial grant ends.

Issues to consider

The statistically significant gains in mathematics achievement, in the two schools where test results could be analyzed, are a welcome indication of successful implementation. The assessment of implementation indicators suggests that at least one other Round 1 elementary school has likely reached a similar level of implementation by the end of its third year.

Moreover, schools that have reached this level of implementation of Core Knowledge appear well-prepared to sustain their implementation beyond the end of the grant period. The experiences of the Cargill Core Knowledge Connection to date confirm the study's hypothesis that the following are important considerations in attaining a successful, sustainable level of implementation:

- School leadership that is both committed to the curriculum and effective in promoting it with the staff and monitoring staff implementation.

- The establishment of effective processes within the school to ensure that adequate and appropriate new resources are acquired and made available to the teachers.

- The establishment of effective processes within the school to ensure that teachers have time to plan jointly with others, at multiple levels: among grade level peers (where available) for individual classroom lessons, with other teachers who also teach the same children in the same year (such as music or physical education specialists), and with teachers in other grades whose content precedes or follows their own in the overall, multi-year sequence.

In addition, the experiences of the participating schools suggest three other tentative conclusions about successful implementation:

- It appears to be more effective to introduce the new Core Knowledge curriculum gradually, a few subject areas per year, instead of all at once in the first year.

- To help them in learning the new curriculum and the new ways of teaching and supporting it that are needed, principals and teachers find it valuable to have opportunities for personal observation and mentoring with peers in other schools who have greater experience using Core Knowledge.

- The most helpful training, or other kind of support, is highly individualized to the specific mix of circumstances in a given school at a given time.

There is some irony in the importance of this last theme, given the Core Knowledge philosophy that the most powerful and effective curriculum is one that is the same for all.

However, at a deeper level, the theme replicates other lessons learned about Core Knowledge implementation, which have included the persistent theme, across schools, that the specific materials and strategies used to teach the common curriculum required considerable effort to tailor to the cultural backgrounds, English language fluency, and reading levels of the students. In addition, the school-to-school differences, which include different levels in teachers' experiences and skills, mirror the difficulties the teachers themselves often face working with classes of highly mobile students with variable – and sometimes unknown – prior levels of knowledge.

Solutions to staff and student mobility lie beyond the scope of the Cargill Core Knowledge Connection. However, the test score results from the public schools in the third year of implementation provide a welcome suggestion that this mobility does not negate the effectiveness of the curriculum, even when only selected subject areas within it are highly implemented.