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Building District Capacity for System-Wide Instructional Improvement in Cincinnati Public Schools

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Abstract

This report summarizes findings from one component of the Consortium for Policy Research in Education's (CPRE) evaluation of the General Electric Foundation's (GEF) *Developing Futures*TM in Education program in Cincinnati Public Schools (CPS). The purpose was to closely analyze the district's capacity to support system-wide instructional improvement. To understand how CPS, one of the four *Developing Futures*TM districts that were examined, built capacity for system-wide instructional improvement, our study during Phase Two focused on a single, overarching question: to what extent has CPS central office adopted and institutionalized the seven core principles of *Developing Futures*TM?

Disciplines

Curriculum and Instruction | Educational Administration and Supervision | Educational Methods

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CONSORTIUM FOR POLICY RESEARCH IN EDUCATION

Building District Capacity for System-Wide Instructional Improvement in Cincinnati Public Schools

WORKING PAPER

Cecile Sam
Matt Riggan



GE Foundation

GE Foundation *Developing Futures*TM in Education

EVALUATION SERIES

December 2013

Executive Summary

This report summarizes findings from one component of the Consortium for Policy Research in Education's (CPRE) evaluation of the General Electric Foundation's (GEF) *Developing Futures*TM in Education program in Cincinnati Public Schools (CPS). The purpose was to closely analyze the district's capacity to support system-wide instructional improvement. To understand how CPS, one of the four *Developing Futures*TM districts that were examined, built capacity for system-wide instructional improvement, our study during Phase Two focused on a single, overarching question: to what extent has CPS central office adopted and institutionalized the seven core principles of *Developing Futures*TM?

This executive summary provides a brief explanation of the findings from the CPS analysis that emerged from the study. The analyses presented in this summary are based on interview and survey data gathered between January and April of 2012. The CPRE research team conducted in-person interviews with 24 stakeholders in CPS, including 16 central office staff members in leadership roles (including the superintendent), 5 principals, 1 board of education members, and 2 external partners.

To complement and support these qualitative data, a detailed survey was administered to principals in the spring of 2012. The survey focused largely on principals' perceptions of central office capacity, including clarity of vision, openness to collaboration, coherence and alignment of instructional supports, responsiveness to principal needs or concerns, and overall accountability. Of CPS principals, 47 completed the survey for a response rate of 82 percent.

We studied the districts' progress in scaling up and institutionalizing the seven core elements¹ of *Developing Futures*TM:

1. **Internal constituency engagement.** The district engages stakeholders at all levels of the system, and establishes common vision and buy-in for improvement efforts.
2. **External constituency engagement.** The district engages partner organizations and institutions, parents and the community; and effectively communicates about reform efforts.
3. **Curriculum and instruction.** The district communicates and supports a system-wide vision for instructional improvement.
4. **Professional development for instruction.** The district delivers high-quality professional development on curriculum, instruction, standards, and assessment.
5. **Professional development for leadership.** The district delivers high-quality professional development on leadership or management.
6. **Management capacity.** The district collects and uses data, attracts and develops talent, and evaluates staff performance.

¹ These seven reform elements were identified through a review of GEF program materials and documentation, and through a close analyses of each district's reform trajectory over the life of the grant.

7. **Evaluation.** The district monitors and evaluates reform efforts.

When we consider how the school system operated prior to the *Developing Futures*[™] in Education program—that is, when we focus on its growth and development rather than its performance relative to an absolute standard—the progress is evident. There is reason to be optimistic about the districts’ progress as a result of *Developing Futures*[™]. Over the past few years, CPS has made real and significant progress in building capacity for system-wide instructional improvement. Collaboration within schools and the central office has improved and expanded. And while budget and accountability challenges have at times strained vertical collaboration, CPS made concerted effort to engage stakeholders at all levels in planning and decision-making. The district has a cohesive instructional program in place in both mathematics and science, supported by a robust and multi-level professional development program for both teachers and school leaders. Evaluation of reform efforts appeared to be another strong suit in CPS, informing program planning and design as well as decisions about priorities.

There are also areas where challenges remain. While the instructional system (curriculum, expectations, supports) has become clearer and more cohesive, concerns persist about the overall consistency of instructional approach from classroom to classroom. The supports for affecting widespread instructional change (learning teams, expert cadres, etc.) appear to be in place, but the accountability measures needed to ensure that teaching is actually improving remain a work in progress, in no small part due to the evolution of state (and federal) policy related to teacher evaluation. Accountability measures related to teacher quality and practice remain controversial; such measures, coupled with concerns about the district’s financial picture, also pose challenges for maintaining the level of stakeholder buy-in that played such a prominent role in the initial implementation of reforms under *Developing Futures*[™]. As CPS moves to implement the next wave of reforms—continued refinement of teacher evaluation systems and further adoption of the Common Core State Standards among them—sustaining a broad base of support among teachers and principals will be critical to the system’s long-term success.

Introduction

This report summarizes findings from one component of the Consortium for Policy Research in Education’s (CPRE) evaluation of the General Electric Foundation’s (GEF) *Developing Futures*[™] in Education program in Cincinnati Public Schools (CPS). As described in the CPRE proposal and research design, the purpose was to closely analyze district capacity to support system-wide instructional improvement. Specifically, this phase focused on a single, overarching question: to what extent has the district central office adopted and institutionalized the core principles of *Developing Futures*[™]? To answer this question, this evaluation assesses the Cincinnati Public School District’s progress in scaling up and institutionalizing seven core elements of *Developing Futures*[™].

1. **Internal constituency engagement.** The district engages stakeholders at all levels of the system, and establishes common vision and buy-in for improvement efforts.

2. **External constituency engagement.** The district engages partner organizations and institutions, parents and the community; and effectively communicates about reform efforts.
3. **Curriculum and instruction.** The district communicates and supports a system-wide vision for instructional improvement.
4. **Professional development for instruction.** The district delivers high-quality professional development on curriculum, instruction, standards or assessment.
5. **Professional development for leadership.** The district delivers high-quality professional development on leadership or management.
6. **Management capacity.** The district collects and uses data, attracts and develops talent, and evaluates staff performance.
7. **Evaluation.** The district monitors and evaluates reform efforts.

These seven reform elements were identified through a review of GEF program materials and documentation, and through a close analyses of each districts' reform trajectory over the life of the grant. Based on a thorough review of the research and evaluation literature, a set of indicators was constructed to allow the research team to determine the extent to which there was evidence of effective practice in each of these seven areas. Each area was decomposed into a set of more specific, observable characteristics. Research instruments were designed to elicit evidence of these characteristics in descriptions of central office processes, functions, or overall capacity. Ratings were then assigned to each characteristic based on the prevalence of available evidence using a three-point scale:

1. **Strong implementation.** The district has reached a majority of key actors within the system.
2. **Moderate implementation.** The district has reached a considerable proportion of key actors within the system.
3. **Weak implementation.** There is little evidence of institutionalization across the sample.

This report provides ratings for CPS for each indicator and its component characteristics, along with qualitative and survey evidence illustrating and supporting the ratings. Overall, CPS has made significant progress in building system-wide capacity for instructional improvement by facilitating collaboration, involving all stakeholders in planning and decision-making, clarifying instructional expectations, and building a robust professional development system. The evidence suggests that instructional practice remains inconsistent in some cases, and that shifting standards and summative assessments pose a challenge for alignment and coherence.

Methodology

The analyses presented in this report are based on interview and survey data. In March 2012, the research team conducted in-person interviews with a diverse set of stakeholders in Cincinnati, including 16 central office staff members in leadership roles (including the superintendent), 5 principals, 1 board of education member, and 2 external partners. The interviews were divided into two parts. In the first

part, respondents were asked to describe a high-priority project or initiative on which they were currently working. Follow-up questions focused on how the initiative became a priority, who was involved in its planning or implementation, how it was being implemented, and how progress was monitored and evaluated. The goal was to elicit evidence of the seven indicators *in the context of current district priorities, practices, and routines*. For example, if district leaders described the introduction of a new elementary mathematics program as a high priority, the interviewer focused on the extent to which those efforts were collaborative, how they were communicated and supported, what the intended goal was, and how progress was measured.

All interviews were professionally transcribed. Transcripts were then coded using a deductive framework (that is, one that is derived from the research literature rather than being emergent from within the data themselves) based on the characteristics aligned with each characteristic. This allowed for transcript data to be sorted by indicator and specific characteristic. Finally, a participant matrix was constructed to generate ratings for each characteristic. For each participant and characteristic, the analyst indicated whether the characteristic was evident in the data, whether it was not evident in the data, or if no determination could be made based on the data. Characteristics that were evident in 80 percent or more of interviews for which sufficient data were available were scored a 3, and classified as *strong implementation*. Those that were evident in 50-79 percent of the interviews were scored a 2, and classified as *moderate implementation*, while those that were evident in less than half of the interviews were scored a 1, and classified as *weak implementation*. Occasionally, there were instances in which there was insufficient data across the interviews to make a determination about the prevalence of a given characteristic. In these cases, applicable qualitative data are described but no rating is assigned.

To complement and support these qualitative data, a detailed survey was administered to all CPS principals in the spring of 2012. A total of 47 principals completed the survey—an 82 percent response rate. The survey focused largely on principals' perceptions of central office capacity, including clarity of vision, openness to collaboration, coherence and alignment of instructional supports, responsiveness to principal needs or concerns, and overall accountability. The survey offered a less detailed but broader view of principal perceptions of the district. In the sections that follow, survey findings are reported alongside qualitative data for each indicator.

Indicator 1: Internal Constituency Engagement

In recent years CPS has made a concerted effort to make collaboration a part of the district culture at all levels, encouraging not only collaboration for implementation efforts, but creating institutionalized collaboration as part of the planning and decision-making process. As seen in Table 1, there is strong evidence that collaboration has taken root throughout the district. Overall, relationships between and among different stakeholders within CPS were positive. Initiatives such as learning teams were the result of collaborative efforts, while intended to further collaboration themselves. There was also widespread agreement that CPS has become more communicative and transparent in the past few years.

There are still some places where participants felt that internal engagement could be improved, such as incorporating more buy-in from school sites and supporting the quality of collaborative work. However, overall members were encouraged by the direction that CPS was going.

Table 1. Internal Constituency Engagement	
Input is sought from internal stakeholders in planning and decision-making.	3
Internal stakeholders express ownership of or are “bought into” improvement projects or initiatives.	2
Horizontal collaboration (across departments) is evident.	3
Vertical collaboration (between levels) is evident.	3

In implementing *Developing Futures*TM as well as other initiatives such as Race to the Top, CPS made concerted efforts to obtain input from various internal stakeholders at the planning stage. For example, as the district developed a vision around implementation of the Common Core State Standards (CCSS), CPS “had board members, teachers, union members, central office administrators all contributing to this plan.” (CO15) On a more formalized level, CPS had numerous groups that consisted of different stakeholders in the district to help in the decision-making process such as the Steering Committee and Curriculum Committee.

Transparency and open communication are parts of garnering input from internal stakeholders and building a sense of trust in the district. If stakeholders are well informed and feel that their input will be valued, they are better able to provide feedback. CPS administration and central office had open communication as one of the priorities of the district; staff recognized the shift from previous years.

You could see the trust level was changing, the changes she [the superintendent] made as far as just the communication, the free, open communication versus don't say a word. The freedom to be able to say, hey, look, this is wrong, we need to change. Much more freedom to express from field administrators such as myself, who have been around a long time, say wait a minute, this isn't right, or we need to look at this.
(P04)

To encourage collaboration, several participants acted as boundary spanners—people who connected and communicated with other stakeholders and served as a bridge between or among groups. One member of the district explained, “I have tried to reach out personally in my role to the curriculum manager to kind of bridge that [divide] to make sure that the council chair and the curriculum manager still are cognizant of what the teachers in the building are really needing at this point with the implementation of the Common Core.” (XTP2) Of the principals surveyed, approximately 76 percent of them felt that the opinions of principals were valued at district meetings. There were many respondents who felt a sense of responsibility and ownership with their respective projects.

There was a high level of ownership from those individuals who felt that they had an important role in reform implementation. However, there were still district members who were waiting to see how the different reforms would affect them or if the reforms take hold. A central office staff member noted, “those that are leading the implementation are doing so with optimism. But I think those who have to really carry out the work...I get the sense there are people that are just neutral right now waiting to see what happens.” (CO9) Other central office members noted that there was a “this too shall pass” personal philosophy among some teachers, which hindered buy-in and engagement within the district.

In the past few years, CPS developed various formal organizational structures to encourage horizontal collaboration, with expert cadres and learning teams. The learning teams encouraged horizontal collaboration among teachers at similar and different grade levels. One central office member explained the rationale behind the team models: “Instead of teaching in a silo [we] want to talk with our peers, not only to share lessons across the same grade level or across the same content area but also vertically so you know where your kids were coming from and where they would go.” (CO11) More information on learning teams and cadres will be addressed in the Professional Development section.

Vertical collaboration occurred in both informal and formal methods, from boundary spanners to groups like the Curriculum Council and Interdisciplinary Council. However, during challenging times when resources were limited, internal vertical collaboration among the various stakeholders waned. “We have taken some steps both formally in structures contractually and informally in conversations to become more collaborative, but it's fragile in that when we get a huge challenge like cutting millions of dollars of the budget, where you know that something has got to give, somebody has got to go, some services have to be reduced, it's a huge challenge; and we are less inclined to listen and grow from each other and it's very, very difficult for us to be unified about it and get out of our silos.” (CO12) Other examples where collaboration has been more difficult included developing the new teacher evaluations and contract negotiations.

Another challenge to internal engagement was maintaining a high quality of collaboration. The collaborative effort itself, though valuable, does not guarantee quality input or results. Some collaborative efforts were viewed as superficial—that it seemed to be “more of a forced collaboration” to create the semblance of working together. For example, respondents mentioned that not everyone was equally prepared or equipped with the knowledge to be able to collaborate effectively. By being unprepared or lacking information or knowledge on a topic, people were not participating during meetings, and the end result was “mediocre” rather than as good as it could be.

Indicator 2: External Constituency Engagement

Similar to internal constituency engagement, CPS had also made a concerted effort to increase communication to parents and the general public, as well as to develop further relationships with the business community and leverage GE resources. As seen in Table 2, there is evidence that these efforts were predominantly successful.

Table 2. External Constituency Engagement	
Input is sought from external stakeholders in planning and decision-making.	3
A communication strategy to communicate to the public about reform activities is in place.	3
The district has leveraged resources from external stakeholders (not including GEF) to support reform efforts.	3
School leaders have leveraged resources from external stakeholders to support reform efforts.	*
The district has leveraged resources from GE to support reform efforts.	3

Note. * indicates insufficient data to make a determination about the prevalence of the given characteristic

CPS had been promoting programs like its Turnaround Schools to the public on both a city and national level. CPS had also tried to keep the public informed of the changes to the Common Core and what that may mean for test scores. Even though CPS has made progress towards a public communication strategy, one place for development is shaping a collective message to convey that to peers and external stakeholders.

The central office is not solely responsible for external communication and public relations. Principals at the school level can also play a key role in sharing information with parents and the constituents. Some principals were highly visible to their local community, while others may not have seen it as an important facet in their work. One central office member explained:

[A principal’s] job includes reaching out to current and potential parents and letting them know what the story of improvement is and the other things that get parents to entrust the care and the education of their students at a school. (CO12)

Principals did not necessarily do this work themselves. At some schools, they delegated this work to either a staff or faculty member in the building.

One challenge that CPS may still face is the current perception of the public. Despite the various modes of communication and ways to keep everyone informed, there were still remnants of the public’s negative perception of CPS. Different stakeholders in CPS mentioned that the public image of CPS was one that “lacked professionalism and vision” and that CPS was “looked down upon” by their constituents, despite many of the gains the district had made over the years.

CPS leveraged resources from external stakeholders in two distinct ways. The first way was by finding appropriate partners who would directly help in the reform implementation efforts. For example, CPS went into partnership with the University of Vermont to help with mathematics and with Pearson to help with learning teams. CPS leaders were careful in determining which external partners to bring in on

certain initiatives. At the beginning, the roles of the different stakeholders were unclear to many people, but as time progressed roles became more defined. One central office member reflected:

I think it made it better when we knew that if we need help, say, with just science stuff, we knew just to call NSTA [National Science Teachers Association] and not call anybody else. If we needed help with leadership stuff, that time we were using the University of Virginia's program and it's called "Let's Talk Within." (CO11)

The second way CPS used external resources was by finding indirect or complementary support for its initiatives. One central office member explained that "the district has done a lot of work around community partnerships and aligning that to support everything outside of the classroom that is critical to learning." (CO9) For example, CPS created a partnership with the Health Foundation to provide health services for students in school. On the school level, the level of external partnerships and types varied throughout the district. There were some schools that appeared to have very few direct partnerships and would greatly appreciate more for services such as tutoring, supporting programs, and building capital.

In addition to funding, CPS also leveraged other GEF resources to help support the implementation process. Central Office members were able to go to New York to hear authors of the CCSS give talks, which later shaped professional development. The GE Conference was also seen as a boon for the members of CPS who were able to attend. Central office members and principals described the conference as helpful to understanding the full impact of change that the CCSS will require.

Beyond the foundation, the CPS also leveraged GE human capital to support reform efforts. CPS worked closely with members of GE corporate to best use their areas of expertise to help the district run more efficiently:

It's having HR expertise come in and give you some leadership development for the Central Office. It's having teams of volunteers out in your schools on a regular basis. It's having black belt expertise, so people that work on equality to come in and save you \$12 million dollars on your facilities' maintenance plan, and do energy audits at your schools. (CO9)

GE Aviation helped the district create its talent management program, Ignite. Ignite is a leadership development program for members of CPS. Though not directly mathematics and science reform related, CPS's leverage of GE resources strengthened district capacity overall.

Indicator 3: Curriculum and Instruction

CPS has maintained a long-term emphasis on improving mathematics and science, which many participants attributed to the GEF initiative and involvement with the district. Though mathematics has

always been an important subject in the district, it was the push for both mathematics and science that started a shift in culture. “I do believe that there is a greater emphasis on math and science as priorities, and I do believe that teachers in their work with the content managers and in their own work in their schools with their peers are really honing in on the need to improve the teaching and improve their own culture of teaching in both math and science.” (CO12)

Table 3. Curriculum and Instruction	
Curricula are standardized across schools in mathematics.	3
Curricula are standardized across schools in science.	3
There is a common approach to mathematics instruction.	2
There is common approach to science instruction.	2
Teachers have instructional materials (books, kits, lab space) they need to carry out instruction.	3
Summative assessments are aligned with curriculum and standards.	1
Formative assessments guide instruction.	3

In general, there was emphasis on consistency and common curricula throughout schools and across the district, including expected benchmarks for each grade and subject. Of the principals surveyed, over 80 percent felt that the curriculum, instruction, and assessment were well coordinated in the district. However, as seen in Table 3, the results regarding the other indicators were mixed. Interview data suggest that some schools appeared to have established consistency under new standards while other schools struggled.

Results from the survey varied as well. Approximately 49 percent of principals surveyed agreed with the statement that the district’s instructional policies give teachers clear information about what to teach, and 16 percent of principals strongly agreed with that statement. Meanwhile, 53 percent of principals surveyed agreed with the statement that the district’s instructional policies give teachers clear information about how to teach, and 6 percent of principals strongly agreed with that statement.

Science lagged behind mathematics in terms of development. Mathematics and ELA were significantly prioritized to the exclusion of other subjects. This was attributed to state standardized tests and NCLB requirements among other factors.

Mathematics

About 57 percent of principals agreed that there was a multi-year district plan in place in mathematics, while 30 percent strongly agreed. Principals also felt that the district’s curriculum frameworks for mathematics were specific and clear, with 61 percent agreeing with the statement and 21 percent strongly agreeing.

The evidence that there was a common approach to mathematics instruction across the system was mixed. When compared to science instruction, “math is very consistent and science is not.” (SB01)

Participants also noted that mathematics instruction has been more consistent throughout the district than in the past. However, a greater number of respondents mentioned that CPS still has room for improvement, especially in the elementary grades. “I think it's [math instruction] really sketchy across the district. I don't think we've been able to achieve a real consensus in terms of what some good tools are to help with math. I know there has been a lot of concern about the quality of what's available out there.” (CO14)

Some schools in the district were more aligned to the reform efforts than others, and exhibited greater consistency in improving instruction. Respondents noted several factors that may have distinguished these schools. The first factor was the use of professional learning communities (PLCs) in the form of learning teams and collaboration:

So when the buildings have implemented teams and they are actually doing that vertical alignment, and they're doing Learning Teams maybe subject area, or they're doing Subject teams, I see a great deal more of that very detailed focus across board. So the consistency is there. (CO16)

The second factor was school leadership. In schools that made progress on instruction, principals acted as instructional leaders and made mathematics instruction a priority at their school. The third factor may be departmentalization, or specialized instructors. “They [high school teachers] are very consistent because they're departmentalized. It's easier to be a focused instructor. So when I'm trying to teach English, math, science, and social studies, it's very hard for me to be consistent. I'm consistent across the four, but I don't see a consistency across grade levels.” (CO16)

Respondents noted that high school mathematics instruction was stronger than in the elementary schools. Many felt that this is connected to the different types of content knowledge that were expected of a elementary general education teachers and subject-specific teachers in upper grades, “Our high schools have been outperforming our elementary schools, but our teachers are content specific. They have a background in math; and we believe that that's part of the reason why we see better success in content at the high school level.” (CO02)

In order to maintain curriculum fidelity in mathematics, some respondents felt that teachers needed to be supported and monitored consistently. When the central office stopped monitoring, there was a loss of fidelity. Once central office member expressed, “I've seen the math district curriculum. Yes. I think it is still one of those pieces that as long as we are continually checking in on it, it is being done consistently. If we don't follow up and make sure that teachers are understanding that they're moving in the right direction, then we do see that lapse. So, there is that idea that we have to continually make sure, yes, we're following up.” (CO16).

The major challenge to shift teaching methods was that most teachers were not equipped to teach in this new way. There was fundamental problem with mathematics teachers' content knowledge. As one interviewee expressed, "our big concern is the lack of content knowledge on the part of the teacher. When you've only had a methods of teaching math and the last class you have taken is algebra when you were in high school, and now you're 20 years in teaching and you're struggling—because I truly believe you have to know math in order to be able to teach math." (CO1) The challenge of content knowledge tended towards the lower grade bands.

Science

Regarding the science program, 53 percent of the respondents agreed that there was a multi-year district plan in place, and 27.7 percent of principals strongly agreed. They also felt that the district's curriculum frameworks for science were specific and clear with 59.6 percent agreeing with the statement and 23.4 percent strongly agreeing.

Science was not as much of a focus in CPS compared to mathematics and ELA for several reasons, in large part because it occupies a more marginal place in the accountability system. Accountability measures such as AYP prioritized ELA and mathematics scores on state tests, and even when it was incorporated, science was only tested in select grades, therefore not a priority across grade levels. Science was much weaker due to lack of emphasis from testing:

I do know that science is our weakest area of performance. And in some ways it is my impression that it's been a struggle to get arms around it because it's not a tested area, and the incentive to improve for some is not there. (CO12)

Similarly, science was not a factor on the state report card. As one stakeholder explained, "part of the reason is that science and social studies are not on the [state] report card, which is a grave mistake on the part of the State and God and everybody else. So, we became kind of a math and, shall we say, a language arts academy, especially, in our lowest achieving schools." (SB1)

In terms of consistency in science instruction, there appears to be currently more consistency than there was a few years ago, before the implementation of the kits and framework. Those teachers and schools that used the framework may be consistent with one another:

They've got a framework as well, but it's hands-on through the use of science kits. There is only so much that you can learn from reading a book. But I think they have helped—the framework, pretty much no matter what subject you're in, the framework itself is pretty consistent about having some type of introductory or mini-lesson even in science. (CO4)

However overall, science instruction consistency varies, as a respondent explained, “I know it varies. I'm not blind to it. I know that there are people who are still in lecture mode. But then on the other hand we have people who are gung-ho and they do it all the time and their kids are having success.” (CO11)

Just as mathematics and ELA crowded out science from an accountability standpoint, there was evidence of some conflict between mathematics and science in the lower grade bands. Schools allotted science approximately 90 minutes a day, but this allotment did not necessarily mean that science was being taught at that time. Instead, teachers in the lower grade bands may have used science time to focus more on mathematics:

In the younger grade levels and those who are not departmentalized...you'll see maybe a little less instruction of science and you'll see more math. Like that math may take over some of that science time. So, they're robbing one to give to the other kind of a thing. (CO16)

But for the upper grade bands with specialized and separate classes, teachers were unable to take time from other teachers, and so the central office member added: “for those departmentalized [schools], it is very structured.”

The science kits provided hands-on learning for students and were also a key component of inquiry teaching. Overall, teachers had a positive response to the kits. These science kits removed one the major barriers that prevented teachers from teaching science: lab preparation. Developing and preparing an inquiry-based lesson plan could be time consuming, but “teachers like the science kits because everything is put together for them. You don't have to go and search and find different things.” (CO2)

There were two concerns regarding the science kits. The first issue involved getting all of the science teachers to actually use the kits available. It was about “actually making sure people are using our science kits. The science kits are out there.” (CO14) CPS may have to monitor kit usage to determine which teachers or schools are not using the kits and find ways to encourage them. The second issue focused on the maintenance of the kits and replenishing the materials. One principal explained how this may lead to a staffing issue if that responsibility was left to the schools:

With our science kits, you have to have the human resource there to make sure that if kits are being used that there are people that are able to replenish and make sure that they're stocked up...I think that one of the things that I believe will eventually happen is I believe that the kits are going to eventually be stored here at school. I believe that as a school we'll probably be responsible for making sure that they're replenished.” (PO5)

If the schools do not have the human capital to maintain the kits, the kits may fall into disuse because teachers will either be unable or unwilling use them.

Teacher buy-in was another challenge for moving to an inquiry-based approach to science instruction. Among district staff there was a sense that teacher resistance was an ongoing concern.

...Inquiry has been around forever. So, people just don't want to do it. They don't want to take the training to get it. Our last grant provided that training of how to do Inquiry. I think still more people are getting more and more comfortable with doing it because it puts the teacher on the backseat and let the kids have the front seat of the car, and some people still aren't comfortable with that. But it's a change that has to take time. It doesn't change overnight. (CO11)

There were mixed results regarding the impact of the inquiry science curriculum. A majority of the respondents felt that the quality of science instruction had improved under the GE grant. The overall positive reaction and anecdotal evidence noted that students were more engaged with learning. However, a few respondents noted that the test results did not reflect that success. "We do a lot of inquiry-based science, probably more so in math, but I can honestly tell you the science scores have not shown the same kind of promise with the inquiry-based method, which I know everyone tells," said one central office member. The respondent described the scores as "flat. They're just bad. Their scores are not good. We just haven't seen increases." (CO1)

Assessment

In terms of summative assessments, one of the reasons for the low indicator score was due to science implementation as stated in the earlier section. Another reason is the lack of reported alignment between district curriculum and instructional frameworks on the one hand and state tests on the other. This was further complicated by the impending transition to CCSS and the resulting (but lagging) change in state tests that would accompany them.

Formative assessments were emphasized in CPS. However, the original goal was to have teachers use these assessments to shape lessons, "not giving them a multiple choice little quiz once a week. That's not the same." (CO7) For some teachers, instead of assessing students' conceptual knowledge, the formative assessments became more perfunctory. After some time, faculty began to lose interest in using or tracking the data from the assessments.

When developing an evaluation tool, one of the components that central office members wanted was to determine if there were formative assessments to guide instruction in science. Administration also wanted formative assessments to be part of the conversation around science instruction. "One component that I think is also needed is the science look-for's, which I'm working with NSTA to build, here is what good science looks like, and to build that supervising science look-for's so that we have those collegial conversations with teachers.... Are you using any type of formative assessments to

identify students' misconceptions prior to teaching, you know, those kinds of conversations that we have.” (CO05)

Indicator 4: Professional Development for Instruction

Professional development for instruction has been a key component in CPS mathematics and science initiatives. The goal was to have embedded professional development, which took different forms: expert cadres, content specialists, learning teams, and coaches. Expert cadres were those teachers who had participated in the Vermont Mathematics Initiative (VMI) specifically. Content specialists were located at individual school sites to provide expertise on various subjects. Learning teams functioned as teacher PLCs. Finally, coaches both from CPS and from external resources like the Mayerson Academy provided instructional support for teachers. As seen in Table 4, there is a large amount of evidence that points to the success of the implementation of professional development for instruction.

Table 4. Professional Development for Instruction	
PD is aligned with district instructional priorities (content, pedagogical, data).	3
There are sufficient resources available to provide the needed PD.	3
School-based PD is available for teachers.	3
PD is ongoing.	3
PD is data driven.	3
PD is aligned with standards and curricula.	3
There is a common understanding of roles played by schools and central office with regard to PD.	3

One important theme throughout the interviews is the connection among *content knowledge of teachers, rethinking the way mathematics is taught, and professional development*. One central office member spoke to the pedagogical shift occurring in mathematics education:

Math has never been that clean cut. People don't get it, that you cannot just stand there and give a kid a list of rules and procedures, and line up the decimals when you add, but you don't when you multiply. Why? Well, when I dig deep, most teachers don't even know why. They don't get the concept because they've never touched it. They never modeled it. And now we have to force them to do that. (CO9)

There was a professional development effort to move teachers away from rote memorization and giving students a list of rules. Helping teachers gain skills of this inquiry-based, applied mathematics also closely aligned with goals of the Common Core.

Interview data indicated a strong commitment across schools to professional development in order to facilitate the shift to CCSS and inquiry-based learning. Overwhelmingly, professional development discussed in the interviews concentrated on development and support of teacher content knowledge.

The focus on content knowledge was perceived as both positive and worthwhile. According to one person, “I know that for math we’ve been very focused on content, teacher content knowledge. That’s what CVMI builds. That’s what makes it different is that you bridge the content knowledge gap that we know exists with the pedagogy rate, the instructional piece, and you build it in a way so that you have an expert cadre level of teachers; and that’s taking a lot of time, and you have to be really patient for that. (CO9) Focusing professional development so heavily on development of teacher content knowledge implies not only that content is essential to inquiry-based methodology, but that content-specific professional development will improve teacher quality, and in turn, student achievement.

The overall plan for providing professional development in mathematics kept in focus both the immediate need for strengthening teachers’ content knowledge (especially primary teachers) and the future need to provide school-based professional development to other teachers. CPS professional development for mathematics instructors was in partnership with University of Vermont and Mayerson Academy. Teachers took mathematics intensive professional development, and had the opportunity to earn a Master’s degree in Mathematics if they wished to continue. However, the larger goal was to “train these individuals [so] that they’ll be our content specialist lead teachers; and we’re trying to get a content specialist in mathematics in every one of our schools, because that way there is someone that the teachers can go to provide job-embedded PD.” (CO1)

Some professional development was the result of collaboration and feedback from various stakeholders (e.g., teachers, coaches, and curriculum managers). Central office staff used data collected from teacher focus groups and meetings to tailor the professional development. As one participant explained: “we were able to put together teams of teachers with the curriculum managers to come up with professional development that was actually helpful because it met their needs... We were using the information we received from the schoolhouses.” (CO3) There were also reports of using data in professional development to align mathematics work with student achievement data and state standardized test questions.

CPS decided upon an inquiry-based science curriculum with corresponding professional development based upon the results from Science Program Improvement Review (SPIR) from the NSTA. From this review and suggestions from NSTA, CPS turned to various science professional development providers. NSTA suggested that CPS use the Biological Sciences Curriculum Study (BSCS), and so “most of all of our science PD came through BSCS and some of it came through NSTA with content through their SciPack online module.” (CO11) Professional development in science also focused on content for middle and elementary school.

Professional development for instruction was not only for teachers; principals too received professional development to become instructional leaders. “So, everyone was getting touched through some way or another, even with the principals received training and they would bring their knowledge back to their schools and implement it in their schools too,” explained one central office staff member. (CO11) The

goal was to have everyone at the school share in the same experience and be familiar with the work at different levels.

Indicator 5: Professional Development for Leadership

Based on a McKinsey & Company audit in 2007, one of the recommendations for CPS was to implement professional development for leadership for district-based and school-based administrators. Even though there was not enough evidence to provide a score for some of the sub-indicators, as seen in Table 5, there was enough evidence to show that the district has been making improvements in this area. Principals especially seem to be recipients of the professional development, but it was becoming more readily available to district administrators as well.

Table 5. Professional Development for Leadership	
PD is aligned with district instructional priorities (content, pedagogical, data).	*
There are sufficient resources available to provide the needed PD.	*
School-based PD is available for teachers.	*
PD is ongoing.	*
PD is data driven.	*
PD is aligned with standards and curricula.	3
There is a common understanding of roles played by schools and central office with regard to PD.	3

Note. * indicates insufficient data to make a determination about the prevalence of the given characteristic

While leadership professional development and instructional professional development were often treated as separate aspects of administrative learning, they complemented one another. For example, the well-praised University of Virginia's Darden School of Business Turnaround Program focused entirely on leadership issues: developing plans, measuring growth, and driving results to name a few. However, it was noted that the program “didn't have any components around how do you actually teach. So, it was good that we had a teaching framework in place, and we put those things together and I think that's the reason we saw our achievement improve so much.” (CO2)

Professional development for members of central office did not appear to be common, however the offerings that did exist focused on keeping administrators connected to the schools in the district. Fairly recently CPS had decided to use some of the GEF grant to provide monthly professional development focused around talent management: Ignite. Ignite was meant to get central office members, even those not involved in instruction, to understand that “when you're sitting in accounts payable you're not just pushing paperwork, but there is an impact that it has at this school and you play a big role in this value chain.” (CO2) Central office administrators also could take part in Partners for Progress, where each administrator was linked to a school and worked on a project that aligned with the goals of the school.

CPS provided principals with numerous professional development opportunities to be able to not only work with one another, but to be able to work with their own coaches. Principals found the various leadership professional development sessions to be very helpful and pertinent to their work. Of principals surveyed, 85 percent agreed that they were pressed to implement what they learned in professional development. One of the positive facets of the professional development was both the support and follow-up that happens after the professional development has taken place. One principal stated:

It's all about timing to me I think too and sometimes follow-up. Sometimes we're given the information at one time; and being a former principal you're sitting there all day and being inundated with all of this information, and then they go back and try and figure how it's going to work. Sometimes it gets lost in the transition. (P2)

Other helpful aspects of the professional development included focusing on a specific topic for a length of time, and giving principals key ideas to focus on that are most important with a follow-up after they have had some time to apply it to their schools.

Even though a predominant focus on learning teams was to develop the instructional knowledge of teachers, it also provided valuable professional development in leadership. For some school-based members the learning teams were a way to develop their skills for future leadership opportunities. A principal explained:

Respecting and building leadership is important, because even right now I think I have three people on staff that have their principal certificates and are aspiring administrators. And so when I look at what the GE grant and the creation of learning teams in which they're led by lead teachers or led by content specialists, it allows me for those teachers who have expressed an interest in having a leadership role in the school the opportunity to do that so that they can get some on the ground training. So that it's not if they become principals or assistant principals that everything is not new. They've had the opportunity to lead. (P5)

In sum, both interview and survey data suggest that CPS had the basic framework of a leadership pipeline in place, principals had access to professional development in both management and instruction, and there were school-based mechanisms for helping teachers to grow into leadership roles.

Indicator 6: Management Capacity

Regarding CPS management capacity, though there was not enough evidence to provide a score for some of the sub-indicators, as seen in Table 6, this section can still note some of the trends that emerged from the data. The data also provided enough evidence to show that the district has a well-

developed data collection system, a systematic approach to allocating resources and teacher evaluations that align with instructional expectations.

Table 6. Management Capacity	
IT infrastructure to collect data is in place.	3
IT infrastructure makes data accessible for use.	2
There is a systematic or strategic approach to allocating resources.	3
HR infrastructure identifies talent effectively.	*
Central Office is effective in attracting strong candidates to teaching positions	*
There is a system in place that fills in open positions in a timely manner.	*
Teacher evaluations are aligned with instructional expectations	3
Principal evaluations are aligned with instructional expectations.	*
Central office evaluations are aligned with instructional expectations.	*

Note. * indicates insufficient data to make a determination about the prevalence of the given characteristic

CPS has various means to collect data at the student, teacher, and school level. Several programs and data collection tools are in place to be able to gather information. For example, principals have tools to perform audits for their individual tools, and coaches have tools to track teacher progress. Even in terms of evaluation—programs such as the TES provide means to systematically collect data.

The district also has the capacity to be able to make connections among the different levels of the district. For example, a participant explained that there are some systems and tools in place so that they can better understand the needs of an individual student. These programs allow for an administrator to determine at a given school:

Who is the resource coordinator at the school? How many different partnerships do they have down to the student level? So, if Joe Smith, a second grader shows that he needs help in reading or whatever, then they can assign a partner to that...or if he’s absent a lot, why is he absent? Is it a health issue? Is it a family issue? (CO9)

By pulling the data together, some administrators may be able to get a more holistic view of students and their needs.

However, not everyone utilizes this information. For those who do use the data, it requires “extensive mapping” that does not happen for every school, nor do enough people take advantage of the available data. Even with the development of Dashboard, there are still some people who need time to be able to access data regularly and to utilize the information provided. One participant explained:

We needed some time to really put good data structures in place, which I think we have in terms of our Dashboard and making that information accessible to school teams to really track

students' progress, see how they need to use that information to modify instructional practices, and really look at what's going on; and really taking some time to look at our own data to study the relationship. (CO13)

Allocating resources equitably presented a challenge in CPS. Some participants noted that for schools that were neither a Title I school nor a specialized school (like the STEM high school) there was a tendency to be overlooked in resource allocation decisions. There was also a need for more English as a Second Language (ESL) teachers in the District. The ESL population in Cincinnati has grown in recent years, and some central office staff worried that the resources available to serve this population were not sufficient. "I would love to get more ESL teachers. I would love for at least more of our general ed. teachers to seek TESOL endorsement." (CO6) Even though the University of Cincinnati has a program to help get CPS teachers TESOL endorsed, the costs made teachers reluctant to pursue the certification.

There is evidence that shows that the central office was effective in attracting strong candidates to teaching positions. With six local universities certifying teachers and Teach for America, Cincinnati has been fortunate to have a large pool of applicants. There are future plans to further determine which of the universities produce the better candidates:

We just for the first time this year took a look at our six local universities, took a look at the teachers that test at grade level, I actually have value-added data, just one year's worth of value-added data, but this year we'll have a second year; and we're definitely going to look to see what teachers from what university has the best value-added scores, because I would like to know what colleges or universities to choose, because we're the major hirer of teachers in this region. (CO1)

There is also evidence that there has been some difficulty in finding strong teacher leaders within the district, despite the opportunities that may exist. A central office member explained:

I was really starting to leverage teacher leaders and developing them, because the best work in the district happens when people are involved and they feel part of the process. So, I had 20 people working on stuff, which you can't find 20 people to work on stuff anymore right now. It's harder. (CO7)

There was a leadership pipeline to bring talented principals up through the schools, though it has been limited and modified due to budget constraints. Originally, CPS had a two-year process to acclimate potential principals. In their first year as interns, teachers "would travel between a couple of schools within the District where principals had a specific mastery" of a topic such as curriculum or monitoring (CO2). In their second year, teachers would work as residents at a school with a skilled principal, and by year three the teacher would interview for a principal position. A modified version of this pipeline has taken place in the turnaround coaching teams.

In the future there may be challenges to staffing for both administrators and teachers in the district. There is a predicted retirement surge expected in 2015. “You're going to see a mass exodus of this District of teachers and administrators,” said one principal. “It's already happening to an extent. So to get quality people back in, both teachers and administrators, it's tough, unless people really need a job.” (P4)

Budget cuts may negatively affect human capital within the district. With regards to staffing talented administrators in key areas, the district has been already stretched thin. Interviewees mentioned losing talented members of their staff to other initiatives in the district, and were unable to replace those members. With budget cuts, this challenge may be even greater:

I'm losing two people who have significant compliance attached to their jobs, and I don't have a very big department. I don't know how we pick up the work of those two people. Because there are also some other changes that have occurred, so I've got one person who is spending weeks and weeks and weeks doing work that we didn't have last year. (CO14)

In 2011, the district introduced a new teacher evaluation system. Prior, the District developed the Teacher Evaluation System (TES) which consisted of a series of classroom observations from qualified peers. These observations occurred at different intervals—first year as a new hire, fourth year, and every five years afterwards. For other years, an annual observation takes place. Due to Ohio state mandates, CPS was moving towards a model where 50 percent of teacher evaluation will be on student achievement and growth on state achievement tests. There was also a mixture of formal and informal teacher accountability measures—principals conducted formal evaluations and observations but also have short “walk-throughs” throughout the semester. The focused walk-throughs are a way for principals to know what is happening in the classrooms, and are aligned with instructional expectations. One principal explained the process:

So, when I come in, I'm looking for the indicators, what are you teaching, and I will say there is supposed to be an alignment to what they're teaching. Then I ask our constituents, I ask our students, what did you learn today, and they [the students] should be able to tell me... that's what the district has pushed us to be is that we need to know what's going on in those classrooms daily. (PO1)

Responses to the evaluation system were mixed. Administrators felt that the new evaluations had potential to really help teachers improve their instruction:

I think there is concerted effort in making sure that we are providing teachers with appropriate feedback through their Teacher Evaluation System, making sure the

feedback is taken to heart, that there is some follow-up with that, but doing so in a way that is primarily designed to be supportive rather than punitive. (CO13)

However, the evaluation system also caused some conflict between the administration and teachers union, especially linking teacher evaluation with test scores. One central office staff member noted that there have been some reported technical problems with the instrument, stating that the instrument was “supposed to make [the evaluation] easier and apparently has not.” (CO12)

Overall, approximately 87 percent of principals agreed or strongly agreed with the statement that the way in which they were evaluated as a principal in CPS was fair. There was a sense of pressure to perform and bring up test scores or else they might lose their position or not have their contract renewed. “The reality of it if your score doesn't come up, the possibility of you being non-renewed is always in our face. It's there, yes. It's not said out loud, like, yeah, but you know it. It's the culture.” (P01) The survey reflected this sentiment. Approximately 75 percent of principals surveyed felt there were clear consequences for low performance for principals.

Of principals surveyed, approximately 68 percent reported that they did not agree with the statement that they felt comfortable talking with their superiors about job-related challenges that they are having. This suggests that while a strong accountability system created a sense of urgency around improvement, it may also have had the unintended consequence of making it difficult for principals to seek help.

Central office evaluations were based on a program called “Success Factors” where central office staff establish their own goals, set achievement targets for those goals, and provide evidence and documentation for the yearly evaluation. The general responses towards central office evaluations were positive. Staff felt like the expectations placed on them are clear and fair. They also felt that the consistent reviews (e.g., central office appraisals) were helpful in refining the expectations and giving a sense of accountability, as one person noted that these reviews were helping in “making clear whether you're meeting the mark or not.” (CO15)

One of the challenges of central office evaluations may be a lack of data-driven global accountability for everyone. Due to the different roles and positions held at central office, the performance evaluation system Success Factors was meant to be flexible. Staff and administration established their own achievement goals and worked with their supervisors to monitor progress. Depending on the department, levels of rigor may differ. There was also a standardized component to the evaluation, but it was “perhaps not quite as data driven as the achievement of the goals. Although I think the obligation is to provide some supporting evidence, just perhaps not in the form of data.” (CO13)

Indicator 7: Evaluation

Evaluation in CPS has been varied and longstanding. There has been an emphasis on building capacity to use data, particularly as it relates to assessment and student performance. As noted in Table 7, there is

evidence that shows that CPS has carefully and continuously tracked its progress in different initiatives, and made adjustments based on data and feedback from those efforts.

Table 7. Evaluation	
Specific metrics or indicators are identified for major district initiatives.	3
Progress on initiatives is regularly monitored through these indicators (even if data is not produced).	3
District decisions about stopping, continuing, or expanding initiatives are based on evaluation.	3

When determining the progress on reform initiatives, data played a key role in decisions in a variety of topics. As a central office member stated, “so, one of the things that we've done is we use a data inform process. So, in looking at the data we identify what are the areas weakest, and then you kind of look at what is being required. So, there are a couple of areas where we triangulate the data. We look at how students are performing. Then we have to think, okay, why are students performing like this?” (CO05)

CPS used the results from other grants to inform the decisions and planning of the current GEF initiative. As a central office member explained, “I believe that in general, a lot of emphasis has been placed on identifying, over the course of the first grant, identifying the needs, the soft spots, and that a lot of what that revealed was content weaknesses, and that the resources were professional development resources and were devoted to building content knowledge.” (CO12) From these data the district expanded parts of the initiative that focused on learning communities and content knowledge professional development with programs such as VMI.

At the school level, central office staff and principals closely monitored the implementation of plans and initiatives. The process was recursive, allowing the team to make adjustments to their initial plan and to assess impact. As one central office staffer explained:

So, I meet with my principals quite often and we look at the data as far as their short cycle assessment data; we looked at trend data as far as the state assessments; and then coming up with strategies based upon that information. So, in August, we looked at their trend data and came up with a plan, and then that plan has had to be tweaked as we've looked at our short cycle assessments and our mock tests throughout, and through our classroom walk-throughs. (CO3)

Student achievement and progress was one the major indicators used to determine success for the different district initiatives. For example, CPS monitored teacher coaching and tried to determine if that coaching was beneficial by tying it to student test scores. One interviewee explained the reasoning:

If you spent 30 hours of coaching in mathematics and you did demonstration, you did modeling, you observed and you gave her feedback, I should see some impact on her student achievement. If it's not going in the right direction, then it's a conversation that I have to have with the coach to find out what's going on. (CO2)

Those programs that had little to no data to show evidence of student progress were held publically accountable. For example, one participant recalled how the different student service providers were confronted with the lack of progress made by the students. The service providers received data as evidence, and were informed that the lack of progress was unacceptable.

Overall, CPS has made a concerted effort to collect data on different levels (e.g., student, teacher, and school). Earlier sections on internal constituency engagement, external constituency engagement, and management capacity can speak to the collaborative and expansive nature of this endeavor. It is also apparent that CPS has made an effort to effectively use the data to help inform decisions regarding future directions. By establishing benchmarks and allowing for feedback, CPS had both established a general destination of where they want to be with the flexibility to be able to make changes necessary to get them there.

Conclusion

Overall, interview and survey data suggest that CPS has made real and significant progress in building system-wide capacity for instructional improvement. Collaboration within schools and the central office has improved and expanded. And while budget and accountability challenges have at times strained vertical collaboration, CPS made concerted effort to engage stakeholders at all levels in planning and decision making. The district has a cohesive instructional program in place in both mathematics and science, supported by a robust and multi-level professional development program for both teachers and school leaders. Evaluation of reform efforts appeared to be another strong suit in CPS, informing program planning and design as well as decisions about priorities.

There are also areas where challenges remain. While the instructional system (curriculum, expectations, supports) has become clearer and more cohesive, concerns persist about the overall consistency of instructional approach from classroom to classroom. The supports for affecting widespread instructional change (learning teams, expert cadres, etc.) appear to be in place, but the accountability measures needed to ensure that teaching is actually improving remain a work in progress, in no small part due to the evolution of state (and federal) policy related to teacher evaluation. Accountability measures related to teacher quality and practice remain controversial; such measures, coupled with concerns about the district's financial picture, also pose challenges for maintaining the level of stakeholder buy-in that played such a prominent role in the initial implementation of reforms under *Developing Futures*. As CPS moves to implement the next wave of reforms—continued refinement of teacher evaluation systems and further adoption of the Common Core among them—sustaining a broad base of support among teachers and principals will be critical to the system's long-term success.

