THE ED.D. PROGRAM AT THE UNIVERSITY OF ILLINOIS AT CHICAGO: USING CONTINUOUS IMPROVEMENT TO PROMOTE SCHOOL LEADERSHIP PREPARATION

This article describes the process of replacing a modest Master's level school leader preparation program with an innovative Ed.D. program at the University of Illinois at Chicago (UIC). The new doctoral program is intensive, highly selective, intellectually rigorous, and field-based. The authors provide side-by-side comparisons of the difference of each inquiry cycle which identified both problems and opportunities that led to the changes in the old program. The results, the characteristics of the doctoral program are shown by the authors to have addressed weaknesses of such leader preparation programs as identified in the research literature. Finally, the authors provide examples of specific data, such as student achievement data in schools led by UIC graduates, used in continually improving the program.

In 2001, a small group of faculty members in the Department of Educational Policy Studies at the University of Illinois at Chicago (UIC) challenged themselves by asking, "What would it take to consistently prepare urban school leaders to measurably improve student learning in high-need schools?" To answer this question and pursue the goal contained therein, we[1] embarked on a decade-long journey to improve the way we prepare school leaders at UIC.

This article presents the story of the journey that has taken us from a modest Master's-level school leader preparation program to an intensive, highly selective, intellectually rigorous, field-based doctoral-level program—the Ed.D. Program in Urban Educational Leadership. As we made this journey, we gradually moved away from radical, episodic, albeit collaborative approaches to program reform that have long been advocated in the literature (Clark & Clark, 1997). Instead, we moved toward the regular use of data and cycles of inquiry to promote continuous improvement, an alternative approach more recently advocated for the improvement of leadership preparation (e.g, Bottoms, O'Neill, Fry, & Hill, 2003; Cheney & Davis, 2011; Orr, 2006). This move has proven crucial for us to engage in sustained program development and make notable progress toward the goal of consistently preparing urban school leaders to improve student learning in high-need schools.

The story of the Ed.D. Program at UIC is of particular importance in light of public and scholarly attention to issues of school leadership preparation. This attention has spurred numerous critiques of leadership preparation (Barnett, 2004; Bottoms & O'Neill, 2001; Cheney & Davis,

2011; Cibulka, 2009; Finn & Broad, 2003; Fry, O'Neill, & Bottoms, 2006; Hess & Kelly, 2005; Levine, 2005; Murphy 2006; Murphy & Forsyth, 1999). Critiques of university-based leadership preparation programs have been particularly negative (Bottoms & O'Neill, 2001; Cheney & Davis, 2011; Cibulka, 2009; Fry et al., 2006; Hess & Kelly, 2005; Levine, 2005). Beyond general criticisms of program quality, specific concerns have focused on lack of rigorous candidate selection processes; lack of program purpose, coherence, and rigor; antiquated program content; inappropriate pedagogical strategies; insufficient or poor quality field-based experiences; lack of quality university-district partnerships; and lack of quality program evaluation (Bottoms & O'Neill, 2001; Bredeson, 1996; Bridges & Hallinger, 1997; Fry et al., 2006; Hess & Kelly, 2007).

From these criticisms has come a press for radically improving higher education school leader preparation programs. Complete program overhauls and new metrics for assessing program effectiveness have become prevalent in calls for reform (Björk & Ginsberg, 1995; Bottoms & O'Neill, 2001; Bottoms et al., 2003; Cheney & Davis, 2011; Goldring & Schuermann, 2009; Norton, 2002). For example, Fry and her colleagues (2006) urged university departments of educational leadership

> … to awaken from their complacency, reject the status quo, and respond to appeals and criticisms from the field by identifying new content that addresses what principals need to know in order to do their jobs and by devising instructional processes that ensure principals master essential knowledge and skills. (p. 11)

New perspectives on standards for assessing the quality and effectiveness of leadership preparation programs are also emerging and these standards are likely to drive reform. The Southern Regional Education Board (2002)articulates one such standard: that "every school has leadership that results in improved student performance" (p. 3).

The bulk of existing literature on the reform of university-based school leadership preparation programs is wanting in several respects. Although the literature tracks steps that are being taken to reform school leadership preparation (Fry et al., 2006) and is replete with descriptions of innovative and exemplary leadership preparation programs, very little explicit attention has been paid to program impact and means to assess it (e.g., Cheney, Davis, Garrett, & Holleran, 2010; Darling-Hammond, LaPointe, Meyerson, Orr & Cohen, 2007; Jean-Marie, Adams, & Garn, 2010; Jackson & Kelley, 2002: Loss, 2009; Marsh & Dembo, 2009; Orr, 2006; Storey & Hartwick, 2009; Toft-Everson, 2009). That is, there is virtually no empirical evidence that redesigned university programs, even those deemed innovative and exemplary, are making progress toward preparing school leaders to improve student learning. Also missing from existing literature are descriptions of the work that is required to dramatically improve school leader preparation programs as well as examples of

robust student and program outcome data—data that are increasingly expected for program evaluation and that are essential for informed program improvement. These gaps in the literature are concerning, given current expectations for leadership preparation programs to improve and to "evaluate their impact on graduates and the schools their graduates lead" (Orr, 2006 p. 498).

This article begins to address these gaps in several ways, and by doing so aims to support others' work to improve their programs of school leader preparation. First, this article provides an existence proof that a university-based leadership preparation program can reform itself and develop a record of preparing urban school leaders to improve student learning in high-need schools. Second, this article describes program design features that we have come to understand are necessary if such impact is to be achieved. Third, this article describes the use of data in program development and provides illustrations of program impact data that can be used to inform program improvement and evaluation. Equally important, this article illustrates the efficacy of cycles of inquiry and continuous improvement for sustained program development and effectiveness.

The story of continuous improvement as a mechanism for promoting leadership preparation at UIC unfolds in three acts. In 2001, we engaged in a first formal cycle of inquiry that led to the initial planning and development of the program. Between 2002 and 2008, we launched the program and during this period of initial implementation, we began a process of continuous improvement for sustained program development. And from 2008 to the present, we enhanced our process of continuous improvement as we engaged in a second formal cycle of inquiry. This process allowed us to take stock of challenges and opportunities and led us to make several significant and important revisions to the program that we believe will further improve its effectiveness. Each of these three phases of our ongoing process of continuous improvement is detailed below. We follow these descriptions with a closer look at our data analysis approaches for program improvement and evaluation. We also discuss what we have learned regarding the challenges of a continuous improvement approach to ongoing program development. We end with concluding observations.

Initial Planning and Development: The First Inquiry Cycle

As the 1990s drew to a close, the Department of Educational Policy Studies at UIC conducted a year-long program assessment that generated two key conclusions similar to those later reached by Shulman, Golde, Conklin Bueschel, and Garabedian (2006) regarding education doctorates. First, our Ph.D. Program was not adequately achieving its primary objective of preparing researchers, in large part because it was also trying to serve the professional development needs of practicing educators. We also found that neither the Ph.D. Program nor our M.Ed. Program was proving

effective in preparing school leaders capable of meaningful urban school improvement except as a rare exception.

Motivated by these findings, we obtained a planning grant from the John D. and Catherine T. MacArthur Foundation in 2001 to begin a formal cycle of inquiry that led to the initial planning and development of the Ed.D. Program. This cycle was driven by the question that we asked ourselves as a faculty: "What would it take to consistently prepare urban school leaders to measurably improve student learning in high-need schools?" Finding little empirical research as guidance, a team of several Department faculty members and interested Ph.D. students turned to three sources of information: (a) an external needs assessment to identify demands and expectations for school leader preparation reform; (b) the literature on exemplary or innovative programs of school leadership preparation; and (c) individual and focus group interviews of Chicago Public Schools (CPS) principals of low-income, racially isolated schools which had produced student learning outcomes that far exceeded expectations. We used the needs assessment to develop justification for a thorough reform of school leadership preparation in our department. We used our review of the literature and our interviews to gain new perspectives on how school leadership preparation might be reformed. Particularly important was gaining successful school leaders' perspectives on transformational urban leadership practices and on how to help aspiring principals learn to employ them.

This inquiry reinforced our belief that we would be unable to consistently produce new principals capable of transforming low-income urban schools within the confines of an M.Ed. Program. The need for extended academic work and intensive clinical experiences, as part of a continuum of pre-service preparation and early-career support and development, emerged as of paramount importance and could not be supported within our M.Ed. Program. Moreover, our M.Ed. Program attracted large numbers of students with very little teaching or leadership experience. We came to view such experience as an important prerequisite to successful principal preparation and effective leadership to transform low-performing urban schools. With these ideas in mind, the department decided to close the M.Ed. Program and develop an Ed.D. Program as a new, more robust vehicle for initial school leader preparation and certification as well as for advanced professional leadership development.[2]

This initial inquiry cycle also pointed to a number of design elements that would arguably improve on the design of the M.Ed. Program. We viewed these elements as conducive for making progress towards the Ed.D. Program's primary objective of developing leaders to consistently improve student learning in high-need K–12 schools. In retrospect, we lacked a well-articulated theory of school leadership development to guide our thinking. Table 1 compares the primary design elements of the M.Ed. Program with those of the Ed.D. Program as launched in 2002–2003. Notable are differences concerning the students we wished to work with; the selectiv-

ity of admissions; the intensity and duration of preparatory work; the strong emphasis on long-term field experiences and coaching; expanded focus on standards, practice-based competencies, and assessments; and the integration of the theoretical with the practical, the academic with the clinical.

Table 1

UIC's Original Master's compared to Ed.D. at Launch in 2002

UIC's M.Ed. in educational administration pre–2003	New Ed.D. program design features in 2002–03 startup year
School system as consumer of candidates credentialed by UIC	Close working partnership with public school system for program design, implementation, and assessment
Non-selective admissions: most applicants to program accepted	Highly selective admissions process requiring master's degree, extensive documentation, and 2-hour interview
ISLLC standards as competency framework	ISLLC standards plus 19 specific leadership competencies generated from interviews with urban school leaders
Single-strand program of 33 semester hours to credential wide variety of administrative roles, including department head, dean, athletic director; designed exclusively for pre-service training	Three-strand program structure of 88 to 92 semester hours post Master's degree designed for pre-service preparation and early career support and development of novice principals, advanced principals, and aspiring superintendents
Revolving admissions spring, summer and fall, with 50–70 students at various stages of program completion; courses un-sequenced and taken full- or part-time as student chooses	Cohort-based with admissions of 15–20 each fall; courses sequenced during year-long pre-service residency with enrollment in 3–4 courses both residency semesters; variable sequencing during post-preparation, novice-leader development phase
Limited clinical/residency experience provided; embedded in one course/ one semester and not requiring leave from current position; minimal on-site supervision	Extensive clinical experience through fully-paid, year-long principal residency (funded by CPS); close supervision by mentor principal and UIC coach; internship begins immediately at the start of program
No leadership coaching provided	Three years of site-based leadership coaching (during year-long internship and post-internship for early-career development)
No consideration of academic and clinical integration and alignment	Academic and clinical integration and alignment assumed rather than explicitly designed
Beyond course grades, no assessment of candidate performance during program	Beyond course grades, some basic assessment of candidate performance throughout the program, with counsel-out consequences

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Table 1 *(continued)*

UIC's M.Ed. in educational administration pre–2003	New Ed.D. program design features in 2002–03 startup year
No capstone exam or demonstration of leadership competence	Comprehensive exam, leadership portfolio, and thesis research focused on problems of leadership practice
Staffing of roughly 2.0 FTE academic faculty	Staffing of roughly 3.0 academic FTE during phase-out of Master's; addition of 2.0 FTE clinical faculty (one internally funded and one externally funded)

Launch and Early Implementation: Beginning Continuous Improvement

The new Ed.D. Program for Urban Educational Leadership launched in 2002 with a first cohort of nearly 20 students. Although our internal resources were stretched as we began the transition from the M.Ed. to the new Ed.D. Program, we received substantial support from CPS which funded full-year paid administrative residencies for students in the program. We also began to receive substantial support from philanthropic foundations primarily in Chicago that were interested in funding new approaches to school leadership development.[3]

Between 2003 and 2005, we spent considerable time performing a broad range of "start-up" tasks. Program faculty developed curricular and instructional materials and began to develop a "conceptual framework for candidate and program evaluation." This framework mapped program goals, evaluation strategies, and evaluation tools. In 2005, the department hired a new academic faculty member, expanding our capacity to implement the program.

Although the launch and early start up work had generally gone well, we began to experience several problems as implementation progressed and as our enrollment grew.[4] Beginning in 2005 and continuing through 2008, we engaged in both regular and more episodic periods of collaborative inquiry to learn more about these problems and to make adjustments to address them. In the process, the faculty grew in its understanding of the importance of continuous improvement for sustained program development.

For example, based on patterns of problems evidenced in student course taking, the internship, and comprehensive exams, we adjusted course sequences and improved horizontal and vertical course alignment. We amended course content and assessments, and we developed and subsequently revised the comprehensive examination and leadership portfolio requirements and procedures. We also adjusted coaching routines. Patterns of problems also offered insights regarding the selection and design of metrics and analytic processes for program improvement and evaluation.

Although our approach during this time frame was non-systemic and did not involve a formal cycle of inquiry, it produced improvement that otherwise could not have been achieved. Moreover, our commitment to program improvement and encouraging early evaluation results began to cultivate state and national attention. For example, an Illinois Board of Higher Education (2006) Commission on Principal Preparation named UIC's Ed.D. Program as the state's only "model" university-based principal preparation program. By 2007, program improvement and evaluation data began to reveal success with various candidate placement indicators. For example, in job eligibility and placement we found:

- Within their first three years in the program, 100% of UIC students passed CPS principal eligibility requirements compared to 46% of non-UIC candidates.

- Of 34 UIC students who completed their internships in good standing, 100% found jobs in CPS within three years. Almost two-thirds of these students were hired as principals, about one-quarter as assistant principals, and the remainder as sub-district and district-level administrators.[5]

- Almost half of the UIC students receiving principalships were hired into high-need high schools. As a group, these students held nearly 10% of all high school principalships in CPS.

As we began to analyze candidate impact data, we also noted that our students were achieving modest success in improving academic achievement in their schools. For example, in 2008 we found that taken collectively, elementary schools led by UIC-trained principals had improved 24.2 percentage points in just four years on the meets/exceeds measures of composite math and reading on the State ISAT achievement test, while CPS schools overall had improved 19.7% in that time. In posting these increases, UIC-led schools had moved from 3.5 points below the district average to surpassing the district average by 1 point: not earth-shaking, but trending positively against district scores that were themselves improving. Moreover, our improvement work and results attracted the attention of The Broad Foundation. In fact, we were selected as the only university-based leadership preparation program to receive a major multi-year Broad grant.

Despite these positive results and events, by the fall of 2008, our reviews of additional program evaluation data coupled with our nagging dissatisfaction with particular program issues, fueled unanimous agreement across the academic and clinical faculty for the need for a second more comprehensive cycle of inquiry to inform ongoing improvement. On the one hand, our data continued to show exceptionally strong rates of job placement after students' internships. For example, all students in the program's first seven cohorts who completed internships were hired into administrative posts by CPS within two years of those internships. In fact, ninety-five percent were hired immediately upon internship completion.

Moreover, two-thirds of our students obtained principalships within three years of their internships. On the other hand, our data also showed that 15% of our students did not complete their internships. Further, the vast majority of the students (80%) who completed their internships showed signs of stalling during the post-residency phase of the program as they began their careers as full-time school or system-level leaders.

Taking Stock and Making Larger Adjustments: The Second Cycle of Inquiry

From 2009 to 2011 we engaged in a second formal cycle of inquiry that was supported in part by external funding from Chicago Community Trust, Fry Foundation, and McCormick Foundation.[6] In contrast to the first cycle that involved a small number of individuals, this cycle engaged all Ed.D. academic and clinical faculty, program staff, most Ed.D. students, and several faculty members from other departments within the College of Education. Work teams led by individual faculty members met for periods ranging from 6 to 18 months.[7] Equally important, this inquiry work expanded noticeably in scope as we collected a broad range of data. This process was a major undertaking that involved a substantial and sustained time commitment from academic and clinical program faculty. Our work was consistent with but arguably more multi-faceted than the program evaluation practices and recommendations emerging from the literature (e.g., Clark & Clark, 1997; Educational Development Center, 2009; Fry et al., 2006; Story & Hartwick, 2009; University Council for Educational Administration, 2011).

This second cycle of inquiry focused our attention on strengths and weaknesses of existing program elements. We administered student surveys, conducted faculty interviews and student interviews and focus groups, and analyzed student course evaluations. We examined student course taking patterns, conducted a curriculum audit, and considered pass rates and patterns of problems in student comprehensive exams and in CPS principal eligibility assessments.[8] Importantly, we analyzed a growing assortment of data on candidate entry, progress, placement, and impact.

We also collected and reviewed a broad range of information from outside sources to find points of comparison for further assessing the program's strengths and weaknesses. For example, we drew from what we learned about exemplary leadership preparation program features through our ongoing participation in the Rainwater Leadership Alliance.[9] We reviewed CPS principal eligibility competencies as well as ISLLC and NT-PBS Standards for School Leaders. We also drew on reviews of literature on leadership preparation and literature describing exemplary school leadership programs. These reviews were complemented with our own in-depth investigations of several innovative programs at other universities. Finally, in anticipation of their inclusion in new state principal licensure

requirements, we reviewed literature on early childhood education leadership and content-area leadership.

This inquiry cycle revealed a number of challenges and opportunities for ongoing program development. Some of these challenges and opportunities arose from external sources, such as changes in state program accreditation and principal certification requirements and in CPS job eligibility requirements. Others sprung from internal sources, such as growing program size and complexity, limitations in faculty capacity, and underdeveloped administrative support. Some challenges had been identified earlier, such as difficulties students were having making steady progress during the post-residency portion of the program. Beginning in 2010, the program faculty began to respond to these challenges and opportunities by developing a number of changes to the program. These changes build upon the original 2003 program but in their scope and complexity can be seen as adding up to a program "redesign."

Table 2 recaps the Ed.D. design features at 2002, highlights selected problems and opportunities identified from the second formal cycle of inquiry, and presents Ed.D. design features that we began to phase in 2010.

Table 2

Ed.D. In 2002, Identified Problems and Opportunities, Ed.D in 2010

Ed.D. program design features in 2002–03 startup year	Inquiry cycles identified following (selected) problems and opportunities	Program redesign components introduced or under consideration
State principal license: K–12 State leadership preparation policy allowed considerable flexibility with preparation program delivery	State policy changes being introduced related to leadership preparation and principal licensure	New PK–12 principal license beginning 2013; notable changes to the specificity of clinical experiences and outcomes and with expectation for highly selective candidate selection
Close working partnership with public school system for program design, implementation, and assessment	Frequent changes in district policies create need for program changes but also opportunity to strengthen partnership	New Chicago leadership collaborative now underway; requiring new MOU and new (and likely strengthened) partnership structure with district
Highly selective admissions process requiring master's degree, extensive documentation, and 2-hour interview	Quality of candidate pool not up to our aspirations; suggests greater attention to pipeline development and improved selection process	New pipeline strategies enacted and additional strategies to be developed collaboratively with CPS through new leadership collaborative; enhanced highly selective admissions process

(continued)

Table 2 *(continued)*

Ed.D. program design features in 2002–03 startup year	Inquiry cycles identified following (selected) problems and opportunities	Program redesign components introduced or under consideration
ISLLC Standards plus 19 specific leadership competencies generated from interviews with urban school leaders	Insufficient program alignment to CPS principal competencies; opportunity to align with NTPBS arises with recent publication of their accomplished principal standards	CPS competencies, ISLLC standards, NBTS standards for school leaders and ISLLC standards integrated as indicators for pre-service and early-career school leader development
Three-strand program structure of 88 to 92 semester hours post Master's degree designed for pre-service preparation and early career support and development of novice principals, advanced principals, and aspiring superintendents; little attention to identification and scaffolding of programmatic content themes	Three-strand structure unwieldy for administering and sustainability; complexity interferes with program content coherence	Single-strand structure of 88 credits post-Master's degree proposed for all students with options/electives to accommodate specific career goals such as superintendent endorsement; programmatic content-based themes identified and scaffolded across program experience[10]
Cohort-based with admissions of 15–20 each fall; courses sequenced during year-long pre-service residency with enrollment in 3–4 courses both residency semesters; variable sequencing during post-preparation, novice-leader development phase	Cohort effect diminishes as students pursue different career stages; academic challenge of program a factor in students stalling and not finishing program in timely manner	Cohort-based with admissions of 15–20 each year moved up to spring providing 18 rather than 12 months of pre-service training; Cohort experience improved through carefully sequenced courses; number of courses per semester in pre-service and development reduced (primarily by use of summer session) to accommodate school leadership demands
Extensive clinical experience through fully-paid, year-long principal residency (funded by CPS); close supervision by mentor principal and UIC coach; internship begins immediately at the start of program	Insufficient assessment of readiness and preparation for entry to internship	Fully-paid, year-long principal residency (funded by CPS) begins after first full semester in program and based on assessment of candidate readiness; close supervision by mentor principal and UIC coach

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Table 2 *(continued)*

Ed.D. program design features in 2002–03 startup year	Inquiry cycles identified following (selected) problems and opportunities	Program redesign components introduced or under consideration
Three years of site-based leadership coaching (during internship and post-internship for early-career development)	Coaching experience varies widely, suggesting the need for development of more explicit protocols, instruments, and assessments to systematize coaching experience	Three years of site-based leadership coaching maintained, increased design and utilization of protocols, instruments, and assessments for use during experience
Academic and clinical integration and alignment assumed rather than explicitly designed	Weak alignment and integration between academic and clinical experience	Redesign of internship-related courses to align with coaching; Explicit attention provided to alignment and integration between academic and clinical experience for entire program
Beyond course grades, some assessment of candidate performance throughout the program, with counsel-out consequences	Management of assessment process weak due to limited administrative capacity of program	This area continues to need attention due to issues of capacity; recent receipt of additional university funding is likely to support improvements
Comprehensive exam, leadership portfolio, and thesis research focused on problems of leadership practice	Faculty and student dissatisfaction with poor student completion rates on original dissertation	Introduction of capstone research project in place of more traditional dissertation; capstone model still under revision for recently-entering cohorts
Staffing: Staffing of roughly 3.0 academic FTE during phase-out of Master's, plus addition of 2.0 FTE clinical faculty (1 internally funded and 1 externally funded)	Academic staff stretched thin due to multiple responsibilities of teaching, research, and program revision in an era of state budget retrenchment	Staffing of roughly 5.0 academic FTE (one line added in 2005 plus parts of other faculty); 6.0 FTE clinical faculty (3 internally funded and 3 externally funded)

As we begin this new chapter of the Ed.D. Program, our current enrollment stands at approximately 100 students. The demographic diversity of our student population has increased even as our admissions selectivity has increased. Almost 30 percent of our students are African American, 15% are Latino, 42% are white, and 13 % are Asian American and other minority. Nearly 60% of students are female. The bulk of our students come to us from CPS and many are teacher leaders or assistant principals. Although the greatest numbers of students seek administrative certification for the principalship, a number are experienced school leaders

seeking advanced professional studies and several are aspiring or early-career system-level leaders.

We continue to post strong candidate placement data. For example, currently 96 students in eight UIC cohorts have completed the residency year and achieved state certification. Of these 96, 65 became urban school principals within four years or less and nearly all of these posts were in high-needs schools. Of the remaining 31, 30 have become system-level leaders or assistant principals. We also continue to chart progress with our student impact data. Our analysis of student impact data and an illustration of such analysis appears in the following section.

A Closer Look at Data Analysis for
Program Improvement and Evaluation

A very important part of our work has been the ongoing development of a system of data collection and analysis for program improvement and evaluation. The objectives of this system have been consistent since the program was first developed. First, data and analysis should allow us to assess whether our program is achieving its overall goal of improving PK–12 learning outcomes in schools led by our students. Second, they should allow us to assess whether program processes are being implemented with fidelity and quality on the way to achieving PK–12 learning outcomes. Third, they should enable us to improve program processes and outcomes through improvements in program design and implementation. The pursuit of these objectives has necessitated sustained work over the entire decade—work that has required a considerable commitment of faculty time and external funds to support additional "hands on" evaluation work of two program staff.

The conceptual framework for candidate and program evaluation, developed shortly after the program launch, served as a foundation for conceptualizing, designing, enacting, and continuously improving a system of data for program improvement and evaluation. As currently enacted, this system assesses the full program trajectory which spans students' admission to the program to their impact on the schools they serve. Accordingly, we collect data at four key points: (a) student entry; (b) student program progress; (c) student job placement; and (d) student impact on their schools. We have learned that our data not only inform program improvement and evaluation, but they also are an important source of information for students and their leadership work in schools. For example, impact data allow our students to consider whether their schools are closing achievement gaps over time and in comparison to multiple norms.

More than 27 different data collection and analytic tools have been developed or selected from outside sources to assess our students and program. Not all of these tools have been employed and some which have been used have not been employed systematically. We have learned that a fully-developed system for improvement and evaluation requires sub-

stantial organizational capacity, and we have within the last several years been working to build our capacity for this work. Even though our work in this area continues to evolve, our current evaluation tools and strategy are beginning to inform national discussions on the evaluation of leadership preparation programs (Cheney et al., 2010; Cheney & Davis, 2011).

During the past several years we have made the greatest progress collecting and analyzing data on our students' impact on their schools. Specifically, we have engaged in more systematic annual and longitudinal analysis of several kinds of school-level data: (a) student attendance rates; (b) freshman academic on-track rates; (c) high school graduation rates; and (d) parent, student, and teacher ratings on various school culture and climate, instruction, and leadership indicators. We are also developing the internal capacity to use state databases that contain longitudinal standardized test score data on individual elementary and high school students for more robust analyses of learning in our students' schools. By using state databases, we are beginning to perform "value-added" analyses and track longitudinal trajectories of student achievement by various subgroups of students (i.e. ethnicity and achievement quartiles) and in comparison to CPS and national trajectories. We are also able to compare the yearly learning gains of schools led by UIC students with district and state gains.

At the end of the 2010–2011 school year, UIC-trained principals led 28 CPS elementary schools. These leaders had at least a full year's results on state achievement tests (ISAT), because they served in their respective schools for between one and seven years. Of these 28 schools, 21 posted combined grade level 3–8 reading gains that exceeded CPS combined grade level 3–8 gains—some by a little, and some by a lot. Five schools of the 21 gained at least four months' achievement, a useful benchmark that bodes well for genuinely closing achievement gaps over the course of an elementary school career because it indicates 1.4 years learning for one year's schooling. Figure 1 is a data display that illustrates this analysis for the 21 UIC-led schools that outpaced CPS average gains. Moreover, our analysis shows that UIC-led elementary schools are twice as likely as CPS elementary schools to hit that benchmark of four months' achievement gain. In mathematics, UIC-led schools have done even better, with eight of the 28 schools hitting the 1.4 year learning gain mark. Moreover, in the composite analysis that combines reading and math scores, 10 UIC-led schools of the 28 hit that high bar.
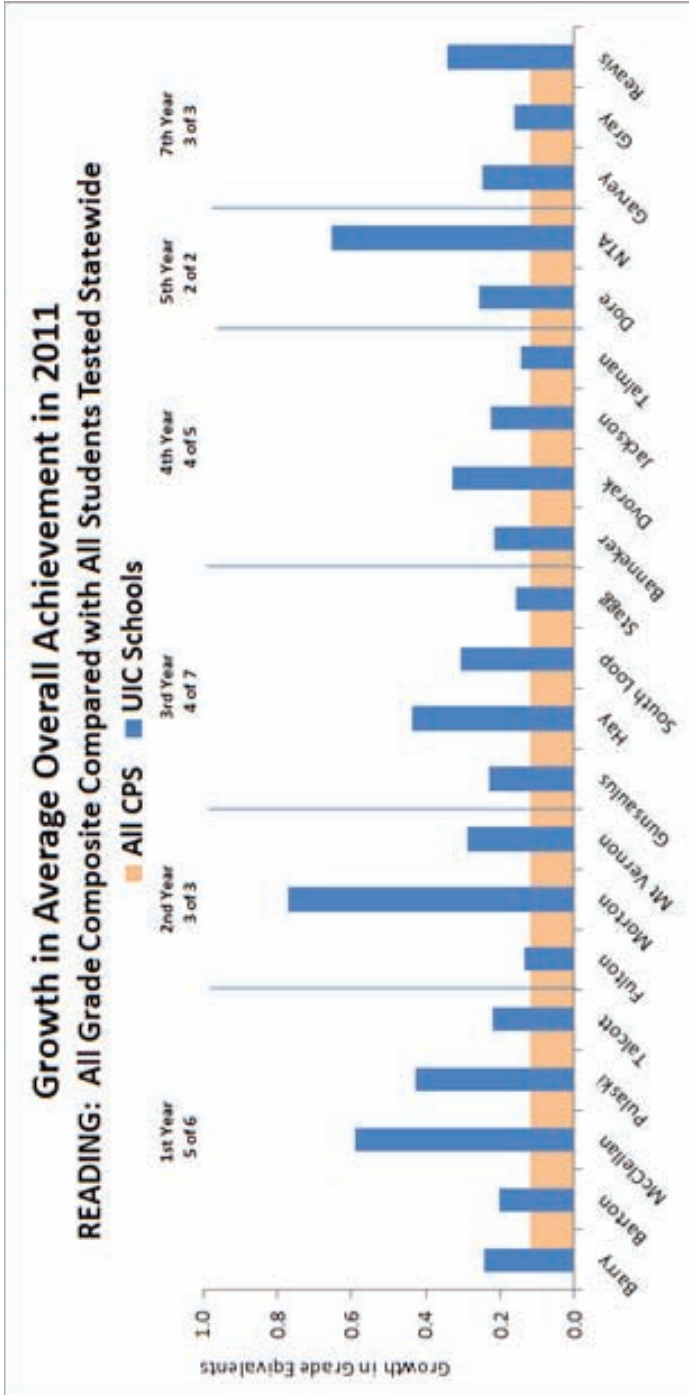
Figure 1. Elementary Principal Impact Data/UIC-Led School Compared to CPS Norm

Challenges of a Continuous Improvement Approach to Program Development

Adopting cycles of inquiry and a continuous improvement approach to program development has not been without challenges. Indeed, the challenges we have experienced are consistent with those generally experienced by organizations that move toward continuous improvement (Smylie, 2010). Consistent with the approach itself, these challenges have proven to be sources of learning about how to do the work of school leader preparation more effectively. Here, we describe briefly four challenges that have been particularly relevant to our journey.

Challenge #1. Keeping Eyes on the Prize

Of particular importance to continuous improvement are the articulation, clarity, and consistency of mission and core values. Mission and core values, as well as the process of continuous improvement itself, are crucial "anchors" in organizations where regular changes in policies, programs, and practices are to be expected (Smylie, 2010). However, maintaining the integrity and imperative of mission and core values is not easy. There is potential for goal displacement as organizations may train their focus on the process of change and indeed on change itself to the neglect of the outcomes to be achieved by change. There is also the potential for compromise as an organization engages with and responds to myriad demands and expectations of different external actors upon whom the organization depends for resources and legitimacy.

The mission and core values of the Ed.D. Program is well summarized in the question that has propelled our work since 2001: "What would it take to consistently prepare urban school leaders to measurably improve student learning in high need schools?" This question has served as a mantra to the program. We are fortunate that the primary external actors upon whom the program depends now—CPS, the state, and philanthropic foundation - even our own college and campus—expect and demand from us much of what we expect and demand for ourselves. The greatest challenge to keeping our eyes on the prize is simply the pace and demands of the work itself and the risk that the "doing" and completion of work, or the development and institution of change, displaces attention on the outcomes we wish to achieve. That risk is mitigated but not eliminated by embedding the key elements of the question—"consistently prepare," "to measurably improve student learning," "in high need urban schools"—in the program's design, content, and, importantly, evaluation system.

Challenge #2. Developing Complete Technology for Continuous Improvement

We have learned that data, data systems, and cycles of inquiry are very important to school leader program development. The challenge is to develop and manage a complete and coherent technology for continuous improvement that is anchored in mission and core values. The technology should be an integral, not ancillary or occasional, part of the program. As seen in our story, such a technology is also developmental and dynamic in nature. Moreover, the technology for continuous improvement is itself the subject of continuous improvement. That is, a truly complete technology is one that is turned on itself, is analyzed, and is improved on a continuous basis. It requires invention, continuous examination and development, and tolerance for ambiguity, risk, and occasional failure. However, developing, managing, and improving a complete technology of continuous improvement is especially challenging when there is little precedent for it in school leader preparation, and few resources to guide it.

Of particular importance, our experience suggests that perhaps the greatest challenge to developing a complete technology is not in the development of data and data systems. Although there are substantial difficulties associated with developing data and data systems, these are largely technical matters. Instead, the greatest challenges come in developing the orientations, routines, and working relationships that have us continuously looking at data and linking data to collaborative decision making about our students and program.

Challenge #3. Developing Capacity for Continuous Improvement

One of the most important lessons from the literature on continuous improvement is that it requires particular organizational capacities to be successful (Smylie, 2010). By capacities we mean organizational resources that support the work of continuous improvement. From our experience, we have learned the importance of cultivating the following capacities:

- A culture of inquiry and continuous improvement that anchors firmly on mission, values, and process and makes change an expected element of life.

- A culture of faculty collaboration, organizational citizenship, and distributed leadership

- The knowledge, skills, dispositions, processes, and management systems to engage in cycles of inquiry, to analyze meaningful data, to use data effectively in planning and decision-making, and to use products of that process—the new and improved aspects of school leader preparation produced

- Program leadership that promotes mission, processes of continuous

improvement and processes to monitor, interact with, and manage the external environment

- Organization of work, work roles and relationships, communications systems, and rewards systems to align with and provide support for continuous improvement work

- Relational trust that provides both the "glue and lubricant" of working relationships important for program personnel to deal with the uncertainty, risk, and occasional failure associated with continuous improvement (Tschannen-Moran, 2004)

- Fiscal and physical resources, including time, which make important contributions to the cultivation of several capacities listed above

Our challenge has been to foster sufficient capacity for a complex, intensive, evolving program. Indeed, as shown in our story, a number of the issues we have encountered in developing and implementing the Ed.D. Program can be traced to lack of fiscal resources including time. Funding is scarce and highly competitive. Program personnel, particularly academic faculty, must distribute their time and energy across a range of roles and responsibilities beyond those associated with the Ed.D. Program and its ongoing improvement. The Ed.D. Program has developed much of its "fiscal and time" capacities through external resources and unusually high levels of faculty commitment of time toward program improvement work. Our challenge going forward is to institutionalize the program by shifting its primary sources of financial support from unstable external sources to more sustainable sources within the university. The time commitments of individual faculty members for myriad improvement tasks must also be significantly adjusted in order to be sustainable.

Challenge #4. Managing the Dilemma of Stability and Change

This fourth challenge arises from the simultaneous need for the program to establish sufficient stability, regularity, and predictability to function effectively and the need for the program to continuously adapt and improve. Too much of the former may compromise the ability of the program to respond effectively to problems and changing demands. Too much of the latter may create conditions resembling "permanent white water," leading to problems of overload and fatigue that impose obstacles to achieving program objectives. Moreover, ongoing continuous improvement builds from periods of stability and "time off" from what otherwise could become a relentless and unforgiving pace of change. This requires buffering people and their curriculum and instruction processes from frivolous demands so that human resources can be replenished (Smylie, 2010).

Additional challenges of managing this dilemma at UIC come from the need to keep pace with continual changes in CPS's job eligibility requirements, as well as major reform in the state's requirements for

school leader program accreditation and principal certification. The pace and magnitude of such change can create tension between our need to be responsive (our faculty's inclination toward innovation) and the need to stick with particular program elements and practices long enough so that they can be both implemented well and fairly evaluated. The pace and magnitude of such change can strain program resources and tax program faculty, an important consideration.

Concluding Observations

Our experience, consistent with the program evaluation data collected thus far, suggest that institutions of higher education can indeed change and effectively enact innovative and robust programs of school leader preparation. The short history of the Ed.D. Program at UIC presents an existence proof of this possibility. Further, our story points to the promise of cycles of inquiry, and the approach of continuous improvement for program development and long-term effectiveness also illustrates important details of this work and process. Although such processes have begun to be encouraged recently (Bottoms et al., 2003; Cheney & Davis, 2011; Orr, 2006), few illustrations exist in the scholarly literature on leadership preparation beyond our account.

This story also demonstrates that a continuous improvement approach to school leader program development is, to borrow the phrase from Elmore &McLaughlin (1988), "steady work." It is difficult and complex work. Program development is not something to do and be "done." It is ongoing. This approach requires strong commitment and sustained attention of all involved. The work is resource-demanding. It requires cultivating and sustaining the right kinds of capacities in sufficient quantities and qualities. Importantly, it cannot be done well "on the cheap."

In conclusion, if cycles of inquiry and continuous improvement mark an important step in the maturation of the logic and practice of school leadership preparation and program development, then we in this field are almost certainly going to need to mature in our use of these processes. Developing the self-awareness, the sources of information, the routines, and the resources to engage in the process of continuous improvement of individual programs and of the field will likely be critical areas of attention if the goal of consistently preparing school leaders to measurably improve student learning in high-need schools is to be realized.

End Notes

[1] We authors use "we" in this story to connote the collective work of Department faculty. We do not mean to imply that every aspect of this story involved every faculty and staff member. We authors note where the work of individuals, small groups, and the faculty as a whole has particular meaning in the overall story.

[2] The M.Ed. Program was later reopened as a program of introductory graduate work in educational policy studies and educator professional development, including teacher leadership.

[3] In addition to the John D. and Catherine T. MacArthur Foundation and The Broad Foundation, we have received generous external funding from the Chase Foundation, Chicago Community Trust, Chicago Public Education Fund, the Lloyd A. Fry Foundation, McCormick Foundation, McDougal Family Foundation, W. Clement and Jessie V. Stone Foundation, and the National Science Foundation.

[4] We admitted new cohorts of 15 to 17 students to the program each year, and in one year admitted two cohorts.

[5] Students hired at the district level were given substantial responsibility. Three of the 4 UIC students hired as sub-district administrators for designated geographic areas within CPS collectively supervised the work of 32 principals.

[6] We have received roughly $5.5 million in external funds to support various features of our innovative program or for aspects of program development work. Another $9 million of funds have been provided by CPS to support residency salary and benefits.

[7] Teams were developed to examine several aspects of the program, including its mission, core values, and vision; curriculum and coursework; field experiences and coaching; the comprehensive examination and thesis research project.

[8] CPS introduced and subsequently revised on two occasions a process for gaining eligibility for CPS principal positions. At the present time interested candidates who hold or anticipate earning state principal licensure engage in a range of pencil-paper, performance, and role-play assessments where candidates are evaluated against a set of CPS Principal Competencies. Students typically begin this multi-step eligibility process during the final semester of their administrative internship. Given the dynamic nature of this process and identified competencies over the last five years, we have needed to be carefully attentive and responsive to changes with eligibility expectations.

[9] The Rainwater Leadership Alliance is a national coalition of school districts, universities, foundations, and nonprofit organizations dedicated to the improvement of school leadership. The Alliance exists to share information, provide exemplars, and promote and "scale" effective methods to develop and support PK–12 school leaders.

[10] Program curriculum now emphasizes three signature themes woven across multiple course experiences including: (a) cycles of inquiry and data use for improvement, (b) leadership for social justice, and (c) leadership practice development and assessment.

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