Compendium

of

Abstracts

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CONCURRENT SESSION 4	WEDNESDAY, JUNE 10	9:45 - 10:45 AM

Quantitative and Qualitative Evaluation Results
from Illinois' Shifting Gears Initiative

Catherine L. Kirby, Tim Harmon, Debra D. Bragg, Ph.D., Su Jung Kim, Sadya Khan and Jason L. Taylor
Office of Community College Research and Leadership
University of Illinois at Urbana-Champaign

Purpose and Significance

This presentation will include the findings from the evaluation of Illinois' Shifting Gears (SG), an initiative supported by the Joyce Foundation and the Department of Commerce and Economic Opportunity. SG in Illinois is aimed at helping low-skilled and low-wage adults transition into college coursework and careers in three key industries: healthcare, transportation-distribution-logistics, and manufacturing. Illinois' Shifting Gears involved ten community college sites that developed bridge programs to transition adult students from either remedial education or adult education into college coursework and postsecondary workforce education. This research presentation includes selected qualitative and quantitative outcomes from the evaluation and shares cross-site promising practices and lessons learned about policy and program implementation.

Theoretical/Analytical Framework

Bridge programs are increasingly utilized by community colleges to help adults transition into college (Bosworth et al., 2007). One common strategy cited by Bosworth et al. (2007) is increased collaboration between non-credit adult education and credit-bearing programs within the community college. The literature on programs linking adult education to college increasingly is found within the larger framework of "career pathways" (Bragg et al., 2007; Jenkins & Spence, 2006). Positioning bridge programs within a career pathway framework enables a sequential curriculum that extends beyond the bridge program as encouraged by some researchers (Alssid et al., 2002; Jenkins, 2006; Henle, Jenkins, & Smith, 2005).

Methods

The evaluation employed quantitative and qualitative methods to provide insight into effective and promising policies and practices that support successful bridge programs. Site visits involved one-on-one and small group interviews with multiple stakeholders in the colleges and at the state policy development level. In addition, each site provided data for student outcomes along with data from a comparable group of students who were not a part of the bridge. The evaluators integrated the findings of site visits conducted by a project coordinator at the state level, document analysis of quarterly and monthly reports submitted by pilot sites, and three learning community meetings with all sites.

Findings

Findings are organized according to Illinois' "Framework for Implementation and Evaluation of Programs of Study (POS)" associated with the Carl D. Perkins Career and Technical Education Improvement Act of 2006 (Perkins IV) (Bragg & Oertle, 2008). They include: Leadership, Organization and Support; Access, Equity and Opportunity; Alignment and Transition; Enhanced Curriculum and Instruction Professional Preparation and Development and Program Improvement and Accountability. The Illinois Community College Board considers the two efforts, Perkins Programs of Study and Shifting Gears, both aimed at transitioning youth and adults (respectively) to postsecondary education to receive the training and education necessary to succeed in careers and in the workplace.

Implications

Some of the implications to be discussed include the potential to expand bridge programs in Illinois to better serve the students, the college and the development of policies that support them. The findings indicate that emerging models related to adult education and developmental education might include the keys to successful replication as more colleges and providers develop bridge programs. The six themes provide a framework to position bridge programs within the larger career pathway context and integrate bridge programs into the educational pipeline in Illinois. Local and state policymakers need to be engaged in bridge program discussions to enhance bridge program quality and build support and capacity for policy change to benefit low-skilled and low-wage adults.

Reducing Remediation and Improving Transitions: The Illinois College and Career Readiness Act

Sadya Khan, *Visiting Project Coordinator*, Erin Castro, *doctoral student*, Debra Bragg, Ph.D., *Professor*
and Lorenzo Baber, Ph.D., *Professor*
Office of Community College Research and Leadership, College of Education
University of Illinois at Urbana-Champaign

Purpose and Significance of Study

The purpose of this paper is to discuss findings from year one and two of the evaluation of Illinois' College and Career Readiness (CCR) Act. Rising remediation rates among college students are leading to increased time for completion of degree, additional costs for students and colleges, and financial aid being used on courses that do not count towards a degree. In response to these issues, in 2007 the state of Illinois passed the College and Career Readiness Act (CCR Act), Public Act 095-0694, a three year study to fund pilot projects consisting of a community college and partner high schools to support the alignment of K-12 curriculum with college level coursework, as well as better prepare students to be successful in transitioning from high school to college. The premise of the CCR Act legislation is based on the idea that "Greater college and career readiness will reduce the need for remediation, lower educational costs, shorten time to degree, and increase the overall success rate of Illinois college students" (PL 095-0694, Section 5 of the Public Community College Act, Sec. 2.24).

The CCR Act has five main purposes: 1) Align ACT scores to community college courses to diagnose college readiness; 2) Reduce remediation through college prep courses, college readiness skills, and successful transitions; 3) Align high school and college curricula; 4) Provide resources and academic support to students; and 5) Develop an evaluation process to measure the effectiveness of readiness programs. This paper explores the qualitative portion of evaluation results from year one of the CCR Act pilot programs and preliminary results from year two of the CCR evaluation

Theoretical Framework

There have been myriad studies on the increasing number of students who must partake in remedial coursework each year and why this is the case. One reason confirmed by Venezia, Callan, Finney, Kirst, and Usdan (2005) is that colleges and K-12 systems are not well connected, resulting in many students not having the requisite skills to enter college without taking remedial coursework. Additionally, in various studies, Adelman (1999, 2005, 2006) found advanced secondary academic courses were significant predictors of community college readiness, persistence, and attainment of an associate degree. Lack of rigorous academic course work at the secondary level contributes to students' inability to enter college ready to engage in college-level studies, sometimes referred to as "college readiness." Furthermore, one of the findings from The Bridge Project by Kirst, Venezia, and Antonio (2004), a national project that explores policies and practices associated with high schools, shows that many students and parents have difficulty understanding college requirements and the steps required to seek admission. David Conley (2007) presents a model for college readiness based on his extensive research in the area. This model is used as a framework in this study to investigate four areas which Conley states are critical to college readiness. These areas are key cognitive strategies, key content knowledge, academic behaviors, and contextual knowledge. By closely examining these content areas, as well as literature surrounding remediation and the community college population, the researchers gained a framework with which to base their study.

Methodology

This three-year pilot study was initiated and executed by the Illinois Community College Board (ICCB), who granted the Office of Community College Research and Leadership (OCCRL) the opportunity to evaluate the pilot projects. The CCR pilot study consisted of five community college sites. The goals of the pilot sites were to create college preparatory initiatives, improve students' college readiness, and better align high school and college curricula in order to reduce remediation of students prior to their entering college. OCCRL's evaluation team conducted site visits to all five colleges throughout year one. Through administrator, faculty and student interviews and student surveys, OCCRL staff gathered information to outline goals, key features, and barriers and challenges associated with the initial implementation of the CCR pilot programs. OCCRL staff also conducted periodic telephone calls and e-mail communication with the five colleges and participated in numerous face-to-face and telephone meetings convened by the ICCB. The major evaluation questions looked at the goals, elements and practices employed by the CCR sites; key partners and how they collaborate to implement CCR; and the state and local role in supporting the CCR Act. Year two of the evaluation is continuing with site visits to all five colleges. In addition to the colleges, OCCRL staff is visiting district high schools involved with the

CCR project. In year two, OCCRL has also introduced an additional minority male component of the study, directed by Dr. Lorenzo Baber. Finally, in year two the evaluation is working to operationalize Conley's model of college readiness to measure CCR implementation.

Summary of Findings

During the first year of the grant, the pilot sites implemented a variety of strategies to address the goals of the CCR Act. Most of the community colleges set up collaborative meetings between community college faculty and administrators and high school faculty and administrators to compare common grading procedures in an effort to align standards and expectations. Some schools implemented semester long programs that offered students the chance to take courses to improve their reading, mathematics, and college study skills before entering college. Other schools offered orientations and workshops to better acclimate students to what they can expect in college. Many of the schools did a combination of these activities. One key finding from year one was that collaborative efforts and meetings between high school and college faculty were very rewarding and encouraging of curricular alignment. Another finding was that most sites considered the instruction in "college knowledge" an important component of the remediation program, as it provided students the chance to learn about successful studying and testing strategies, goal setting, time management, and career planning. In year two, many of the colleges are building upon their programs from year one and using OCCRL's evaluation report to make changes to their initiatives. Finally, OCCRL will continue to analyze and organize their evaluation findings according to Conley's (2007) Model of College Readiness.

Implications for Illinois Education

Underlying the CCR Act is the assumption that both high schools and colleges are responsible for ensuring that high school students are prepared to enter college ready to learn at the college level and that they are aware of the college standards that await students. This study demonstrates the importance of examining issues of college readiness, curriculum alignment and remediation for students, high schools, and community colleges in sites selected to pilot the CCR Act in Illinois. As Illinois recently became the 34th state to join the American Diploma Project (ADP), the state is poised to implement system-wide change that promises a dramatic impact on students' academic preparedness and their access to, and success in, college. Likewise, the CCR Act has created the opportunity for Illinois to examine and reflect upon these key educational issues and determine the potential for various strategies and approaches to better prepare high school students for college.

Examining the Leakage in the Early Childhood Teacher Pipeline

Brenda Klostermann, Ph.D., *Assistant Director*
Illinois Education Research Council

A 2006 IERC study on the supply of early childhood teachers in Illinois found that Chicago will need to rely more on its higher education pipeline of new early childhood teachers, rather than the pool of already-certified early childhood teachers, in order to meet the anticipated demand for qualified teachers for the Preschool-For-All initiative. The research also concluded that the higher education pipeline is quite leaky in terms of the high number of students interested or enrolled in an Early Childhood program but few making it through the pipeline to graduation.

This study focuses on this "leakage" issue by examining the higher education pipeline of early childhood teachers in the Chicago area in order to make recommendations for strategies to increase the number of qualified early childhood teachers. The Joyce Foundation and the McCormick Foundation provided funding for this study.

Two primary activities for this study include: 1) working with Chicago higher education institutions to conduct detailed analysis of the enrollment and one-year persistence data for their Fall 2006 early childhood education students, and 2) surveying students in Fall 2008 about conditions (e.g., student circumstances, program design) that are preventing them from progressing through the higher education pipeline.

Initial results indicate the Chicago ECE pipeline is slow-moving due in part to a large percent of part-time students and a large percent of pre-candidates (i.e., students expressing interest in an ECE program but not officially admitted). ECE candidates (i.e., students officially enrolled in an ECE program) are more likely than pre-candidates to progress to their next academic step, graduation or program admission respectively. Survey data examining students' feedback on factors that influence their persistence will be presented.

Implications for Illinois Education

This research project will provide insights into the strengths and weaknesses of the pipeline for early childhood teachers in Chicago that will not only lead to recommendations that will help to streamline the Chicago supply (which will be very important as the state's PreSchool for All program matures), but may also have important implications for teacher preparation programs across the state and the nation. We expect to be able to identify barriers to students' progress with suggested solutions, and better measure the supply of students moving through Chicago's early childhood teacher preparation pipeline. Results from this project will be useful to support numerous higher education and advocacy efforts to produce more certified early childhood teachers and a more prepared workforce. Information gained from more thoroughly analyzing the enrollment and completions data has the potential to impact policy decisions and strategies regarding resource allocation and program planning.

Looking at the Role of Leadership with Integrating the Learning Continuum in Illinois

Erika Hunt, Ph.D., *Research Associate,* and Lisa Hood, *Project Director*
Illinois State University
Erica Okezie-Phillips, The McCormick Foundation

Research shows that third grade is a transition point for long-term success in school. Researchers at RAND drew attention to this stating that children not reading at grade level by 3rd grade face a 90 percent chance of dropping out of school and a high probability of being unemployed, underemployed or unemployable (Karoly, Greenwood, Everingham, Hoube, Kilburn, Rydell, Sanders, and Chiesa, 1998). We know, though, that setting the foundation for student achievement begins earlier, even before the child sets foot into a public school setting. Recent research on early brain development has shown that from birth to five years, children's brains build the foundation for academic, emotional, and social functioning for the rest of their lives (National Research Council, Committee on Integrating the Science of Early Childhood Development, 2000; Shore, 1997). The research also highlights the importance of high-quality early learning experiences to ensure that children are ready for kindergarten and that cognitive gains may 'fade out' if not followed through aligned and integrated experiences in the early elementary years (Kauerz, 2006).

At the core of this problem is the disconnect that occurs because of a lack of communication and partnering between educators in early learning and the K-12 school system. Little if any research exists that focuses on the extent in which elementary schools coordinate student's Pre-K experiences with pedagogical approaches in K-3 (Bogard and Takanishi, 2005), nor with the role of early childhood directors and K-12 leadership in aligning the different sectors. This requires particular attention as quality leadership is an essential component of any school reform efforts directed at improving student achievement (Leithwood, Louis, Anderson, & Wahlstrom, 2004; Peterson & Finn, 1985). From this perspective is the critical problem: early childhood and K-12 school leaders' lack of awareness, training, and practice in providing instructional leadership that bridges the divide between early learning and creates a continuous PreK-3 aligned system.

Recognizing this problem, the McCormick Foundation granted funding to researchers at Illinois State University to identify the current state of the PreK-3 alignment in Illinois. In doing so, a policy study was conducted that considered four primary research questions:

1) What is the current nature of the linkages and partnerships between early learning providers and K-12 school systems in Illinois?

2) What are the most current issues and challenges that are barriers to creating a seamless early learning continuum in Illinois?

3) How are early learning program directors/coordinators and elementary school principals facilitating the alignment of a PreK-3 early learning continuum?

4) What actions do practitioners recommend that would facilitate their efforts to develop and sustain a PreK-3 early learning continuum?

The purpose of this study was to collect data on the state of the PreK-3 early learning continuum in Illinois school districts and early learning centers. The study used both qualitative and quantitative data collection and analysis to address the research questions. This included a survey of early childhood directors, elementary principals, and early childhood and P-12 professional development providers. Surveys were sent to 1,790 childcare center directors (in for-profit, not-for-profit and school-based centers) and 2,628 elementary school principals. Staff analyzed the survey data using a statistical program to identify response frequencies and patterns. Information from the surveys was compared to look for similarities and differences of responses among the various survey groups. In addition to these methods used to collect data from the field, the Delphi method was used with an expert advisory committee -- consisting of educational stakeholders from both the early learning and K-12 sectors -- as a method of gathering and synthesizing information to formulate the issues around PreK-3 alignment and recommend state policies to support inter-organizational collaboration.

Results from the data collection reflected the existing linkages and gaps that facilitate or impede the PreK-3 early learning continuum in Illinois with particular attention to the role of early childhood and school leaders. The results showed cross-sector collaboration between early childhood and elementary education was not common and when it occurred, it was

often focused on one-time events to ease the pre-school to kindergarten transition, neglecting to consider collaboration to create a broader PreK-3 aligned continuum. The results also found that elementary school principals who had a background in the early elementary grades were more likely to understand and support the need for outreach to early education, though this was not always the case. In addition, early childhood directors reported little training, support, or opportunities to work with their feeder elementary schools, but would welcome the opportunity to do so. At the state level, attention has been paid to certification and standards of school principals, but with little attention to the knowledge and skills leaders need to develop in order to foster collaborations with early learning educators and families.

Through dialogue with the expert advisory council, it was clear that good work in PreK-3 alignment in early childhood and elementary education is occurring at the local and organizational levels, though not readily shared within the broader education community. The need to bring early childhood centers, schools, and organizations out of their silos and working collaboratively was a key recommendation from the advisory group. Other recommendations focused on integrating PreK-3 continuum concepts into existing policy levers and initiatives, including those in early childhood and related to school leadership.

Measuring High School Instruction in Chicago

Joy Lesnick, Ed.D., *Senior Research Analyst*, and Lauren Sartain, *Research Analyst*
Sue Sporte, *Assoc. Dir. for Evaluation and Data Resources*, and Sara Stoelinga, *Senior Research Analyst*
Consortium on Chicago School Research at the University of Chicago

Purpose

This research is part of a larger evaluation of high school reform in Chicago. In this pilot study, we were interested in examining a "snapshot of instruction" in high school classrooms across the district. Using the observation rubric developed by Charlotte Danielson and described in her book entitled Enhancing Professional Practice: A Framework for Teaching (2007), we collected data on classroom practice to help us examine the following research questions:

1. What does high school instruction look like as measured by this observation tool?

2. Do observed ratings vary across subjects, grades, teacher experience, and schools?

3. Is there a relationship between classroom climate, management skills, and instructional demand ratings?

4. What can be learned from this pilot effort of rating classrooms using the Danielson tool?

CPS has recently implemented a pilot project in 40 elementary schools using the Danielson framework for teacher evaluations. Unlike our approach of using the rubric for a one time rating, the district will be following Danielson's guidelines to use the tool in a formative way. Despite this difference, using the same instrument for observation affords us a similar language for discussion.

Methodology

Seventy-eight classrooms in 17 schools across Chicago comprise the sample for this study. They represent a random selection of approximately one-third of the high schools that are participating in three district-level high school reform initiatives (AMPS, IDS, and Renaissance 2010). Since about two-thirds of all CPS high schools are participating in one of these three initiatives, our sample covers approximately 25% of Chicago's high schools. Three to eight classes were observed in each school, with 5 observations as the median.

Of the 78 observations, 50 took place in 9th grade classrooms, 19 took place in 10th grade classrooms, and 9 took place in 11th or 12th grade classrooms. Observations were fairly evenly split across subject areas: 25 English classrooms, 33 math classrooms, and 20 science classes were observed. Teachers in their first or second year of teaching were observed in 27% of the classrooms.

Thirteen researchers were trained in how to use the Danielson rubric for rating teachers on 24 different elements in two of Danielson's four "domains"—classroom environment and instruction. Researchers visited classrooms for one class period (typically 45 minutes) during three weeks in October - November 2008, recorded qualitative evidence, and made ratings for each element on a four point scale: unsatisfactory, basic, proficient, or distinguished.

Ratings for each of the 24 elements for each of the 78 classrooms were compiled into a dataset for descriptive analyses. Qualitative evidence for each of the ratings was also compiled and analyzed for emerging themes as well as for providing contextual information to the rubric ratings.

Summary of Findings

Data collected in this study provide a complex picture of instruction in CPS. The descriptive analyses reveal variation in ratings across subject, grade, and teacher experience. In particular, the science classrooms we observed received lower ratings on average than did English and math classrooms. Similarly, on average, we found that 9th grade classrooms received lower ratings as compared to 10th, 11th, and 12th grade classrooms, and on average, new teachers we observed received lower ratings than their more experienced peers.

Two larger findings relate to the variation in classroom ratings within and between schools and a relationship between classroom management and instructional practices. First, we found that variation in ratings between schools does in fact exist. Some schools received consistently higher ratings across the classes we observed, while others received generally lower ratings. A large majority of the schools in our sample, however, received mixed ratings across classrooms.

Second, we found a strong relationship between classroom management and instructional practice. Of the 25 teachers who received a rating of unsatisfactory or basic on managing transitions (a proxy for the larger construct of classroom management), only 4 received a proficient rating on quality of questions (a proxy for the larger construct of instructional practice). These and similar findings in our data using other elements support the hypothesis that classroom management is a necessary precondition for quality instructional practices. Additional findings that will be discussed are related to limitations and lessons learned from our use of the Danielson framework as a tool for research and evaluation.

Implications for Illinois Education

Findings from this study have implications in a variety of areas relevant to CPS and beyond. Implications include providing additional support for teachers of students during the difficult 9th grade year, professional development aimed at science teaching in particular, supporting teachers beyond their initial two years as teachers, and focusing on classroom management with the same level of intensity as curricular reform.

Adopting a Rigorous Curriculum: Successes and Challenges of the Chicago's High School Transformation Initiative

Holly Hart, Ph.D., *Assoc. Dir. for Survey Research*, Sue Sporte, Ed.D., *Assoc. Dir. for Evaluation and Data Resources*, and Macarena Correa, *Research Analyst*
Consortium on Chicago School Research at the University of Chicago

Purpose

With the goal of graduating every student prepared for success in post-secondary education and employment, Chicago Public Schools (CPS) has instituted a series of initiatives at the high school level, collectively known as the High School Transformation. One of these initiatives, called the Instructional Development System (IDS), seeks to improve instruction through raising teachers' expectations of their students, and through providing "rigorous" curriculum and adequate materials, common and demanding assessments, and intensive teacher support. It was hypothesized that this improved instruction would increase student engagement and achievement.

In this report we examine the following questions:

- To what extent do teachers support and use the components of the IDS strategy intended to improve instruction?

- What does instruction look like at IDS schools?

- What are the effects of IDS on student performance? We examine student outcomes such as attendance, course performance, failures and test scores.

- What factors may be limiting the impact of IDS on instruction and student achievement? We examine barriers at the student, school, and system levels that impact the implementation and effectiveness of IDS.

Methods

This report uses interview, observation and administrative data to address the above questions. We used a stratified random sampling design to select schools in each of three waves of IDS implementation to be part of our interview and observation sample. We randomly selected five of 14 schools from wave 1 (first implemented in 2006-07), three of 11 schools from wave 2 (first implemented in 2007-08), and five of 19 schools from wave 3 (first implemented in 2008-09) for a total of 13 schools.

Researchers visited each of the 13 schools in teams of 2 or 3 during October-November of 2008. During the visit, researchers conducted semi-structured interviews with principals, guidance counselors, and teachers of English, science, and math. Over 148 interviews were conducted across the 13 schools. Researchers also observed 36 English, math and science classrooms from the eight schools that were in their second or third year of IDS implementation. All observed teachers were also interviewed.

Interviews were analyzed by coding them according to the elements identified in the initiative's the theory of action as well as additional emerging themes. Observations were analyzed based on the Charlotte Danielson framework of effective teaching. Researchers visited classrooms for a whole period, taking field notes. They then made ratings on 24 different aspects of classroom teaching, providing evidence form those notes to support the rating. Ratings were "unsatisfactory," "basic," "proficient," and distinguished."

In addition to this school-based data collection, we also did descriptive analyses of freshmen outcomes using CPS administrative records. We focused on days absent, GPA, percent of failures, and test score gains between EXPLORE and PLAN

Findings

Even though schools are at various stages of implementation, our interviews revealed several general findings about the program. First, teachers were generally positive about the curriculum and materials, although that varied across the number of years of implementation. The earlier waves had started being able to use the data from the quarterly assessments to

focus their instruction. In addition, almost 2/3 of teachers in the first 2 waves found the professional development helped their practice, and more than 75% of them found the coaching to be valuable. Teachers from wave 3 schools were less positive, which probably has to do with the length of time it takes to adapt to something new and to the fact that three of the five wave 3 schools in our sample were forced to participate.

Over half of the all instructional ratings were either "basic' or "unsatisfactory." While IDS teachers were rated relatively highly on elements related to developing strong student-teacher relationships, they were not rated highly on other elements intended to measure academic expectations, student engagement, or academic rigor. We don't know what the ratings might have been pre-initiative, but initiative leaders were hoping for stronger ratings after the introduction of the new curricula and the supports for teachers.

We also found that student outcomes generally mirrored those of CPS overall. There was a slight improvement in student GPA and corresponding decrease in percent of failures, but the rate of change was about the same as the in the whole district. The change between attained and expected EPAS gains over time also roughly paralleled the change throughout the district.

We also discuss some barriers that may be limiting IDS' impact. First, attempting to implement a rigorous curriculum in high schools where many students enter well below grade level presents particular challenges. Second, teachers may need more support in some of the basic parts of teaching, such as classroom management, that may be a necessary prerequisite to being able to effectively deliver academically demanding content. Third, central office support has not kept pace with the rapid expansion of schools and grades served. Finally, some issues have arisen that were not part of the original design. For example, teachers and principals told us that a challenge of implementing the IDS initiative was that IDS providers faced little accountability so schools had no advocate when they struggled.

Implications for Illinois

Illinois recently changed requirements to ensure that high school curriculum covers material necessary for college readiness. However, any high school reform needs to take into account the fact that many students enter high school with below-level skills and little experience with academic behaviors. Bringing them to college-readiness in three years is a major challenge. In addition, teachers need may need more support in such basics as managing materials and transitions in classrooms before they can implement a demanding curriculum. Also, reforms such as IDS need to pay more attention to the role of the principal in curricular changes. Care needs to be taken to ensure that such reforms operate with the feedback of the school's instructional leader.

Passing Through Science: Raising Science Graduation Requirements and the Effects on Course-Taking and Learning in Chicago

Nicholas Montgomery, *Research Analyst*, and Elaine Allensworth, Ph.D., *Co-Director for Statistical Analysis*
Consortium on Chicago School Research at the University of Chicago

Study Background, Objectives And Purpose

In line with policy movements across the U.S., the state of Illinois increased the science course requirement as part of a broad increase in high school graduation requirements for students in 2007. The change in science course requirements raised the requirement from one year of science to two. However, is an increased graduation requirement enough to make students take and learn additional science?

Though many studies have shown positive effects of increased course-taking, the weaknesses in the studies leave the question of effects unanswered. Studies of high school curricula and course-taking have generally found that students learn more or have better outcomes (e.g., college-going) if they take more courses in a subject, take a higher level of coursework, or attend a school that requires a college-prep curriculum(e.g., Bryk et al., 1993; Lee, 2002, Attewell & Domina, 2008; Chaney, Burgdorf & Atash, 1997). However, these studies are weakened by selection bias. The process of choice—selection bias—leaves the possibility that it is not the curricula that make the difference, but the choosers (i.e., students, teachers, schools). Others have found that policy mandates on course-taking have no positive effects outside of course completion (Allensworth, Nomi, Montgomery, and Lee, 2009). Thus the question stands: do curriculum mandates that require more science course-taking lead to increased learning of science, particularly at the level demanded by business, colleges, and the nation?

To study the question of curriculum mandates we look to the Chicago Public Schools (CPS). In 1997, CPS raised their science graduation requirements as part of a broad college-prep curriculum requirement across subjects (science, math, social studies, English). The previous policy required one science credit. The new mandate required students to take earth or environmental science, biology, and chemistry or physics. The questions that we ask about this policy change focus on how the years of coursework, the types of courses completed, and student learning changed over the policy years. We also looked at graduation and college enrollment data.

Methods

In order to assess the changes in science course completion from pre-policy to post-policy, we used an interrupted time-series design—we were able to do this because we had nine years of data, four pre-policy, five post-policy. After examining descriptive trends in coursework , we used statistical models to account for changes in incoming student ability over time and the creation of new high schools. Because school system data is hierarchical in nature—students are nested within cohorts of students which are nested in schools—we used three level hierarchical linear modeling (HLM; Raudenbush & Bryk, 2002). Controlling for student demographic background and their incoming math ability, we modeled each of the outcomes described above for two groups of students—all students and graduates—using all students in CPS high schools from 1993—2001 (167,601 students across 9 cohorts in 76 schools).

Results

Students in CPS responded immediately to the new science requirements. Controlling for changes in student background and school characteristics, there was a 30 point increase in students completing three years of science (about 20% pre-policy, over 50% post-policy), leaving about 90% of graduates with three years of college-prep science. More students also took four years of science (one year more than required) and there was a 20 percentage point increase in students taking chemistry or physics. The earth or environmental science requirement led fewer students to take the combination of chemistry and physics.

On the question of science learning, the results are less positive. After confirming that grades in science courses were strongly predictive of students' test score gains, we found that though the proportion of similar students completing the science sequence with Bs or higher did double, they increased only to 30%. Moreover, the overall grades in science did not change: the proportion of students receiving Bs regardless of years of science was the same pre and post-policy.

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When considering all students, regardless of graduation, only 16% completed the sequence with Bs. The vast majority of students completing the sequence did so with a C or D average. For later student outcomes, the results are also less positive. Graduation rates dipped temporarily (recovering after two years) and college going and persistence declined in years after the policy.

Implications

This study has important implications for the Illinois science and policy community: increasing the number or even type of science courses that students must take in high school may not increase the amount of science that students learn. As policymakers attempt to improve the amount of science that students learn in high school, this study shows that increasing graduation requirements can have a large impact on the completion of science coursework in a large urban district with many low performing students. However, this study casts doubt on the degree to which course requirements alone can actually increase learning. Though the reason for the disconnect between opportunity and learning is unclear, possible explanations include lack of capacity for thorough science instruction at the school level, lack of incoming capacity for students to learn at the level required, lack of attention to student engagement, and other explanations that occur at the intersection between teachers, content, and students.

With Illinois in its second year of higher science graduation requirements, it is too early to tell what effects it has had. Though the changes in Illinois are smaller in scope than those in Chicago over a decade ago, the lesson from CPS is that without attention to the way that science courses are taught and how students are engaged in their courses, Illinois may see little more than surface changes in science.

As a caveat, the context of this study is one of a low performing urban district, the only one of its kind in Illinois. Other school districts in Illinois may have different experiences if they already have high student enrollment in multiple years of science. In addition, smaller change in requirements at the state level may allow schools to adjust to the new load for teachers. However, a lesson from Chicago may be that without attention to instruction and student engagement increased course requirements will lead to many students just passing through the new science requirement without learning along the way.

End Notes

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[1] The percent of students completing the college-prep science requirement, the number of years of college-prep science completed by students (one or more, two or more, etc), and the highest level of science coursework completed.

Houston . . . We Have an Alignment Problem

Paul Zavitkovsky
Center for Urban School Leadership
University of Illinois at Chicago

Purpose of Research

Over the past decade, explosive growth in the use of "standards-based" metrics has produced a number of unintended consequences. The most serious of these include:

- Weak reporting practices that limit the ability of school personnel to use test results to improve teaching and learning

- Gross misalignment between elementary/middle school proficiency benchmarks and the high-stakes outcomes of college readiness and international competitiveness that proficiency benchmarks are ostensibly designed to support

Standards-based curriculum reform began with the promise of bringing greater depth and clarity to what we expect students to know and be able to do. This study underscores the importance of bringing greater depth and clarity to the ways we report student progress.

To this end, the study:

1. Illustrates the current misalignment between proficiency benchmarks for the high school Prairie State Achievement Exam (PSAE) and the Illinois Standards Achievement Test (ISAT) for grades three through eight.

2. Illustrates key factors that are causing alignment problems between the ISAT and other high-stakes exams like the PSAE, ACT and NAEP.

3. Illustrates some promising approaches to ISAT, PSAE and ACT reportage that largely eliminate current alignment problems using existing data sets.

Methods Of Inquiry

Core methods employed by this study include the following:

- Normalizing statewide distributions of ISAT and PSAE scores from 2001 through 2008 and reporting achievement using familiar, norm-referenced protocols. These protocols include quartile distributions, stanine distributions, percentiles and grade-level averages

- Creating side-by-side comparisons of existing ISAT report protocols with report protocols that are grounded in annual statewide norms. Comparisons include:

  o Percent meeting/exceeding state standards vs. percent at or above Illinois grade-level average

  o Distributions by Illinois proficiency level vs. distributions by Illinois quartile

  o Distributions by Illinois proficiency level vs. distributions by Illinois stanine

- Creating value-added comparisons of cohort achievement over time using existing ISAT, PSAE and ACT proficiency benchmarks

- Creating value-added comparisons of cohort achievement over time using existing state protocols and protocols that are grounded in annual statewide norms.

Summary Of Findings

- Proficiency benchmarks for the ISAT are poorly aligned with proficiency benchmarks on the PSAE, ACT and Work Keys exams; ISAT proficiency benchmarks are poor predictors of proficiency on PSAE, ACT and Work Keys exams

- ISAT proficiency benchmarks are often a misleading indicator of overall student achievement for any given grade and subject tested.

- ISAT proficiency benchmarks are often a misleading indicator of stability and change in overall student achievement over time.

- Norm-referenced benchmarks (based on annual statewide scoring distributions) provide a more complete and nuanced picture of overall student achievement than the standards proficiency benchmarks currently in use

- Norm-referenced benchmarks are solid predictors of future group achievement from grades 3 through 8 on the ISAT, and across the gap from grade school to high school on the ISAT and PSAE

- Norm-referenced benchmarks provide a more balanced and reliable metric for assessing value-added over time

- Stanine distributions provide a particularly sensitive metric for reporting value-added over time across the entire distribution of student achievement

Implications For Illinois Education

Sound decision-making begins with good metrics. Advancement of standards-based practices begins with reliable protocols for assessing and reporting student achievement. At best, current ISAT reporting strategies present a confusing picture of student learning, school effectiveness and value-added over time. At worst, they flat out misrepresent what is actually going on.

Elementary proficiency standards can be readily back-mapped from existing high stakes metrics for college readiness (ACT) and workplace preparedness (Work Keys). This work needs to be supported by wider, more robust applications of norm-referenced reporting strategies that provide students, parents, school personnel and the community at large with more accurate and usable information about student progress over time.

Can Modeling Student Academic Growth Help Schools? Implications for Illinois

Stephen Wallace, Ed.D., *Assistant Professor*, Department of Educational Technology, Research and Assessment
Harvey Smith, Ph.D., *Director*, Interactive Illinois Report Card
Northern Illinois University

Recent changes in NCLB regulations may permit states to include measures of student academic growth in reporting Adequate Yearly Progress (AYP). At present, Illinois has not yet been authorized to employ measures of growth for accountability. The purpose of the study is two-fold: (a) to investigate the feasibility of carrying out multilevel growth modeling to measure individual student academic achievement and growth over time using statewide ISAT assessment data for grades 6-8 maintained by Northern Illinois University's Interactive Illinois Report Card (IIRC) project; and (b) to investigate what predictors might explain differences within and between students in academic achievement. The predictors used in this study include: grade level, gender, socio-economic status (SES), student disability status (IEP), and limited-English proficiency (LEP) status, among others.

Methodology

Design:

Feasibility. A protocol was developed and carried out to obtain three consecutive years of individual student achievement data from the IIRC ISAT database. An initial analysis tested the files to determine that the data met basic requirements for multilevel growth modeling. An initial unconditional means model was created to verify the feasibility of using HLM software to create multilevel growth models.

Predictors of Achievement. Repeated measure growth models for exploring longitudinal data were developed following a standard protocol (c.f. Raudenbush and Bryk (2002); Singer and Willett (2003); and Shin, Espin, Deno, and McConnell (2004)). The researches then specified an unconditional linear model to account for the impact of adding in time (i.e., grade level) as a predictor of math achievement and rate of growth. This provided a baseline linear growth model to investigate the further impact of between-student differences such as gender, SES, LEP status, and IEP status.

Sample Selection and Data Collection. This study included all 8th grade students in Illinois who had successive ISAT math scores in 2006, 2007, and 2008. The initial sample size was 126,675 students. The sample size of the final full multilevel growth model was 125,138 (98.7% of the initial sample).

Data Analysis Techniques. Following the procedures described above, successive multilevel growth models attempted to account for increasing reductions in the error between predicted math achievement and rate of growth and observed math achievement and rate of growth.

Summary of Findings

Part One—Feasibility.

The results confirm that IIRC-housed ISAT student achievement data can be used to model academic achievement and rate of growth in mathematics in the middle school years. The data met underlying assumptions necessary for multilevel growth modeling and provided valid and compelling results. Several caveats will be addressed. The most important is given the likelihood that one large school district, the City of Chicago School District 299, had a potentially large impact on the results (nearly 20% of the students in the study were from District 299), the study evaluates to what extent enrollment in SD 299 may account for variability in student achievement scores.

Part Two—Predictors of Achievement.

Results of this study demonstrate a multilevel growth model can measure how individual student math achievement changes over time during the middle school years. Furthermore, the model predicts individual differences in achievement over time due to time-invariant factors, such as gender, low-income status, IEP status, and school district. The presentation will provide documentation of the results of the linear growth model, including the effects of predictor variables, change over time, and between-student differences. All differences reported are significant at p < .001.

Implications for Illinois Education

Results of this preliminary study have significant implications for Illinois Education. In terms of educational policy and practice, the results demonstrate that Illinois could use individual student growth as a measure of success in math achievement for AYP accountability purposes. Growth modeling provides an opportunity to explore within-individual and between-individual differences in math achievement to target remediation efforts and reward success. The addition of more data points (e.g., 2009 ISAT scores) will allow more in-depth exploration that will include an analysis of acceleration/deceleration over time. The use of growth modeling also has significant implications for state mandated Response-to-Intervention (RtI) initiatives. Finally, modeling individual student change with local assessment data using this model might provide school districts with valuable information on local student achievement initiatives.

Different Strokes for Different Folks: An Alternative View of College Persistence and Time-to-Degree

Dr. Maureen Gillette, *Dean,* College of Education
Northeastern Illinois University

Purpose of the Research: Northeastern Illinois University (NEIU) is the only federally-designated Hispanic-Serving Institution (HSI) in the Midwest. It is a commuter school whose student body is slightly older than the traditional-aged college student population. Often cited in the media (i.e., The Chicago Tribune, The New York Times) for its lengthy time-to-degree, NEIU has been characterized as a university where students "do not graduate." The purposes of this research are:

1. To examine four-year trends in time-to-degree data for teacher graduates from Northeastern Illinois University's College of Education (COE),

2. To explain the complex factors that cause time-to-degree to exceed the traditional four, five, and six-year benchmarks,

3. To provide a counter-argument to the assertions that NEIU students "do not graduate" and present focus group data that details the teacher graduates' perspectives on time-to-degree,

4. To explore the implications of using four, five, and six-year graduate benchmarks for all college students, regardless of varied factors (e.g., type of university, amount of financial aid received by students, etc),

5. To provide policy recommendations (COE-based, university-based, state, federal) given the data that is presented.

Methodology

An evaluation of the complete transcript of each teacher candidate graduate at NEIU for the past three years (May 2006, 2007, 2008, with 2009 in progress) was conducted and a data base established. Time-to-degree, from entrance into NEIU and entrance into the College of Education, through graduation was calculated. Factors that impeded timely degree completion were identified through a qualitative examination of the transcripts. The researcher created a coding system and each transcript was then coded and reevaluated for the factors identified. Four key factors impeding timely graduation arose from the coding. Data was then cross-analyzed based on gender, ethnicity, and status as a native or transfer student. Outliers were then identified and examined in depth. Focus groups were conducted in 2008 to discuss the identified factors with graduates. Small case studies were developed to illustrate different time-to-degree patterns.

Summary of Finding

Transcript evaluations elicited four key factors that affected timely degree completion; a grade point average that fell below the required 2.5, stopping out of college for at least a semester, failing or not attaining the required grade in a course and having to repeat that course, and taking an "incomplete" for a course. Additionally, factors such as native versus transfer status, numbers of transfer credits, transferring to NEIU from a community college without an Associate's degree, choice of major, opting for a double major or additional endorsements, and personal or academic circumstances often interfaced with the four persistence factors, to affect time-to-degree.

Implications of the Research

This study has internal implications for NEIU as well for other colleges and universities whose student population is similar to NEIU. There are clear implications for College of Education policies as well as NEIU policies, advisor training, and relationships with our high school feeders and our community college partners in order to ensure that our students graduate in a timely manner. For example, we have already examined our policies on incompletes, withdrawals, and course repeats. We have made full and part-time faculty aware of the implications of awarding an "incomplete" and the concomitant responsibilities for the student and the faculty member in ensuring that the awarding of the "I" is warranted and that a plan is developed for completion of the course.

This study has further implications for a general policy discussion on time-to-degree calculations, its relationship to federal and state aid for students, and the appropriateness of using one set of assumptions for all institutions and students. While the goal is always to ensure that all students are prepared for college and are able to complete their studies in a timely manner, it must be seen within the context of students' lives and their own needs and desires. These may be at odds with policy-makers at the local, state, and federal level who fail to understand the lived circumstances of many of today's college students.

This study has implications Illinois public universities and specifically for colleges and universities in the greater Chicago area who draw a large percentage of their student body from Chicago Public School and local community colleges. The need for P-20 curricular alignment, the need for a reexamination of policies related to transfer students, and the need for clear partnerships between community colleges and four-year institutions in the Chicago-area and beyond will be addressed.

Education Beyond High School: The Illinois Class of 2002

Christopher Mullin, Ph.D., *Postdoctoral Fellow*, Brad White, *Senior Researcher*,
and Kathleen Brown, Ph.D., *Executive Director*
Illinois Education Research Council

As the high school graduating Class of 2002 moves further away from their days in Illinois public education and they begin to take their place in society, trends have begun to emerge as to their participation in postsecondary education and patterns of completion. Through the use of student unit-record longitudinal data for this cohort, researchers at the Illinois Education Research Council have been able to observe and reflect on these trends. It is our hope that the descriptive nature of the studies in the ***Education Beyond the High School Series***, provide both the foundation for action and new resources for exploration into the enrollment and completion puzzle that is postsecondary education for the students of Illinois' K-12 system.

Understanding How New Teacher Induction Programs Support Effective Mentors

Marjorie Wechsler, Ph.D., *Senior Policy Analyst*, SRI International
Lisa Vahey, Chicago New Teacher Center

Purpose of the Research

Research suggests that the existence of induction programs is not enough to improve beginning teachers' skills and retention; rather, the intensity of supports matters (Kapadia, 2007; Smith and Ingersoll, 2004). Mentoring has emerged as one of the key components of effective induction programs (Shen 2001; Ingersoll and Kralik, 2004), but the establishment of a mentoring program alone is not sufficient to ensure that beginning teachers receive the supports they need to choose to remain in the field (Smith and Ingersoll, 2004). For example, a study of beginning teachers in the Chicago Public Schools found that while 80 percent rated the frequency of their interactions with their mentor as "sufficient," only those teachers who reported more helpful interactions with their mentors were more likely to report an intention to remain in the field and at the same school (Kapadia et. al., 2007). The importance of the nature of the mentoring relationship underscores the need to identify effective practices in the selection, preparation and support of mentors (Ingersoll and Kralik, 2004). The purpose of the research presented here is to do just that—to identify the practices around mentoring that lead to effective mentoring and ultimately to improved outcomes. The research focuses on how the 10 original Illinois state-funded induction and mentoring programs support mentor teachers, and how variation in support is associated with different outcomes for beginning teachers and mentors.

Methodology

In spring 2008, SRI conducted teacher and mentor surveys in the 10 original Illinois state-funded induction and mentoring programs. We surveyed the full population of teachers and mentors in the programs, which comprised 819 teachers and 537 mentors. The overall response rate for the teacher survey was 67%, ranging by site from 47% to 89%. The overall response rate for the mentor survey was 72%, ranging by site from 56% to 100%. The teacher survey solicited information on teacher demographics and background, school context, induction supports received (including type, frequency, and content of support), and teacher outcomes including self-reported progress on various dimensions of teaching and efficacy. The mentor survey measured mentor background and experience, mentor training, support provided to teachers, workload, and outcomes for teachers.

The first phase of survey analysis focused on descriptive statistics, including means and frequencies. We then created scale measures using principal components analysis, a method of factor analysis. All items included in each measure had factor loadings of .6 or greater. The reliability indicators are greater than .70 for all the measures used, and greater than .80 in most cases. Finally, to understand the variation explained by the input factors on the various outcomes, we created a series of models using regression analyses.

In addition to the surveys, in fall 2008 we collected employment data provided by the program directors to measure teacher retention. The data indicated which teachers participating in the induction programs in 2007-08 returned to their schools or districts the following school year. The retention data, too, were used in the regression analyses.

Summary of Findings

The study found a relationship between program levers (i.e., mentor selectivity, mentor training, and mentor accountability) and the mentoring provided to beginning teachers. Specifically, mentors who were chosen through more selective means, who were provided more training, and who were formally held accountable for their mentoring focused more on instruction and provided a higher intensity of mentoring. All differences were significant at the p<.05 level.

Further, the study found a relationship between these mentoring inputs (e.g., intensity of mentoring and focus on instruction) and teacher outcomes (i.e., retention, teacher self-efficacy, and reported growth). Each induction input contributed to positive outcomes, except for district retention which was not associated with induction activities. Specifically, intensity of mentoring was associated with teacher self-efficacy and reported growth. Focus on instruction was associated with reported growth. Other induction activities were associated with school retention and reported

growth. Importantly, school context also was associated with all three outcomes—school retention, teacher self-efficacy, and reported growth. Also, the study found a relationship between the mentoring inputs and mentor outcomes (i.e., rewards of mentoring and mentor self-efficacy), demonstrating another benefit of induction programs.

Implications for Illinois Education

This research has directly informed program planning and state policy-making in Illinois. In particular, data from SRI's research is shared with each of the state's pilots programs. One site, a partnership between the Chicago Public Schools and the Chicago New Teacher Center (CNTC), has been actively engaged in using this data to support their program design and improvements. In addition to their site implications, CNTC is using SRI's research findings to inform their policy work, especially around the development of statewide program standards that will articulate expectations for state-funded induction programs. Lisa Vahey, director of the Chicago New Teacher Center and member of the Illinois state induction policy team, will discuss these implications as part of the session.

The Effects of a Teacher Preparation Model on Persistence in Elementary Education Employment

Dr. Nancy Latham, *Assistant Professor*, Curriculum and Instruction
Illinois State University

Purpose of the Research

This study examines the effects of teacher preparation experiences on persistence in elementary education employment in public schools in Illinois between 1996 and 2003. The study includes the mining and analysis of ex post facto data to determine the impact, if any, of pre-service preparation method on teacher attrition rates while controlling for various individual characteristics.

Four research questions guided the present study. First, what are the general attrition and employment trends for Illinois State University elementary education graduates employed in Illinois public schools between 1996 and 2003? Second, what are the effects of a professional development school (PDS) preparation experience on persistence in employment in Illinois public schools? Third, what is the relationship between PDS preparation and persistence in education when controlling for individual characteristics? And lastly, are there interaction effects between pairs of the control variables and PDS preparation?

Study Methodology

Population

The population for this study currently consists of 1,512 elementary education graduates from Illinois State University between 1996 and 2005. Of the total number of participants, 729 were prepared in a PDS. Males made up 7.9% of the total population, females 92.1%. In regard to ethnicity, 1,409 participants were White (93%), 44 African American (3%), 36 Hispanic (3%), and 1.5% other. Participants in the study entered the Teacher Education Program from several avenues. Fifty three percent were students native to Illinois State, 34 percent transferred from a community college, five percent transferred from a four-year institution, and seven percent were college graduates.

Methodology

This study utilizes descriptive statistics including mean, median, mode, and standard deviation; and associational statistics including correlation and both binary and logistic regression to determine attrition trends and teacher preparation model impact on attrition of ISU graduates. The data mined for the purposes of answering the research questions were previously collected and housed in multiple databases including: the ISU Teacher Education Center and the Illinois Teach Data Warehouse; and the ISU Mainframe maintained centrally by the University t. Data collected included gender; ethnicity; program entry status; academic indicators (ACT score, GPA, PPST scores); year of initial certification; and years employed in Illinois schools. The dependent variable for this study was the number of years persisting in teaching. This variable was thoroughly examined from two perspectives: Did graduates become employed in an Illinois public school? And how long were they employed compared to how many years they could have been employed?

Findings

Three substantive findings resulted from this study. First, PDS preparation versus traditional preparation significantly and positively impacted teachers' persistence in the field even when controlling for individual characteristics. PDS prepared teachers were significantly more likely to become employed in Illinois public schools than their traditionally-prepared counterparts. Moreover, PDS-prepared teachers had significantly fewer years out of the field. In short, a PDS prepared teacher was more likely to get a job and more likely to remain with it.

Second, an analysis of academic indicators found no significant correlation between any of the achievement indicators and elementary education graduates becoming employed in Illinois Public Schools. Logistic regression revealed that, in fact, higher GPA significantly correlated with persistence in education, even slightly more than PDS versus traditional preparation. The final substantial finding from this study concerned participants' program entry status and persistence in education. These data indicated that native students to Illinois State persisted significantly in education employment as compared to community college transfer students.

Implications for Illinois Education

The findings from this study reveal multiple areas of interest in regard to teacher attrition and teacher preparation in Illinois. PDS prepared teachers were significantly more likely to become employed in Illinois Public Schools than their traditionally-prepared counterparts. Moreover, PDS-prepared teachers had significantly fewer years out of the field. In short, a PDS-prepared teacher is more likely to get a job and more likely to remain with it. Future research with this data set may include:

- High Need Schools—Adding the schools and districts participants taught in and examining high-need school persistence versus urban school persistence versus rural school persistence etc.

- PDS versus Traditional Model Choice by Teacher Education Majors to explore reasons students choose the PDS versus a traditional option, controlling for gender, ethnicity, and economic status.

- Continuation of the PDS/ Teacher Attrition Study to allow for more longitudinal research. The study of these participants at the 15- and 20-year marks will help to even better identify persistence in the field as well as moves within the field, moves to administration, and moves out of the field and back in again.

- Teacher Intern Academic Achievement and Teacher Persistence to include teacher certification scores to better examine the academic achievement level of teachers who persist and to identify teacher education program models which produce high-achieving, highly-qualified teachers who persist in the field and to assist schools in recruitment of highly qualified teachers who stay in the field.

Using Choice: Decision Processes and School Selection in Chicago

W. David Stevens, Ph.D., *Senior Research Analyst*, David Johnson, *Research Assistant*,
Marisa de la Torre, *Senior Research Analyst*, and Alissa Bolz, *Junior Research Analyst*
Consortium on Chicago School Research at the University of Chicago

Purpose

This paper addresses a central question in policy debates surrounding school choice: How do students use school choice initiatives? Recent proponents of school choice often emphasize its potential to improve students' educational opportunities. Choice initiatives, they argue, give students better access to high quality schools while allowing them to avoid substandard schools. In addition, choice is thought to provide students with the flexibility to pick schools with academic offerings that best meet their individual interests, goals and preferences. In short, a broad range of offerings should allow students to reap the maximum benefits of schooling and helps to ensure a more equitable distribution of educational opportunities.

This view of choice is clearly represented in the Chicago Public Schools' (CPS) most recent efforts to improve secondary education. Although informally choice has existed in CPS for some time, its large-scale institutionalization as an organized system was introduced with the district's Renaissance 2010 program and was later incorporated in the High School Transformation initiative. One of the levers of change across these strategies is to create a good "fit" between students and schools by offering a diverse "portfolio of schools" from which families can choose. Various academic, vocational, and cultural themes across schools, as well as a mix of structures such as small, charter, and contract schools, are being developed to help meet the diverse needs of students in the system and encourage greater buy-in from their families. Furthermore, the district's improvement plan attempts to help families to avoid under-performing schools by providing "High School Scorecards." These annual snapshots summarize information about CPS high schools on a number of characteristics such as the percent of highly-qualified teachers, school safety, student attendance, and graduation and college enrollment rates. The goal is to provide families with the necessary information to choose the best possible school environment for their children.

CPS' theory of action, however, rests on two implicit assumptions: first, students and families choose schools on the basis of desirable school characteristics and second, when students choose to leave their attendance boundary, they end up in a school with different (and hopefully "better") characteristics compared to their neighborhood school. Despite the importance of these two assumptions for the efficacy of the district's choice initiative, very little is actually known about students' decision making process or the types of schools students elect to attend. Such information is crucial not only for assessing if and how CPS' choice policy benefits students, but also for improving our general understanding of the mechanisms that might contribute to the success or failure of school choice initiatives. Drawing on a mixed methods study of high school choice in Chicago, we take up these issues by examining three related questions: what advice and information do students receive from school staff, family, and friends about which high schools to attend, what factors ultimately influence students' school choice decisions, and how different are students' chosen high schools from their default neighborhood schools.

Methodology

This paper analyzes data collected as part of a longitudinal, multi-method research study examining students' transition from elementary to high school in CPS. The research combines rich qualitative data on groups of students, teachers, and schools; survey data gathered through biannual surveys of all teachers and students in CPS; and district-wide administrative records. Qualitative data was gathered through in-depth, semi-structured interviews with a sample of 75 students between May 2008 and February 2009, first in four public elementary schools and later in five public high schools, at multiple time points across the transition from 8th to 9th grade. We discuss here interview and survey data focusing on the types and quality of support students received during the high school application process and what influenced their decision making process. In addition, we use survey and administrative data to examine differences between students' chosen high schools and their default neighborhood high schools by comparing characteristics of the high schools, such as graduation rates and school climate measures.

Findings

Preliminary analysis of our survey data indicates that students select high schools primarily on the basis of schools' proximity to their homes and whether friends and family attend the school. Interview data corroborates these general trends and

illustrates the importance of these factors for students and their parents. Students also highlight additional factors important to their decision making process including the presence/quality of school sports programs, availability of specialized vocational/technical programs, and perceived prevalence of violence and gang activity. Guidance from school counselors and teachers appears to do very little to introduce other factors into students' decision-making processes. Additionally, confusion around application status (e.g. acceptance/rejection/waitlist) also appears to affect some students' enrollment decisions. Surprisingly, academic quality was one of the least reported criteria for selecting a school by 8th graders. Given these trends we expect our continuing quantitative analysis to show that even when students do choose schools outside of their default attendance boundary, they will be similar to their neighborhood school in terms of characteristics such as school climate and graduation rates. If this is the case, our study raises important questions about the ability of Chicago's choice initiative to affect the quality of educational opportunities of students. In particular, it suggests that simply offering choice to students may not be enough to facilitate access to quality schools and that families may require additional supports if they are to successfully place their students in schools that best meet their academic needs.

School Closings: The Effects on the Displaced Students

Marisa de la Torre, *Senior Research Analyst*, and Julia Gwynne, Ph.D., *Senior Research Analyst*
Consortium on Chicago School Research at the University of Chicago

Few decisions by a school district are more controversial than the decision to close a school. School staff, students and their families, and even the local community each bear a substantial burden once the decision to close a school is made. Teachers and other school staff must search for new employment; students are faced with a multitude of adjustments that come from enrolling in new schools and neighborhoods lose a central institution in their community.

While recognizing these challenges, Chicago Public Schools (CPS) has insisted on the need to close certain schools for two reasons. First, CPS has stressed the educational necessity of closing schools that demonstrate chronically low levels of academic performance. They argue that, despite the difficulties associated with changing schools, students in these failing schools would be better served by transferring into schools that are academically more successful. Second, CPS has also emphasized the financial necessity of closing schools with student enrollments far below their intended capacity. The cost of running a school that enrolls only a small fraction of the students it is designed to hold is not economically feasible.

From 2001 to 2007, CPS has closed 24 regular schools for reasons of poor academic performance or underutilization and an additional 18 schools have been closed for other reasons. Recently, however, CPS has responded to the growing discontent among parents and community members about closing schools, particularly as a means of redressing a school's poor academic performance. Instead, it has focused on creating Turnaround Schools in which students are allowed to remain in the same building but nearly the entire school staff is replaced. However, there are still a few schools closed each year because of low enrollment numbers.

Despite the attention that school closings have received in the past few years, very little is known about how displaced students fare after their schools are closed. This report examines the impact that closing schools had on the students who attended these schools. We focus on elementary schools that were closed between 2001 and 2006 and ask whether students who were forced to leave these schools and enroll elsewhere experienced any positive or negative effects from this type of school move. We look at a number of student outcomes including reading and math achievement, special education referrals, retentions, summer school attendance, mobility and high school performance. We also look at characteristics of receiving schools, where students transferred, and ask whether they had any impact on the learning experiences of the students who transferred there because their former school closed.

In order to assess the effects that school closings had on students, we compare students ages 8 and older who were displaced by school closings to students in similar schools that did not close. This comparison group of students provides an estimate of how the displaced students should have performed on a range of outcomes had their schools not been closed. We report six major findings:

1. **The vast majority of students who transferred out of schools slated for closing reenrolled in schools with weak academic and school climates.** Although these receiving schools had somewhat better climates than schools that were closed, they were nevertheless some of the worst schools in the system. For example, 43 percent of displaced students went to receiving schools with ITBS scores in the lowest quartile of the distribution of scores in the system. Only 6 percent of the students went to schools with ITBS scores in the top quartile.

2. **The largest negative impact of school closings on both reading and math achievement occurred before schools were actually closed.** Announcements by the Board of Education about upcoming school closings typically occurred in January, about 6 months prior to the actual closing of schools and just a few months before students take annual achievement tests. The disruption created by these announcements lowered reading gains by 12 to 18 percent which is equivalent to a loss of about a month and a half of learning. In math, announcements of upcoming closings decreased gains by 6 to 8 percent, equivalent to a little more than half a month in learning.

3. **Once students left schools slated for closings, they did not experience any additional negative effects on their learning.** For example, one and two years after a school was closed, students' reading achievement was not significantly different from what we would have expected had they remained in their schools. Three years

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after being forced to change schools, students' reading achievement was significantly higher than expected, although this advantage was relatively small, around two months higher than expected. Math achievement shows a somewhat similar pattern. One year after a school was closed, students' math achievement returned to the level that we would have expected had students not been forced to change schools; it remained at this expected level two and three years after their school is closed.

4. **Although the school closing policy had only a small effect on student achievement, it did have an impact on other student outcomes.** For example, students who left a closing school were less likely to enroll in Summer Bridge immediately after their school closed, especially eighth grade students. In addition, displaced students were more likely to change schools during the first year, both during the school academic year and during the following summer, even after taking into account that some students enrolled in new schools that opened in buildings where closed schools had been located.

5. **When displaced students reached high school, their on-track rates to graduate were no different than the rates of students who attended schools similar to the closing ones.** Students whose schools closed at the end of their 8th grade year entered high school significantly behind in reading and math as a result of the disruption caused by the announcements of upcoming closures. Students who were in earlier grades when their schools closed entered high school with higher reading achievement levels than expected. The impact of school closings was not large enough to affect the on-track rates for these students in high school.

6. **Characteristics of receiving schools affected the learning outcomes of displaced students.** For example, displaced students who enrolled in schools with higher academic achievement had larger gains in both reading and math compared to students who attended schools with lower academic quality. Furthermore, displaced students who attended schools with high levels of teacher support also had larger gains in both reading and math. However, the number of displaced students who attended schools with these characteristics was small.

In general, there were few effects, either positive or negative, of the school closing policy on the achievement of displaced students. The lack of a more substantial positive effect of transferring students out of these schools may be due to the types of receiving schools that students transferred into. Only 6 percent of students enrolled in top schools with 43 percent of displaced students remaining in schools with very low academic achievement.

Money Matters: How the Illinois School Funding System Creates Significant Educational Inequities That Impact Most Students in the State

Yerik Kaslow, *Research Associate*
Center for Tax and Budget Accountability

The purpose of CTBA's research was to investigate the role of property taxes in the system of public school funding in Illinois. Specifically, CTBA sought to identify the relationship, if any, between local property tax wealth on the one hand, and teacher quality, instructional expense per child, and academic outcomes on the other hand, and examine the commonly heard critique of Illinois's system for funding public education as being "over-reliant on property tax revenue." CTBA found this over-reliance leads to districts with low property tax wealth being significantly underfunded, when compared to districts with high levels of property tax wealth, leading to disparities in student achievement.

CTBA used the collective data from the Illinois State Board of Education (ISBE) district report cards. The ISBE report cards provide data on the demographics, size, and achievement levels of each district, but perhaps more importantly, the ISBE report cards provided data on all public school districts in Illinois. The total sample size was 870 school districts, approximately 2.1 million students.

The ISBE report cards provided a rich set of data: information on community wealth (home values and poverty rates); operational, instructional, and service expenditures; racial demographics; teacher qualifications and salaries; and test scores by grade and test type. CTBA considered these different variables in single and multivariate analyses, to minimize measurement errors and omitted variables. CTBA considered all test score results in both single and multivariate contexts, to ensure as comprehensive an examination as possible. Test scores were used as the primary outcome variable, as they are the most commonly used educational quality metric in both the public dialogue, and legally established educational accountability standards.

Summary of Findings:

- Of all 870 school districts in the analysis, 5% fell into the Flat Grant funding formula (highest property wealth), 18% fell into the Alternative funding formula, and 77% fell into the Foundation funding formula (lowest property wealth).

- There are large differences in metrics such as teacher quality and student performance, among Flat Grant, Alternative, and Foundation formula districts.

- There are significant funding and educational differences when Flat Grant districts as a group are compared to all districts located South of Interstate 80, a legislatively accepted definition of "downstate" districts.

- Out of 52 districts falling under the Flat Grant formula, only three are located South of Interstate 80.

- Due to heavy reliance on property taxes as a means of meeting funding requirements, the qualitative and outcome differences observed are strongly related to the available local property tax base.

- Minorities, especially African Americans and Hispanics, are significantly over-represented in schools with high poverty rates, with over 93% of all African American children and over 66% of all Hispanic children attending school districts with low income rates of 30% or greater.

- Disparities in both quality of teachers and academic performance between primarily Caucasian and primarily minority school districts in Illinois are material, and correlate to instructional expense per child, local property wealth, and inadequate state funding.

- The average difference in instructional expense per student between Flat Grant and Foundation formula districts is $2324, while the average difference in instructional expense per student between the highest poverty districts and lowest poverty districts is $1003.

- The greatest differential in average instructional expense, $2421, exists between Flat Grant districts and districts located south of Interstate 80.

With each ISBE metric CTBA analyzed, (ACT, PSAE, and ISAT scores), there is a clear picture of disparity: students in flat-grant and alternative funding formula districts (23% of the total state enrollment) out-perform their peers in foundation formula districts (77% of the total state enrollment) on all tests, often by more than ten percentage points. The total impact of these differentials in academic outcomes is especially stark when one considers the majority of African American and Latino students are students in foundation formula districts.

The results illustrate a disparity in educational attainment and overall quality, and show a correlation between community property wealth and educational outcomes, as measured by test scores. The results of CTBA's research strongly supports the need for education funding reform, especially considering that the majority of minority students attend schools in lower performing districts. CTBA's findings have been used statewide as evidence of the disparities caused by the current education funding methodology of Illinois, and have been met with bi-partisan support.

The current education funding system in Illinois, which relies heavily on local property tax wealth, is unable to remedy the disparities revealed in CTBA's analysis. This leaves the vast majority of Illinois students, particularly low and middle income children, children of color, and children who live downstate, forced to attend schools which rely upon an inadequate level of state-based funding. Illinois' status quo funding system is not sufficient to deliver a quality education, as evidenced by disparate instructional expenditures, teacher quality, or test scores. The CTBA analysis displays a clear need to reform the current system of education funding in Illinois. Employers, both today and in the near future, are increasingly looking for workers with high levels of educational attainment. Illinois needs to reform its education funding systems to prepare all students for the demands of the current and future labor market.

Grounding Research in Reality: Fiscal Equity and K-12 Funding in Illinois

Christopher Mullin, Ph.D., *Postdoctoral Fellow*, and Kathleen Brown, Ph.D., *Executive Director*
Illinois Education Research Council

The purpose of this study was to replicate both The Education Trust's "The Funding Gap" and D. Verstegen and L. Driscoll's "The Illinois Dilemma" studies published in 2008 utilizing the actual allocations to districts resulting from the fiscal policy mechanism (funding formula) in Illinois for the 2004-2005 school year to understand the influence of adjusted values on determinants of fiscal equity as applied in each of the earlier studies. The results of the IERC [Illinois Education Research Council] analyses indicated a less severe "gap" between the highest and lowest poverty district quartiles and a positive "gap" for high minority district quartiles when compared against the district quartiles with the lowest minority presence, as compared to results presented by The Education Trust. With respect to the IERC results when revisiting "The Illinois Dilemma," a more inequitable distribution of aid was observed than that reported by D. Verstegen and L. Driscoll. This observation was found to be the result of inequitable local resources primarily existing in elementary districts.

Managing Educator Talent: An Inventory and Workbook on State Policy in Illinois and the Midwest Region

Monica Bhatt, *Research Associate*, and Sara Wraight, J.D., *Research Associate*
REL Midwest at Learning Point Associates

Background and Purpose

Supporting the development of talented and effective educators throughout their career continuum, or human capital resource management (HCRM) in education, is one way districts and states can increase school effectiveness and improve student learning. Oftentimes, however, HCRM systems are designed piecemeal, lacking alignment and cohesion. At the urging of the seven Chief State School Officers in the Midwest region, REL Midwest has conducted a policy scan in seven states in the region, including Illinois, around seven areas related to HCRM: preparation and licensure, recruitment, induction, professional development, compensation and incentives, working conditions, and performance management.

The purpose of the REL Midwest study, currently in the data collection stage, is to inventory and describe all state-level policies and initiatives around components of HCRM in Illinois. The research presented here builds on the data collected by REL Midwest as well as on the Managing Educator Talent (MET) framework developed by Learning Point Associates, which summarizes research-based strategies at the state and district levels around each of the HCRM components. This study also analyzes the extent to which state policies and initiatives exist to support and promote the strategies set forth in the MET framework and the extent to which state action has begun to take place.

Methods

Three types of information—state data components, state legislation, and current initiatives—are being collected for each of the seven HCRM components. State data components are included where possible to provide readers with a picture of the current landscape in each area of the educator career continuum. For example, state teacher retention rates are included in the section describing teacher induction policies. Legislation (which, for purposes of this policy inventory, includes state laws, regulations, and other formally adopted policies) and current initiatives are used to capture state-level policies. The information is being gathered from publicly available websites, documents, reports, legal code, and administrative rules. For Illinois, the main sources are the Illinois State Board of Education (ISBE) and the Illinois General Assembly websites. In addition, interviews are being conducted with key state-level informants such as representatives from ISBE and state legislative staff in order to (1) verify the accuracy of gathered information, and (2) gain further insight into the processes by which Illinois has developed policies and practices around HCRM.

The collected data will be organized to form an HCRM policy inventory for Illinois. A gap analysis will be conducted using the MET framework. Policy analysts will use a blind rating process to evaluate the extent to which Illinois's state-level policies align with the recommended state-level policies and strategies in the MET framework. For each HRCM component, three analysts will rate the extent to which a gap exists between Illinois's policies and the elements of the MET framework. Using an interrater gap analysis tool, findings from the three raters will be compiled, averaged, and summarized.

Policy Implications for Illinois Education

In providing state policymakers with a better understanding of state-level supports that exist in Illinois around each of the seven HCRM areas studied, the policy inventory can serve as a starting point for reexamining state policy on HCRM and the ways in which it can be reformed or changed to augment or enhance these supports. For state policymakers outside Illinois, this work provides insight on some state-level options that currently exist for supporting effective human capital resource management in education.

Is the Supply in Demand? Exploring How, When, and Why Teachers Use Research

Ellen Behrstock, Ph.D., *Policy Associate*, and Karen Drill, *Research Associate*
Shazia R. Miller, Ph.D, Principal Investigator, *Director of External Evaluation*
Learning Point Associates

The aim of this paper is to explore the demand side of the market for educational research. That is, what types of educational research do teachers find useful for advancing their instructional practice and under what conditions do they access the research currently available?

Although teachers have mixed opinions—both positive and negative—of research, teachers are by no means categorically disinclined to using educational research to improve their practice. In fact, teachers are particularly inclined to seek out research when they have an immediate pressing concern, and their demand is greatest for research provided via the Internet, through trusted colleagues, by credible researchers, and in educational contexts similar to their own. However, their views of what constitutes "credible" research tend to differ from those of professional researchers. Teachers include among their criteria for credibility research that is relevant and applicable to their own classroom context. More generally, perceived gaps between researchers and practitioners lead to issues with the content, presentation, and dissemination of educational research that limit teachers' demand for it. In a profession where time is at a premium, teachers are unlikely to prioritize research that does not take into account their needs and preferences. Ensuring an appropriate match between what teachers want and what researchers supply requires that certain changes occur within the academic, policy, and practitioner communities. By advancing the education community in this way, students will benefit from teaching that is both high quality and research-based.

An Analysis of Early Care and Education Services for Children of Families Regarded as Low Income or English Language Isolated in 95 Illinois Counties

Dawn Thomas, *IECAM Project Coordinator*, Bernard Cesarone, *ECAP Assistant Director of Technology*,
Susan Fowler, Ph.D., *Principal Investigator,* and Jonathan Bodamer, *Information Specialist*
Early Childhood and Parenting Collaborative, College of Education
University of Illinois at Urbana-Champaign

The Illinois Early Childhood Asset Map (IECAM) is a web-based tool that will enable researchers and policy makers to obtain tabular data and interactive maps describing the current range of early care and education services by geographic regions in Illinois. IECAM was created at the request of the Illinois Early Learning Council and State Board of Education to enable various stakeholders to assess the needs of their county, township, legislative district, municipality and school district for early care and education. Using data from IECAM, the user can determine where new or expanded programs can be most efficiently located to help create a comprehensive early childhood system. The data also make it transparent to users how the state is allocating early childhood resources. The current locations of early care and education programs can be superimposed on thematic maps that show the population of preschool children, median family income, employment levels, working families, and Latino and African American population. Standard reports have been developed to assist users in quickly gathering data for a specific geographic area and conducting comparisons across locations.

This presentation will show ways to obtain, by using IECAM, snapshots of an area's (e.g., community or county) capacity to provide early childhood services. This presentation will highlight examples of counties outside of Chicago and the collar counties which appear to have significant unmet needs in serving young children who are eligible for PFA services or Head Start services (75% or more of the children eligible are not receiving services) as well as examples of counties in which need is evident but not as pressing (25% or fewer children eligible are not receiving services). A second analysis also will be presented based on the benchmarks identified by agencies in Illinois for determining family eligibility for early care and education services. These include the following indices based on the poverty level of families: 100%, 130%, 185%, 200% and 400% and the extent to which these various indices paint different pictures of need for services.

The geographic information data set includes all licensed child care programs (2,444), licensed exempt child care programs (497) and family child care programs (9,428). Other geocoded data include Prek/PFA sites (1,547), Head Start sites (679), and Early Head Start grantees (57) in Illinois. A descriptive analysis of the 14,644 data points will be provided in terms of the density of services available outside of Chicago and the Chicago metro area (CMA). Analyses have been conducted using demographic data for 2005 (estimates based on US census data) and early care and education service data to describe the potential gaps in services in counties for children at various poverty levels (100% up through 400%) under age 5 years. In addition, analyses of early care and education capacity have been evaluated in relationship to the number of English language isolated families per county, working families per county, family median income per county and racial demographics per county.

The Head Start benchmarks of 100% and 130% will be used to identify the need for additional Head Start funding or programs in various locales of the state. The 200% benchmark used by IDHS for subsidies also will be assessed to determine the extent to which these 5 benchmarks demonstrate similar or markedly different snapshots of certain counties. The variations in services across counties outside of the Chicago and CMA will be described, including examples of specific counties where capacity of program slots for PFA, for Head Start, and for family child care or group child care suggest that many children eligible by income and/or language isolation may not be receiving services.

Implications to be addressed will include a discussion of the current distribution of ISBE-funded PFA and Pre-K programs in the 95 counties outside of Chicago and the CMA, the identification of counties in which the need for future programs based on the 100%, 185% and 400% of the poverty level, as well as future funding of early care and education. The discussion will also include ways in which the IECAM data can be used to establish need for programs, priority for areas to be funded in the future, and priority areas to receive technical assistance to develop the capacity to be successful at acquiring future state or federal funds for serving income eligible children.

The presenters bring to the table a broad range of expertise in the research of and information pertaining to early care and education, as well as data collection, analysis, and use of geographic information systems.

Who's Caring For The Kids? A Statewide Survey of Pre-K Teachers, Lead Teachers and Directors in Early Care and Education

Susan Fowler, Ph.D., and Sallee Benecke
Department of Special Education, College of Education
University of Illinois at Urbana-Champaign

The early childhood workforce in Illinois includes over 56,000 full time teachers, directors, and support staff who work in over 5,000 licensed and license-exempt community–based programs. Included in this estimate are approximately 1,700 teachers who work in Preschool for All (PFA) programs, supported with state funds. In addition, nearly 11,000 licensed providers care for young children in their homes. At any one time early care and education programs and family child care programs have the capacity to serve nearly 480,000 children either in full or part time care in Illinois. Professional development and career development are important issues for retaining providers and ensuring that providers view their work as a career with opportunities to advance.

This study is based on the results of 1400 surveys completed in Spring 2008 by directors and lead teachers of licensed early care and education centers. Programs listed in the INCCRRA database received a director's survey and 2 teacher surveys in the mailing. Local Education Agencies identified as recipients of PFA funding likewise received 2 teacher surveys to be completed by two certified (ECE) teachers in public school programs. On-line versions of the survey also were available and advertised between February and April, 2008 through CCR&R websites. The return rate of surveys could not be determined based on the mixed methods used to seek responses. In addition, interviews were conducted with 20 key leaders in early care and education in the state of Illinois and nationally to identify current trends and issues related to professional development.

Survey responses were entered into SPSS and were analyzed using descriptive statistics as well as where appropriate, correlations and chi square analyses. Comparisons were conducted among subgroups of teacher responders: certified teachers in public school based programs, certified teachers in community early care and education programs both with and without PFA funds, noncertified teachers with a bachelor's degree and noncertified teachers without a bachelor's degree. Analyses of directors' responses also were conducted and compared based on auspices of the programs they directed (e.g., private or public, for profit or not for profit).

Six findings will be highlighted from the research and paired with policy recommendations focused on next steps for state agencies and the Illinois system of higher education. These include:

1. There are significant and striking differences in compensation among lead teachers, based on certification, program auspices and funding streams.

2. Teachers who are recent graduates of certification programs are more likely to be teaching in community based programs with state PFA funding whereas certified teachers with more years experience and master's degrees are more likely to be teaching in public school funded PFA programs.

3. Director qualifications, including level of education, specialized training in early childhood education and program administration appear related to program quality and the probability of seeking state funds for embedding prekindergarten programs in centers;

4. Most lead teachers without certification, although interested in pursuing it, do not know what they need to accomplish the goal, and are unfamiliar with recent state initiatives that could provide financial support.

5. Interviews of state and national leaders in early care and education highlight many of the same barriers related to access for certification completion that lead teachers not yet certified also raise.

6. The most common areas for additional professional development include social emotional development, classroom management, working with children with special needs and working with children from diverse cultural and linguistic backgrounds.

A pressing need exists for community colleges and universities to address the professional development needs of uncertified teachers who wish to achieve certification that will enable them to pursue higher paying positions within early care and

education. In many cases, completion of certification in early childhood certification will require completion of a bachelor's degree, or for those already with a bachelor's degree, the completion of certification courses and possibly a master's degree. Few programs are available in Illinois that provide the access and flexibility that most working teachers and providers are seeking for certification completion. Salaries for teachers who have certification are significantly higher as is the likelihood that teachers with certification will belong to national professional associations in early care and education.

Narrowing the Teacher Academic Capital Gap in Illinois

Brad White, Senior Researcher
Illinois Education Research Council

This study examines the distribution, change, and impact of the Index of Teacher Academic Capital (ITAC) in all Illinois public schools from 2001 to 2006. The ITAC is a school-level composite of five measures: teacher ACT Composite and English scores, teacher Basic Skills Test results, teacher certification status, and teacher undergraduate college competitiveness. We find that students in high-poverty and high-minority schools, especially those in Chicago, had less access to high ITAC than their counterparts elsewhere. However, high-poverty schools statewide and high-minority schools in Chicago also experienced the greatest gains in ITAC over the time period. We show the impact of ITAC by using fixed-effects models, which reveal that schools that increase their ITACs also tend to improve their achievement.

Prepared for Success? Results from the First Four Years of the Illinois Teacher Graduate Assessment Project

Stephen Lucas, Ph.D.
Illinois Association of Deans of Public Colleges of Education

Purpose of the Research

The Illinois Teacher Graduate Assessment project began in 2004 as a collaborative initiative conducted by the Illinois Association of Deans of Public Colleges of Education (IADPCE). The project is an annual assessment of teachers in their first year of teaching directly following graduation from one of Illinois's twelve public colleges of education. This project, now in its fifth year, aims to:

- Provide a standardized assessment of new teacher graduates of all public colleges in Illinois.

- Provide a specific examination of teacher skills related to the Illinois Professional Teaching Standards and the Illinois Learning Standards for the purpose of identifying areas of improvement for teacher education programs and for ongoing new teacher professional development needs.

- Provide institutions with institution-specific data on student learning in teacher education programs that will assist with program improvement efforts.

- Proactively respond to calls for accountability related to teacher preparation by gathering information that can inform policy makers and the public about teacher preparation programs in Illinois and new teacher practice in the first year of teaching.

Methodology

Education faculty representatives from all of Illinois's public colleges of education collaboratively developed two survey instruments at the outset of this project; the larger instrument (approximately 105 items) is completed by first-year teachers; the smaller instrument (approximately 55 items) is completed by the school administrator who directly supervises each first-year teacher. The survey instruments consist primarily of items that can be answered using a Likert-scale, although there are also open-ended response items. The faculty representatives meet each fall to review the results of that year's assessment and to further develop the survey instrument as needed.

The teacher survey instrument is used to collect information on: demographic and educational background; community college course work; current work assignment; satisfaction with education and career decisions; self-reported knowledge and practice of Illinois Professional Teaching Standards and Illinois Learning Standards; self-reported preparation to be a successful teacher in a range of professional work tasks; assessment of professional preparation experiences, including both coursework and student teaching; first-year teaching experiences, including mentoring and professional supports; and career intentions. The open-ended response items solicit feedback on the graduates' perceptions of the most and least valuable aspects of their preparation programs as well as any recommendations for improvement of their programs. The supervisor survey instrument focuses primarily on the supervisor's perception of the first-year teacher's knowledge and practice of Illinois Professional Teaching Standards and Illinois Learning Standards and the teacher's preparation to be a successful teacher in a range of professional work tasks.

The annual pool of survey recipients is comprised of every first-year teacher in an Illinois public school who completed his or her initial teacher certification program during the immediately preceding academic year. The recipient pool is developed by the Illinois Teacher Data Warehouse, which uses Teacher Service Record data from the Illinois State Board of Education and Title II program completer data from the participating colleges of education. During the first four years of this project, between 2,300 and 2,500 first-year teachers (and their supervising administrators) have been invited to participate in the survey, which is conducted in March, April, and May.

Participants may complete the survey using a secure website or a paper survey. Data are analyzed at both the individual institutional level as well as the state aggregate level, and are reported to the institutions each August. Results are reported longitudinally each year so that each institution may track its progress against indicators of interest. The combined response rate (teachers and supervisors) has been between 50% and 53% each year.

Summary of Findings

First-year teachers generally report high levels of satisfaction with their preparation programs and career choices. They also report good understanding and use of state teaching and learning standards, and feel they have been well-prepared to be successful in most school work tasks. They feel least prepared for success with English Language Learners and for working with school administrators, parents, and the community. 93% of first-years teachers indicate that they intend to remain in education as a life-long career. Supervisors have a generally more positive assessment of first-year teachers in regard to preparation for specific work tasks, and a slightly less positive in regard to teacher understanding and use of professional teaching standards and learning standards.

Implications for Illinois Education

These results indicate that first-year teachers are highly satisfied with their professional preparation and with their career choice; their supervisors are generally pleased with their first-year teachers as well. Results indicate a need for strengthening preparation of teachers for working with English Language Learners, administrators, parents, and the community. The IADPCE uses the annual survey results to plan collaborative initiatives to address evident needs, and each university is using its specific results for both internal improvement efforts as well as for accreditation purposes. For 2009, the IADPCE has devised a follow-up survey of fifth-year teachers (i.e., those who participated in the initial first-year survey) to gain further understanding of these teachers' perceptions of their initial preparation as well as to gain new understanding about their career experiences in their second through fifth years of teaching.

The Illinois Best Practice School Study

Lynne Haeffele, *Research Associate*, Center for the Study of Education Policy
Joe Pacha, *Associate Professor,* Educational Administration and Foundations
Paul Baker, *Professor Emeritus and Distinguished Professor,* Educational Administration and Sociology
Illinois State University

Purpose of the Research

The Illinois Best Practice School Study was part of a multi-state research study by the National Center for Educational Achievement (NCEA). This multi-year study identified and analyzed the effective practices of schools considered to be consistent high performers despite significant student poverty levels. The Illinois Best Practice School Study is a contemporary version of an outlier study that continues the search for effective school correlates to inform both theory and practice in the ongoing quest for successful school improvement strategies.

Methodology

The Illinois study was organized using six themes: Curriculum, Staffing, Instruction, Monitoring Student Progress, Recognition, Rewards & Interventions, and School Climate & Culture. These themes were drawn from the large body of effective schools research. The study spanned three levels of organization (district, school and classroom).

Potential study schools were selected for their sustained high performance across all tested subjects and grades in relation to poverty level using an algorithm developed by NCEA researchers. The regression analysis compared the performance of each school to predicted performance based on demographically similar schools. This analysis resulted in lists of higher-performing and average-performing schools. Study schools were recruited based on their willingness to participate in structured interviews, observations and document collection. Over the course of the three-year study, twenty-four schools participated: 17 elementary schools, five middle schools, and two high schools, of which four schools determined to be average-performing served as comparison schools.

Cross-disciplinary faculty teams (educational administration, curriculum/instruction, special education) gathered interview data, observations and documentation at all three organizational levels—district, school and classroom—and subsequently analyzed the data using qualitative coding methods. Instructional, organizational and cultural practices within the six themes were documented for each school, and case studies were produced integrating state School Report Card data with qualitative findings. A cross-case analysis was then performed to identify common characteristics across high-performing schools, as compared to average-performing schools. An Illinois Best Practice Framework was produced from the data, identifying key practices common to all the study schools.

Summary of Findings

After in-depth cross-case analysis, we determined that the first five themes of the NCEA framework (Curriculum; Staffing; Instruction; Monitoring Student Progress; and Recognition, Rewards & Interventions) provide the *core technologies or mechanics* of the school. These form a necessary technical core of effective school correlates, a useful framework to establish the mechanics of an effective school. An essential attribute of these core components is that they must exhibit alignment. Alignment occurs when the school's curriculum reflects the required learning standards and goals, both state and local; and when teachers are highly qualified to teach the curriculum and assigned appropriately to grade levels and subjects. Alignment tightens when (1) differentiated instructional methods help all learners acquire the knowledge and skills defined in the curriculum; and (2) when assessment instruments actually measure what is taught and provide valuable feedback on an ongoing basis, for use by both student and teacher. Alignment becomes even more effective when rewards and interventions match academic goals and expectations.

The high-performing study schools were exemplars of alignment. While teachers had varying degrees of freedom to design lessons and make adjustments according to their professional judgments, they also recognized the importance of teaching to specific curriculum goals, assessing progress often, and giving frequent feedback to students and to their study groups. The study of student work and near-constant analysis of performance are deeply ingrained practices in these schools.

The five core technologies of schooling, as described above, are not sufficient to create the types of exceptional schools we studied. We have studied schools where the mechanics were good—of high quality and even well-aligned—but which

were not performing consistently well. These aligned effective school themes create a vehicle for improvement, but a vehicle without a map to its destination and without the necessary fuel does not get where it needs to go.

We found that the attributes of the Climate & Culture theme both envelop and are embedded within this technical vehicle. In consistently high-performing schools, student learning and student needs are always considered first and foremost. In schools with a strong, positive culture focused on high achievement for all students, energy seems to spontaneously generate among staff and students. Committed adults draw great internal motivation from helping students succeed. In turn, students develop their own intrinsic motivations to succeed. Trust and a sense of "can do" efficacy pervade the organization. School culture attributes of lateral accountability, relational trust and distributed leadership are infused throughout the technical operations of the school. We termed this pervasive culture an "ethos of excellence."

Leadership is a motif that pervades all themes and levels. We found competent, caring and committed leaders at all levels—district, school and classroom. Staff were called upon or volunteered to serve in many leadership roles within the school based on expertise, interest and need. Distributed leadership was evident throughout our study sample. However, we also found that the school principal played the pivotal role in fostering and maintaining the essential culture that provided the "direction and fuel" for the ethos of excellence within these schools.

Implications for Illinois Education

This study revealed successful school characteristics and methods that can be replicated in other schools for little to no cost. Study schools had average or lower resources, yet managed to exhibit sustained high performance along with high levels of staff, student and parent satisfaction. Sharing these findings with Illinois school leaders, policy makers and researchers enriches discussions of school improvement and can potentially provide models of practical reforms.

Effective Professional Development Partnerships: Supporting Student Achievement

Dianne Gardner, Ph.D., *Assistant Professor*, Educational Administration and Foundations
Lynne Haeffele, *Research Associate*, Paul J. Baker, *Distinguished Professor Emeritus,* Educational Administration
and Sociology, and W. Paul Vogt, *Professor Emeritus*, Co-Researcher
Center for Education Policy
Illinois State University

Focus

For the past four years, our research and evaluation team has studied 37 P-12/higher education professional development partnerships funded under Title II teacher quality provisions of the *No Child Left Behind Act* (NCLB) in Illinois. A continuing challenge in education improvement is to effectively link professional development with student results.

The team has developed methods to analyze the structures, implementation features, and evaluation methods of these partnerships, and has conducted professional development for grantees to use logic modeling to build evaluation capacity. The Illinois Board of Higher Education consults with the team to improve its overall program capacity—and ultimately, student achievement outcomes—for its funded professional development partnerships.

In the current economic climate, grant funds are often the main resource that underwrites educational improvement efforts. Such funds are scarce and therefore precious. Both grantees and grantors are held accountable for producing measurable results from the investment of these funds. We will make the case that understanding partnership structures and implementation processes, and evaluation capacity building and sound evaluation practice into the granting process from start to finish, can potentially improve student results and return on investment.

Literature Review

We rely on four strands of literature: (1) school-university partnerships; (2) professional development (Elmore, 2004; McLaughlin & Talbert, 2006); (3) school renewal (Elmore, 2004; Payne, 2008); (4) evaluation/evaluation capacity building (Baizerman, Compton, & Stockdill, 2002; Weiss, 1997). The school-university partnership literature is an old one. Goodlad first writes about these collaborations in 1950, using partnership as a metaphor. The literature relies on the metaphor and frames inter-organizational relationship issues using terms like mutual trust, collaboration, and simultaneous renewal (Burton & Greher, 2007; Gajda, 2004; Osguthorpe & Harris, 1995; Stephens & Bolt, 2004; Sirotnik & Goodlad, 1988). Overall, the literature remains conceptual, case study-based, and reliant on interpersonal metaphors not provide solid foundation for understanding how partnerships work. We wanted to understand how inter-organizational arrangements worked in terms of structure and process without relying heavily on the partnership metaphor and the confusions it evokes.

To achieve a fresh understanding of partnerships, we adapted Mintzberg's classic framework on the five basic parts of organizations and their functions to help us describe the 37 partnerships (Mintzberg, 1983). To take a second look at partnership processes, we relied on program theory (Weiss, 1972) and the four basic constituents of logic models (Frechtling, 2007). We used these lenses to consider how professional development and the renewal of curriculum, instruction, and assessment were occurring in collaborative partnerships for both P12 and higher education members.

Evidence Base

The evidence base for the topic brings together multiple research strands as stated above. The literature of school-university partnerships remains conceptual. The exceptions to this are individual case studies of professional development schools. Well-developed and sustained professional development schools are relatively rare, so we welcomed the opportunity to study widely varying professional development collaborations. The evidence bases on professional development and school renewal are more expanded empirically, and this research augments them. Finally, the growing field of evaluation provides another evidence base that supports learning among the researchers and partnership case studies.

The work has been informed by two conceptual frameworks: Mintzberg's five-part organizational structures model and Logic Modeling, a conceptual tool in the tradition of program theory. We used Mintzberg's model of five basic organizational functions and how these influenced partnership configurations.

Methods

The five-year study empirically examines 37 school-university partnerships using multiple methods, quantitative and qualitative. Empirical evidence about the efficacy of school-university professional development partnerships derives from two main sources, broadly speaking: (1) five years of proposals, evaluations, and renewal applications that document the development of the projects and (2) three years of site visits to Illinois school, college, and university partners. Quantitative methods include detailed demographic information on schools, teachers, and students served in four quadrants of Illinois by this grant funding stream. Various measures of teacher and student learning over the five year period were used as well. Qualitative methods included document analyses, meeting and classroom observations, review of project-disseminated materials, and interviews of university and school/district leaders, project directors, principals, professors, professional development professionals, coaches and mentors, and teachers. In the final three year period, ten projects remained and were developed into detailed case studies. These ten case studies will be the main focus our proposed presentation with the history of the 37 cases providing context and helping us to explore the distinct partnerships in Illinois.

Findings

From the results of ten case studies out of an original 37, we developed three basic partnership types: (1) Brokered; (2) Multi-Tiered; and (3) Single-Tiered. We used Logic Modeling, the conceptual framework underlying program theory in evaluation, to help us understand collaborative processes. This resulted in three process clusters characterizing partnerships by how they focused the collaborative work: (1) Collaboration-focused; (2) Content-focused; and (3) Capacity-focused. These two frameworks and our applications of them assisted us to develop evaluations and build evaluation capacity across partnerships.

Each type has distinct challenges and advantages as the school-university partners work together in ways that impact student achievement. Finally, we developed an approach to building evaluation capacity through ongoing support of individual projects that integrate the results.

Significance to Research and Practice

The work is important in two ways. First, the Illinois Board of Higher Education supports us as we help grants do evaluations well and build evaluation capacity. Second, this is also a research project teaching us what works in partnerships that have the capacity to affect student achievement. This research is for dissemination and for improving policy for supporting partnerships and for grant evaluation. One long term goal is to continue to develop ways to link partnership activities with teacher and student learning. A second goal is to develop partnership models that are designed and implemented with an expectation of changing the work of schools in coherent and systemic ways. One result of this second goal in particular is to support the Illinois Board of Higher Education to make informed policy choices to elicit, select, and develop projects that are likely to yield evaluable, sustainable results.

An Initial Examination of Gender Related Motivating Factors for Student Success

Josephine T. Sarvis, Ph.D., *Assistant Professor*, and Dr. Eunmi Lee, *Assistant Professor*
School of Education
Dominican University

In responding to nationwide Science, Technology, Engineering and Mathematics (STEM) Initiative efforts, current research has been proven that girls are more likely to choose courses and careers in math and science if their interest in these fields is sparked and cultivated throughout the school years (Halpern, D., Aronson, J., Reimer, N., Simpkins, S., Star, J., and Wentzel, K., 2007). Although creative ideas for improving education come from various resources, only teachers can implement those ideas based upon their insights that emerge from intensive, direct experience in their classroom. Therefore, it is imperative to provide professional opportunities for teachers to learn concrete strategies that they might use for promoting greater interest in math and science and, ultimately, fostering long-term interest of students in math and science.

As one of six institutions that is involved in a Science and Math Learning Collaborative (SMLC) research initiative through the Associated Colleges of Illinois (ACI), we have been making efforts to transform how math and science teachers are prepared to teach middle-grade girls from high-needs schools such that girls are better prepared and more inspired to pursue careers in science, technology, engineering, or mathematics. Therefore, the purpose of this study is to examine ways in which gender equitable pedagogy at the middle school level in high-needs schools in the areas of math and science can be enhanced. The emphasis has been placed on increasing the number of teachers embedding gender-equitable pedagogy in middle-grade science and math curricula so that girls persist in STEM field. Specifically, the goal for this research endeavour is to design gender-centered professional development and teacher preparation curricula by integrating the latest knowledge of gender-equitable pedagogy with more effective practices and researched-based approaches through action research in math and science. We are now moving towards implementing transformed professional development and teacher preparation curriculum for middle grade math and science teachers and other interested teachers from the participating four middle schools in the Chicago area. To glean empirical evidence to support and design a gender-centered professional development, we developed and administered a student survey questionnaire in four high-needs middle schools. The results of data analysis will scaffold the structure of a gender centered professional development.

We intend to share the preliminary findings from our survey data analysis as well as your professional development design principles at the 2009 Illinois Education Research Symposium.

Methodology

This action research in the four schools that we have partnered with, two Chicago Public schools and two Catholic Schools, has been conducted. The participating schools are defined as high-needs schools since 75% or more of the student population receives free or reduced lunch. The survey questionnaire was administered to students in grade 5 through 8 in the participating schools and there were 215 male and 228 female students with 443 of the total sample size.

The survey questionnaire included three main sections with 32 question items total in the format of multiple choice and short answer questions. The guiding question in developing the survey questionnaire is: what is the chief motivating factor for girls in high-needs schools in the areas of math and science at the middle school level? This broad research question encompasses the following categories: teacher/student learning styles; learning environments; single-sex cooperative learning groups; the use of praises, student attitude and participation in relation to girls' achievement in the middle school in the areas of math and science. We, as a team, have created a questionnaire that consists of questions related to the categories previously mentioned.

We adopted descriptive statistics method to analyze the collected data. For multiple-choice questions, each item was analyzed by descriptive statistics, mainly, frequency according to gender. For short answer questions, we coded student answers into relevant categories and the coded data was analyzed by frequency. After we established inter-rater reliability at the level of r=0.9, coding has been processed by several researchers on the team. The frequency for each gender in each item was compared to find noticeable differences between male and female students. Our categorical data was illustrated by bar graphs and pie charts.

Summary of Findings

This descriptive study allowed us to recognize differences between genders in terms of categories that we considered as chief motivating factors including: use of praise, cooperative learning groups, and learning styles. First, in terms of the use of praise, while both male and female students are more encouraged by teacher's praises, male students tend to prefer to be praised publicly and female students tend to prefer to be praised privately. Second, with regard to cooperative learning groups, female students prefer to work in single-sex groups while male students prefer to work in heterogeneous sex groups. Third, in terms of student learning styles, male students tend to more voluntarily and actively participate in math and science class activities compared to female students. These findings have been used to design a gender centered professional development for middle level teachers on the basis of research driven evidence.

Implications for Illinois Education

We continue to colloborate with five other Illinois universities within the SMLC team as we have been making efforts to contribute to Illinois Education, in particular, Math and Science Education in Illinois, by providing gender centered professional development opportunities for both in-service and pre-service teachers. University faculty member and team leaders meet monthly at ACI (Associated Colleges of IL) Partnership meetings and at separate seminars and learning institutes to share ideas and experiences. Along with these practical efforts, the findings of our study helped us frame the structure of a research-based gender centered professional development seminar. Furthermore, we are providing gender equitable pedagogy training for both in-service and pre-service teachers while encouraging them to transform instructional strategies as well as curriculum into more gender equitable learning environments at the middle school level. The findings of our study will ultimately contribute to increasing and sustaining long-term student achievement in the area of science, technology, engineering and mathematics in Illinois.

Developmental Therapist Perceptions on the Role that Inner-City Home Environments Influence Behavior during Service Delivery

Tywanda Jiles, *Assistant Professor*, Early Childhood Education
Governors State University

Purpose of the Research

The purpose of this study is to examine the perceptions of developmental therapists on the influences of the inner-city home environments that impact their behavior while providing services. The goal is to understand the perceptions that the therapists have about the inner-city home environment as they are the vital essence of early intervention. This study will explore what therapist think about this setting in relationship to how it influences their behavior during service delivery and what type of educational training and support is needed to implement best practices in the setting. The overall purpose is to gain insight into the perspectives of a group of professionals who are still emerging as a field and that is not represented in scholarly literature.

The data from this research may benefit developmental therapists, as well as therapists who are from other disciplines as well as government administrators, educational administrators and families as it can include ways to provide training and service delivery models for providing services within inner-city home environments as a part of supporting professionals in providing services in natural environments.

Description of Methodology

A purposeful sample of 10 developmental therapist in a Midwestern metropolitan city were interviewed for 40-60 minute time periods to discover the core essence of their lived experiences in working within this environment and its influences on their behavior during service delivery in this setting. The results of this phenomenological study will explore participant experiences to uncover how those environments facilitated or hindered services delivery. In addition, this study will look at the educational preparation of developmental therapist to work within inner-city environments.

A combination of purposive sampling and convenience sampling was used to recruit participants for the study. Participants for this study were chosen based on the following criteria: a member of the Illinois Developmental Therapy Association, hold valid developmental therapy credentials through Early Intervention and provide services within the inner-city. The IDTA has a total of 105 members statewide as of December 2008 (IDTA, 2008). The membership includes males and females from different ethnicities and backgrounds.

Volunteers were solicited for this study through convenience sampling as the first 10 IDTA members who respond to the request will be invited to participant in the study. This organization was purposely selected for the study sample as this is the only organization that represents this working profession in Illinois. The researcher is a member of IDTA and has limited access to other developmental therapists as most work independently. It is through the researcher's experience; that the members of this organization are active credentialed therapists.

For this study the researcher will use interviews as the primary source for data collection. The researcher will meet with the 10 participants individually for 40- 60 minute sessions. During the interview sessions the researcher will discuss with each individual participant their experiences with the inner-city home environment and its influences on their service delivery. The interviews will be guided by semi-structured questions.

Once the interviews have been completed the data will be analyzed and coded. It will them be categorized by themes and subtopics that are derived from the data. Each participant will be given an opportunity to review a printed copy of their interview to ensure the validity of their responses.

For each interview the researcher will review each transcript carefully in conjunction with the audiotape recorder. During this step the researcher will identify common themes in the descriptions of the participants experiences (Barritt, 1986).

As a final measure for quality the researcher will use NVivo 8(QSR, 2009) to assist in the commonalities among the data and a peer reviewer.

Implication for Illinois Education

Inner-city home environments are comprised of living conditions that are often plagued with low-income, low educational levels, no insurance, high crime and drug infestation. These sometimes undesirable environments influence therapist decision to provide services in these areas. Thus, resulting in a 16.4% delay in services being provided within these areas as it is difficult to get qualified providers who don't reside in these areas to come out and work in the inner-city setting (SPP, 2008). This delay in services being provided within inner-city home environments can result in decreased developmental gains for the at-risk child and their families. Because at-risk children can benefit from qualified developmental therapists and services being provided within the natural environment, successful service delivery is a significant factor in helping a child make positive developmental gains in areas of delays or reducing at-risk factors. It is of vital importance that developmental therapists are able to work successfully in this environment not only to increase services, but to understand the perceptions that developmental therapists have about the inner-city home environment.

The results identified from this study will add to the body of research that can be used to create program service delivery models and or trainings to ensure continuity of services within all setting types provided by developmental therapists. Obtaining this information can help the State of Illinois continue to be a leader in the field of early childhood education as well as continuing to provide high quality educational programs for early childhood professionals that prepare them adequately for early intervention careers as currently the requirements to become a credentialed developmental therapist is linked to students obtaining a type of 04 teacher certification.

Effective Principal Practicum Experiences: Alternative Programs and Practices

Carol A. Schultz, Ed.D., *Assistant Professor*, and Leon Hendricks, Ed.D., *Assistant Professor*
Educational Leadership, Curriculum and Foundations
Chicago State University

There has been an ongoing review and discussion of principal preparation programs and their effectiveness as documented in the Levine Study (2005). Educators support the belief that improvement of course content is contingent on critical analysis and guided reflective practice. Since this is an accepted belief, the following question needs to be addressed: What improvements can the university incorporate into practicum courses to provide students with an appropriate and meaningful practicum experience in educational leadership programs?

The goal of this research was to conduct a preliminary study to answer this identified question. Specifically, the researchers wanted to explore alternative approaches and identify areas of improvement for completion of Practicum I and Practicum II courses in the Education Leadership Program at Chicago State University.

This qualitative study utilized a locally developed survey instrument designed to gather input regarding alternative practicum experiences from graduate students in the educational leadership program. The instrument consisted of three sections. The first section was a series of questions asking students their opinions on various practicum models using a Likert Scale for ranking. The second section contained several open-ended questions for additional input or suggestions for practicum study of content alternatives. In section three demographic data including gender, position, years of experience and geographic district employment were requested.

The analysis of the data resulted in a baseline of information with which to inform revision and improvement of the practicum experience for the educational leadership participants. Alternative options proposed by participants included reflective opportunities for a more experiential learning practicum experience, grounded in pedagogy but striking a delicate balance between theory and practice. The recommendations for improvement highlighted a strong need for an "immersion" into the practicum experience as contrasted by present expectations that "dabble" in administrative duties.

Emotional Intelligence, Teacher Self-efficacy and Empathy

Clyde Winters, Ph.D.
College of Education
Governors State University

Purpose of Research

Is mastery of content knowledge enough to make a teacher effective and stimulate learning and academic achievement of their students? It is becoming increasingly clear that teacher self-efficacy and empathy play an important role in teacher efficiency and effectiveness (Crain, 2005; Goleman, 2005; GLEF, 2005). Although we know that empathy and teacher self-efficacy play major roles in the effectiveness of teachers, and the learning of their students, we know very little about how a teacher's emotional intelligence contributes to the development of the empathy they demonstrate in their teaching and interactions with their students generally, and high teacher self-efficacy among some teachers specifically.

Teachers must address issues of self-efficacy when teaching children (Alvermann, 2002). Teachers' self-efficacy appraisals play a major role in how we perform a task ands motivation to complete a task (Bandura, 1997, 1998). A teacher's self-efficacy can influence his or her teaching because teachers who are optimistic "believe so strongly in themselves that they are able to exert extraordinary effort and suffer countless reversals in pursuit of their vision" (Bandura, 1998, p.57). Generally, the research indicates that people with high self-efficacy are more persistent and strategic in their performance of a task than those with low self-efficacy (Bandura, 1997; Griffee,1997).

The review of literature makes it clear that empathy and self-efficacy impact student learning and behavior. In this research project we will determine what role a teacher's emotional intelligence contributes to their ability to demonstrate empathy for their students and self-efficacy as teachers. We hypothesize that there will be a correlation between teacher emotional intelligence , empathy and self-efficacy as indicated by teacher responses to items on the *Teacher Emotional Intelligence, Empathic and Self-Efficacy Survey*.

Method

The population of this study was 30 teachers from the City of Chicago and the Southland suburban communities of Cook and Will counties . The subjects of this study were regular and special education teachers from K-12 classrooms..

This was a descriptive study. The Survey items include descriptions of behaviors associated with self-efficacy, empathy and emotional intelligence.

The survey items were tested for statistical significance at an alpha weight of 0.05. A chi square test and frequency analysis was used to determine the statistical significance of each survey item.

Summary of Findings

There were a number significant findings in relation to the study. We learned that a teacher's teaching experience affects that teacher's Emotional Intelligence. It was found that teachers with less than 3 years experience demonstrate lower emotional intelligence than teachers with more years of teaching experience.

The survey made it clear that a majority of Illinois teachers perceive the emotions of their students and apply this knowledge to their teaching. Other results indicate that Illinois teachers possess high emotional intelligence; and they are good at managing and understanding their own emotion.

Another finding from the research was that many teachers use emotion words and instruments when teaching to reinforce what they are trying to teach their students. Other results will be discussed in the presentation.

Implications for Illinois Education

The results of this research provide insight into Illinois teacher attributions. It illustrates a framework to understand the role a teacher's emotional intelligence plays in the empathy they have for their students, and high self-efficacy appraisals by the teacher.

An understanding of this phenomenon will help Illinois teachers recognize how their classroom behavior affects the learning of their students. This research will allow Illinois teachers to understand that they control the construction of the learning environment in their classrooms. It will reinforce the understanding that it is the teacher, as a result of his/her empathy for their students and self-efficacy that will make the learning environment either hostile, or nurturing depending on the emotional intelligence of the individual classroom teacher.

High-School Mathematics Students' Performance and Instructional Delivery Perceptions in a Computer Assisted Instructional Environment

Temba Bassoppo-Moyo, Ph.D., *Associate Professor*
Curriculum and Instruction, College of Education
Illinois State University

Mathematics educators have recognized that algebra is the main tool for working with several mathematical systems (Brody & Rosenfield, 1996; Choike, 2000). The algebraic knowledge and skills are also necessary for solving problems in scientific and non-scientific disciplines. Educators and policymakers alike recognize that algebra is an important gatekeeper course, not only for college preparation but also for preparation for the world of work. This makes the understanding of central concepts of algebra of paramount importance to high school students intending a wide variety of careers.

Purpose

The primary goal of the present study was to investigate the effectiveness of CAI when used as a supplement to traditional classroom instruction for the purpose of improving average students' understanding of factoring, radical expressions, and simple quadratic expressions at a University laboratory high school. The researchers also wished to assess whether CAI can offer an effective alternative to problem-solving classes dealing with algebra in a laboratory high school setting. In addition, the effects of each approach on student's attitudes toward mathematics as a school subject, and also the effect of CAI on students' attitudes toward CAI itself, were investigated.

Description of the course and Implementation of the CAI

The present study was done in geometry and algebra course. This is the second course of a two-year sequence in which students complete the study of Algebra I and II and geometry. For algebra, the topics include operations with polynomials, factoring, radicals, algebraic fractions, and introductory quadratic equations. For Geometry the topics include, angles, triangles, and trigonometry. All students must complete the sequence of Algebra I, Geometry and Algebra II as part of the minimum requirement. Students may take both Geometry (level 1) and Algebra II (level 1) in sophomore year to be ready for Calculus in senior year, with department approval.

For the three topics, the units prepared with objectives clearly stated. The unit on Factoring had the following parts: background information, simple factoring, difference of two squares, and trinomials. The unit on Radicals had two main parts: Radical expressions and exponents. The unit on quadratic equations had activities, and illustrations for simple and advanced equations. All the units had interactive-activities for students to work on both at school and home. The units were prepared using the textbook the teachers and students were using in the course. Other resources were used to enrich the units.

Method

Participants

The participants were 45 students in grades 11 and 12 at a university laboratory high school in central Illinois. This was a convenient sample. Four classes were involved in the study. There were 35 females and 10 males. Five students (4 females and 1 male) were African Americans. Three students (2 female and 1 male) were Asian Americans. The rest of the students were Caucasians (29 females and 8 males). The average age of the students was 16 years. All the students were enrolled in a two-year Geometry and Algebra course. Generally these students were of average aptitudes in terms of overall academic performance. Three female mathematics teachers participated in the study. All the teachers were fully certified to teach their courses. Two teachers having master's degrees in their subject matter and one had a doctorate degree in mathematics education. Two of the teachers were very experienced with 15 years of teaching at high school. The third teacher one was in her first few years of full-time teaching. The average age of the teachers was 39 years.

Design and Data collection

A mixed method design suggested by Creswell (2003) was employed. This approach involves a blend of quantitative and qualitative research techniques. Although this methodology is new in Social Sciences and Education, Creswell (2003) asserts that the approach is expanding and has several advantages such as triangulation to enhance reliability and

validity aspects, and minimization of the bias inherent in a single method. Equal priority was given to both types of data collection and analyses. The integration of quantitative and qualitative data provided a comprehensive analysis of the research problem, and an in-depth interpretation of the overall results.

Data were collected through pre- and posttests, questionnaires, students' artifacts, and classroom observations. One of the researchers also had informal discussions with the participants. The informal discussions with the participants were held during and after CAI. The discussions were helpful in gaining information about those elements of the CAI that the participants found to be very helpful, less helpful, or even obstructive.

Data analysis

Data analysis was conducted using both quantitative and qualitative techniques. The tests were graded and the scores were converted from raw points to percentages. First a paired t-test paired was used to analyze the overall students' achievement on the three units in terms of content and skills. The focus was on comparing the pre-and post-test scores for the entire group of students. Then a One-way ANOVA was also conducted to compare the achievement of the students in the four classes. Descriptive statistics were used to analyze the responses in the questionnaires on attitude towards mathematics and CAI. To be specific means were computed and compared among the classes. The qualitative data in the questionnaire that were elicited by informal discussions and classroom observations were analyzed using the procedure recommended by Merriam (2001). The procedure involved coding the responses and identifying the recurring themes.

Results

Students

Overall students gained content knowledge and skills for factoring and solving problems on radical expressions and exponents. Students performed better in the pretests than posttests. Significant differences on the posttest score were found between all the groups sampled, $F=7.36$, $p<.01$, as shown in Table 1. The subjects in all classes performed better after the posttest in response to the CBI online treatments. Study results also indicated that significant differences on the posttest among the three classes were found in all participants, $F=3.00$, $p<.05$. It was concluded that the CBI online interface effect was strong in all the male and female subjects. After the treatment over 87% of the students reported they liked math and they intended to study it in future. Most teachers liked the CBI because it helped them to explain and reinforce the concepts. They also learned how to use CBI to teach mathematics in their classes. Besides learning of the existence of additional resources they could use in their classes, all the teachers agreed that CBI narrowed the ratio between teacher and students in class.

Knowledge Transference: From Skill to Innovation—What Our Student E-portfolios Tell Us

Colleen Sexton, Ph.D., *Professor and Chair,* and Michael Gordon, *University Lecturer*
Division of Education
Governors State University

Purpose

Our teacher preparation program requires our majors to take an introduction to educational technology class. The question to be answered in this research is: *What is the extent to which our teacher education candidates employ teaching strategies which require the learners to use educational technology tools to learn content?* To answer that question we asked: Are the skills and real-world assignments from an introduction to educational technology course used in the lessons and assignments created by the pre-service candidates in their other methods courses? Is transference of knowledge from the Introduction to Educational Technology course to the methods courses occurring? Is the level of use a condition of the state standard for teachers?

Methodology

Throughout our initial teacher preparation programs our pre-service teacher candidates complete a portfolio of artifacts aligned to the state teacher standards. Also, throughout our initial teacher preparation programs all candidates take the Introduction to Educational Technology course, ideally during their first semester in the program. In an effort to determine the extent to which our candidates transfer the knowledge and skills acquired through the Introduction to Educational Technology course to their other methods courses, our research required that we perform a thorough analysis of their portfolios.

The portfolios of 135 candidates were used for this study. A preliminary analysis of the portfolios revealed that it takes almost 90 minutes to thoroughly analyze the portfolio. Given practicality constraints it was decided that a random sample of 25% of the population would become the study group.

In the population studied the Introduction to Ed Tech coursework was aligned to the current state technology standards. We analyzed the portfolios by looking at an alignment of portfolio artifacts to the state technology standards. Once interrater reliability and the randomized sample population were established the researchers each reviewed one-third of the selected sample. The analysis of data was conducted by determining the amount of times the researchers identified each of the tech standards (both state and national) as being aligned to the artifact. The types of artifacts which used technology, e.g. lesson plan or presentation, and the courses in which the artifact was submitted were also counted in comparison to the aligned standard. The students in the elementary program progress through a set series of courses, with the Intro to Ed Tech course taken during the first trimester. By identifying the course and the standard to which the artifact was aligned, the data were used to analyze the artifact using the Concerns Based Adoption Model (CBAM). In this research, the dimension Levels of Use was identified as a means of providing information on the changing behaviors of the participants as they completed their portfolios. A series of seven indicators from the Levels of Use dimension were used to identify behavior which is the resultant change in practice.

Findings

In this analysis we compared the alignment of the state teaching standards to the state technology standards and to the new NETS. Our analysis revealed that the personal and professional use of technology was the greatest with 25% alignment of artifacts to standard, followed by basic computer operations at 13%. On the topic of application in instruction 2 to 7% of the submissions were aligned. On the question of did any one state teaching standard lend itself to the submission of an artifact which required any use of technology more so than other we found that meeting the standard planning for instruction (11%) and learning environment (10%) required using technology more so than any other standard. However, little of that use came from integrating the technology into instruction. The no use of technology standard was as prevalent as basic operations. It is clear that our student artifacts are weak in applying the new NETS. 65% of the submissions had no alignment to the next generation NETS.

Through our portfolio analysis we discovered that there is strong evidence that our candidates can use the skills acquired in the Introduction to Ed Tech course if all we expected out of the course was that they now have productivity skills, such

as formatting a word document, or creating a presentation or a spreadsheet. It was our hope that the state technology standard which addressed application of technology in instruction would be as prevalent as the productivity uses. Unfortunately we saw little evidence that transference of knowledge to that aspect of technology use occurred. Our data indicate that changes have to be made in how the Intro to Ed Tech course is taught.

Our analysis made it clear that the students know how to use the particular piece of software or web based application, however, they are not to the point where they're actually choosing a technology based strategy to teach a concept. We are assuming that reasoned eclectic thinking will automatically occur. We are expecting that the convergence of technological, pedagogical and content knowledge will manifest itself in the products they create. We now know that is not the case.

Implications for Illinois Education

If we expect to create teachers who have the 21st century teaching skills as reflected in the next generation NETS then we must become more explicit in our expectations for technology integration throughout a teacher preparation program. This data demonstrate that for a technology innovation to be widely adopted all professors must model innovative uses in a methods course, candidates must see classroom teachers using the technology, and the technology tools must be readily accessible to deliver the technology rich lessons they may create.

Moving Beyond Complaints: A Comparison of Professor Expectations of Traditional Undergraduate Students in Education and Other Colleges

Debra Miretzky, Ph.D., *Assistant Professor*, and Dr. Sharon Stevens, *Assistant Professor*
Department of Education and Interdisciplinary Studies
Western Illinois University

Purpose of the research

The purpose of this research is to examine if professors' expectations of undergraduate students have changed in response to their perceptions of students' preparedness, and to specifically compare the responses of professors of departments of education with professors of other colleges. We will also explore how professors' beliefs about their own roles and responsibilities and those of students affect changes in their expectations. Furthermore, we will examine whether changes in professors' expectations vary by the number of years of service, tenure status, and college affiliation.

Current research indicates that many students are underprepared for college work (Association of American Colleges and Universities, 2002; National Commission on Accountability in Higher Education, 2005), and it is not news that professors are often frustrated (Pitts, White, & Harrison, 1999). Interestingly, university librarians are a subset of academic professionals who have noticed and documented gaps between what professors expect from students and what students feel capable of providing (Bodi, 2002; Leckie, 1996; Valentine, 2001). A recent and well-publicized study by Greenberger, et al. (2008) documented the phenomena of "self-entitled college students," many of whom believe, as one example, that professors should take "trying hard" into consideration when assigning grades.

The comparison of education professors and other professors is particularly salient when we consider the ongoing public and policy conversations about teacher quality and our nation's K-12 schools. There is conflicting rhetoric and evidence in regards to, in particular, the quality of teacher education candidates as reflected by various measures (Gitomer, 2008; Hawk, 1999; Levine, 2006; Podgursky et al., 2004). This study will, therefore, seek to explore professors' expectations of their undergraduate teacher candidate students in an effort to see what we might learn about both productive and non-productive interactions in the teacher ed classroom.

Methodology

This is a mixed-methods study that will examine data from a questionnaire and focus groups. The questionnaire will be distributed via email to faculty at all Illinois colleges and universities (private and public) that have undergraduate teacher education programs. Faculty from colleges of education, business, and liberal arts will be targeted so as to provide comparisons across disciplines. Initial data analysis will be based on completed surveys.

The questionnaire data will be analyzed using descriptive statistics, correlation, and ANOVA. The results of the analysis will illustrate professors' perceptions of current students' preparedness, instructional styles, forms of assessment, perceptions of the university environment, and perceptions of how well professors' goals align with those of the students. In each of these areas we will also analyze to what degree professors believe these characteristics have changed during their experiences as faculty in higher education. Additionally we will compare responses by tenure status, number of years teaching, and department affiliation.

Once this data is analyzed, we will identify promising areas worth following up on and will arrange a series of focus groups. We will ask questions that will probe more deeply into professor responses: for example, professors who indicate continued satisfaction with student performance in response to expectations can be asked to provide additional insights as to their methods of instruction, assessment choices, or classroom climate. In addition we will ask them to clarify their perceptions of the campus environment for supporting their teaching duties and to characterize their course objectives and goals. Focus group participants will be volunteers who provide us with their contact information after completing the questionnaire. Focus groups will likely be conducted no earlier than the fall of 2009, after analysis of the spring 2009 survey is completed.

Implications for Illinois education

Improvements in the educational system in general begin with improvements in our teacher education programs. Research shows that K-12 teachers who have high expectations of students, and in particular minority students, are

more effective teachers. This suggests that teachers in higher education need to critically examine their own perceptions of student capability and performance in the context of the adjustments and accommodations they have made (or not) to address these. For example, should we see more significant adjustments to perceived limitations of students in the teacher education program as compared to other programs, we would logically need to further explore whether these adjustments have contributed to a decline in quality overall. On the other hand, we may learn that teachers who express satisfaction with student performance and situate that satisfaction in the context of consistent high expectations have integrated technology or some other instructional technique in innovative ways as a means of engaging students.

New Literacies: Instruction in Information-Problem-Solving

Dr. Svjetlana Curcic, *Assistant Professor*
National College of Education
National-Louis University

This poster presents a work in progress with a focus on instruction in learning with the World Wide Web (the Web). The specific focus is on the students with disability in reading (LD) and their information problem-solving within the World Wide Web (the Web) as they engage in the processes to: (a) read/view/search for information; (b) make decisions about which pathways to follow; (c) judge usefulness of pathways; (d) evaluate which information is relevant for the task at hand; and (e) use strategies to extract and preserve information deemed relevant.

 Inquires on the Web demand that students coordinate a number of activities that are more open in nature than reading informational text in a textbook followed by a specific set of questions. A Web-related task may start with an information search within hypertext, a text structure that may have a beginning point, but not necessarily a particular middle or end point. Students are expected to design their own path to constructing meaning. Therefore, reading in different media may involve different processes (e.g. Coiro, 2007). The specific focus in this study is on seventh and eighth graders and on the task of text search on Web pages related topics selected from science and social studies curricula.

Coiro, Knobel, Lankshear, and Leu, (2008) suggest that the term literacies rather than literacy better captures the changing nature of literacy practices as they are increasingly mediated by technology (e.g., computer software, the Internet). Coiro's study (2007) shows that online and offline reading involve different processes and strategies. While a lot of research has been conducted on the topic of online reading, offline reading is under-researched, especially with students with LD.

The literature review by Kuiper, Volman, and Terwel (2005) reveals that K-12 students have difficulties in search, location, access and management of information. Kuiper and colleagues also note that there is very little known about students with disabilities and their Web searches.

This poster describes work in progress as follows: (1) outcomes of an exploratory study with six elementary students (three general education and three special education students) and their information problem-solving; (2) a pilot study with one student, and (3) a study that uses an experimental pretest-posttest control group design to examine the effects of intervention in text search and information management. Specifically, this design involves two groups of students matched on several variables (reading level, Internet skills, language characteristics, LD discrepancy scores) assigned to the treatment with intervention in information problem solving and the control group. In addition, qualitative data gathered through a semi-structured interview aims to reveal students' metacognitive development.

Summary of Findings

The outcomes of the exploratory study with six elementary students showed that students need support in their information problem solving in learning to learn with the Web. The study also revealed that special needs students need even more support in search for information, selecting information, and writing their reports. The pilot study with one student indicates that students benefit from explicit instruction in learning with the Web.

Finally, the current study in progress, with matched sample design, will examine the outcomes of the intervention with a six-step information problem solving approach to support students in their Web searches. The participants in the exploratory study were fifth graders in a public school in Michigan, while the experimental study is conducted in Illinois, with two groups of seventh and eighth graders. The Illinois school selected for this study enrolls a large number of students with learning disabilities, which was a primary criterion in the selection of the site.

While literacy skills that include not only access to information but also its management and use are considered critical for success in education and life, we know little about students with LD and their performances on such tasks. Although reading and writing are still viewed as central to new literacies (e.g., Leu, et al., 2004), Leu (2002) suggests that new strategies for the location, evaluation, and use of information are required. The New London Group (1996) iterates that literacy practices cannot be simply reinvented by students but need to be learned. Therefore, one of the implications of integrating the Internet into classrooms is a need to understand how learning in electronic environments may be facilitated.

Preparing for Diverse Schools: Examining the Self-Perceived Multicultural Competencies of Teachers and Counselors in Central Illinois Schools–A Pilot Study

Dr. Regina Nganga, *Assistant Professor*, Department of Counseling and Student Development
Dr. Sham'ah Md-Yunus, *Assistant Professor*, Department of Early Childhood, Elementary and Middle Education
Eastern Illinois University

Research Purpose

This pilot study sought to collect baseline data on self-perceived multicultural competencies of teachers and counselors in Central Illinois schools. The major objectives of the study are:

- To examine the self-perceived multicultural competencies of teachers and counselors in Central Illinois.

- To identify training needs for teachers and counselors in meeting the needs of racial minority students in Central Illinois schools.

- To develop an outline for a suitable in-service training program that will equip practicing teachers and counselors with the necessary skills to meet the challenges of an increasingly diverse student population.

- To provide recommendations to education policy makers on the multicultural training needs of practicing teachers and counselors in providing appropriate services to racial minority students.

Research Methodology

Participants

Participants were teachers and counselors in elementary, middle and high schools within seven counties of Central Illinois. Years of service ranged from less than 5 to over 20.

Instrumentation

The Multicultural Counseling and Training Survey (MCTS-R) developed by Holcomb-McCoy Cheryl, 1999 was administered. Survey items were parceled into 3 factors namely Multicultural Terminology, Knowledge, and Awareness. Participants indicated their level of competence ("Extremely Competent", "Competent", "Somewhat Competent", or "Not Competent"). An average score for each factor was computed with higher scores denoting higher multicultural competence. A Cronbach alpha coefficient of .93 was calculated.

Design

The dependent variable was the self-reported multicultural competence while the independent variable was years of service. A 3 x 3 Mixed Factorial design was used to determine the influence of years of service on multicultural competencies.

Sample size

95 participants (86 teachers and 9 counselors) both males and females participated in the study.

Response rate

95 out of a total of 1,200 responded to the survey, a response rate of 7.9%. No follow-up was made after the initial survey was sent out.

Sampling

Convenience sampling was used in selecting the seven counties due to their proximity to Eastern Illinois University where the study is being conducted.

Data collection method

An online survey and an informed consent form were sent to participants. Those who consented to participate indicated their multicultural competence by rating themselves on each of the 28 items on a 4-point Likert Scale. Completed surveys were electronically sent to the researchers as SPSS data file.

Data analysis techniques

In addition to descriptive statistics, a 2-way Mixed Factorial ANOVA was conducted to examine differences among the three factors of Multicultural competencies, participants' years of service, and their combined effects.

Summary of Findings

In terms of self-reported multicultural competence, a 2-way Mixed Factorial revealed a statistically significant main effect for the multicultural factors, $F(2,188)=305.48$, $p< .001$. Follow-up analyses indicated that multicultural knowledge (M=2.16, SD=0.59) was significantly lower than multicultural awareness (M=3.26, SD=0.44) and multicultural terminology (M=3.45, SD=0.56), which were also significantly different from each other.

Results indicated that there was no interaction between multicultural competencies and years of service, nor were there significant differences in multicultural competencies as a function of years of service.

Implications for Illinois Education

Despite the fact that many training programs are integrating a multicultural component into their curriculum, a gap exists in multicultural knowledge and awareness of teachers and counselors as reflected in the findings of this study. To be able to effectively serve racial minority students, it is imperative that in-service training programs be developed to equip school professionals with multicultural knowledge, awareness and skills. The increasing diversity in schools calls for teachers and counselors to be prepared to meet the academic, career and social needs of minority students.

648 Years of School District Leadership

Joseph J. Matula, Ph.D., *Assistant Professor*
Educational Administration, College of Education
Governors State University

The purpose of this research is to tap into the experience of retired superintendents from Illinois to provide decision-making guidance and advice to new and current superintendents. A list of 369 retired superintendents was acquired from the Illinois Association of School Administrators (IASA). Questionnaires were mailed to a random selection of 100 retired superintendents from this list. Open ended questions, in italics and boldface below, were used. Responses from 36 retired superintendents were received, plus the author, made a sample of 37. The responses are summarized below.

What was one of the toughest issues you handled during your years as a superintendent?

- As one might expect, school finance was the most often mentioned issue. Given the insignificant track record of Illinois in trying to arrive at an equitable method of school funding, most superintendents harbored a festering resentment toward their schools' financial situation. Immersion into referenda campaigns takes the superintendent out of the academic arena and bails out the legislature from meeting its funding responsibilities.

- The second most mentioned area is also not a surprise. It is the micro-management that many school board members seem to feel is their inherent right. I am not sure it is an issue of board training, but rather a personality trait of some board members such that they cannot detach themselves from hands-on involvement. Maybe meddling is a more accurate adjective. Some superintendents described it differently, calling it board member conflict or the board's changing philosophy. Either way, it's board members not understanding the board's role of developing policy versus the superintendent's role of implementing policy.

- The third most mentioned area is not as predictable, but certainly understandable. It is that of dismissing an employee. Whether it is for economic reasons, or for an act of inappropriate behavior, dismissing an employee is often a heart-rendering act.

- The fourth area is that of collective bargaining, very related to the first issue identified, school funding. This is reinforced by Kessler who, as a proponent of shared decision making, felt personally uncomfortable with the confrontational nature of collective bargaining. Kessler also felt that conflicts over salary issues pushed educational programs to a secondary position. (Kessler, R. 1992)

Would you have handled it differently and if yes, how?

About one third of the superintendents responded that they would handle the toughest issues in the same way. A few commented on the everlasting principle that hindsight is always 20-20. Now that they saw the outcome, certainly they would handle it differently. Some viewed communication as the only change. The strategy would be the same, but informing others as to what was being planned is the change the superintendents would make. The most interesting observation is what they would do differently was to involve others somewhere along the "decision-making" line.

Summarize your decision-making process as a superintendent.

This was the key question asked of the retirees. However, there was no labeling or naming the decision-making process that superintendents used. For example, the rational model developed by Simon (1960) was never mentioned. Neither was the step-by-step progression of a logical, systematic, decision-making process, beginning with awareness that a problem exists and then clearly identifying it, which was developed by Hitt, Middlemist and Mathis (1979), was never referenced. Superintendents seemed to use aspects of such models, but not by such a structured approach.

Tarter and Hoy wrote that decision-making is at the heart of the administrative process, crucial for any administrator's success in any organization. (Tarter, C.J., & Hoy, W.K. 1998) There was considerable consistency here in the superintendents' answers although they described their decision-making process in varying terms. Basically, the favored process is to gather information before considering any prospective decisions. This information could be written research or talking to others, soliciting input and advice. A few superintendents answered by saying they refer back to board policies or to core values. This ensures the decision is keeping with the philosophy of the school district rather than a subjective assumption as to how the superintendent thinks the board wants the decision made. It is the safest path to take.

What did you find as the most frustrating aspect about being a superintendent?

The answers to this question paralleled the answers to question #1. Once again, the lack of financial support needed to implement the districts' programs was foremost in causing frustration to the superintendents. Also like question #1, the micro-management of the school board was the second most frustrating. Many of the other answers were individual situations such as dealing with a parent who refused to see her child needed more assistance than the regular education classroom teacher could provide. One response was an issue I didn't think of at first, but when it was mentioned I wondered how it could not be mentioned more often. The issue is unfair criticism from people who lacked relevant information. Perhaps many superintendents were so used to this that it was no longer very frustrating. This is something with which all leaders must deal. Whether one is a superintendent of a school district or the president of the United States, each leader must be tough enough to withstand criticism from people less informed than they. The one answer that is exactly the answer I would have made was fighting potential isolation often inherent in the job. As I teach school administration classes, I often tell my students the toughest part of being a boss is the isolation you will face. Once you leave the teaching ranks, you lose the camaraderie you enjoyed as a teacher. You are looked upon differently and you rarely get honest answers anymore. People often tell you what they think you want to hear.

What advice would you give to a first year superintendent?

The overwhelming advice offered to first year superintendents is to listen and listen some more. This skill came up even when phrased differently such as the advice to network, which is really listening anyway. One of the common themes was to not move too quickly. The superintendents' comments reminded me of a quote attributed to former President Dwight D. Eisenhower, "Let's not make our mistakes in a hurry." New superintendents should understand what Klempen (2003) describes as divided decision-making, when chaos and division sometimes occur as a school district faces a hot decision. Superintendents need to slow down, reflect, and talk to a trusted friend or colleague.

If you had to do it over again, would you still seek the superintendency?

It was comforting to see the results of this question in that the overwhelming majority of superintendents said yes they would still seek the superintendency if they had to do it over again.

Hypothetical Situation

The superintendents' decision-making strategies were solicited for a hypothetical school situation.

The comments and suggestions in this project will give new and current superintendents some solid information over which to analyze and reflect as they think about their decision-making philosophy. As teachers learn from reflecting over their teaching, so too will superintendents learn from reflecting over their decision-making process. Some will gain confidence in knowing they are not alone in the thought-process they use, while others will gain insight into what their thought process could or should be.

Teachers' Intentions to Promote Parental Involvement: A Theory-based Study for Data-based Decisions

Brandt Pryor, Ph.D., Pryors Educational Services
Dr. Caroline Pryor, *Assistant Professor*, Curriculum and Instruction, Southern Illinois University Edwardsville

Purpose

Parent's involvement in children's education is associated with a variety of benefits, including higher achievement, yet teachers are not uniformly supportive. Dauber and Epstein (1993) found that teacher perceptions and practices are extremely important, yet little is known about how schools can influence these most effectively. This study empirically determined the strength of teachers' intentions to perform eight specific behaviors to promote parental involvement. It also applied the proximal variables of a theory of reasoned action (e.g., Fishbein & Ajzen, 1975) to investigate the major influences on those intentions.

Method

The theory holds that an intention to perform a behavior is determined by attitude toward performing the behavior, and subjective norm (perceived social pressure concerning the behavior). The relative influence of these predictors varies according to the behavior, the population, and other factors. Attitude is formed by a set of beliefs about (and evaluations of) likely behavioral outcomes. Subjective norm is formed by a set of beliefs about the likely approval or disapproval of important persons or groups, and the degree of motivation to comply with each. Dynamic validation tests have shown the theory's utility for understanding and influencing beliefs and attitudes (e.g., Lutz, 1973), and beliefs, attitudes, intentions, and actual behavior (e.g., McArdle, 1972). This theory has been used to study such diverse behaviors as: participating in leisure activities (e.g., Ajzen & Fishbein, 1969), smoking cigarettes (e.g., Fishbein, 1982), voting in an election (e.g., Shepard, 1987), and using public transportation (e.g., Bamberg & Schmidt, 2001, 2003). In four decades of research it has proven to be a parsimonious and powerful tool for research on behavioral intentions (Gotch & Hall, 2004).

Participants were 40 K-12 inservice teachers enrolled in a graduate education program. Their teaching experience ranged from 1-40 years (mean = 9.4 years). Seventy percent were elementary teachers, 30% secondary teachers. Data were collected by two instruments.

The first instrument elicited teachers' ideas about behaviors they could perform to involve parents in their children's education. These responses were content analyzed and used to construct the second instrument. In the second instrument, teachers were asked to rate a number of seven-point bipolar probability and evaluative scales. Most of these were scored from +3 (e.g., extremely likely) to -3 (e.g., extremely unlikely), through a neutral midpoint of zero (neither). For each of the eight behaviors, teachers rated three scales: (a) intention to perform the behavior, (b) attitude toward performing the behavior, and (c) subjective norm. Other items concerned attitudes toward, and beliefs about, issues concerning parental involvement. The last scale measured the respondent's current level of activity in involving parents, a baseline against which to compare intentions. Multiple regression analysis determined the relative influence of the variables that formed each behavioral intention.

Summary of Findings

There are three major findings of this study. They concern: (a) variation in the strength and direction of teachers' intentions, (b) the relative influence of the factors that formed teachers' behavioral intentions (and the utility of the theory of reasoned action for research on parental involvement), (c) variation among teachers' intentions by grade level.

Variation in intentions. Teachers' intentions were noticeably stronger concerning the three behaviors which could be seen as less-demanding of parents' time, such as information provision, and weaker concerning the more-demanding behaviors. On the eight behaviors, mean intentions ranged from a high of 2.56 (*SD* = 0.82) for provide information on homework, to a low of -0.78 (*SD* = 2.11) for provide vacation learning activities for students. Teachers reported their current level of activity in involving parents as more moderate, a mean of 1.03 (*SD* = 1.76).

Relative influence of predictors/Utility of theory. The intention measure for each of the eight behaviors was regressed on the corresponding measures of attitude and subjective norm. Every regression was significant (p < .01) and the theory's predictor variables accounted for large percentages of the variance in each intention, ranging from a low of 73.8% to a high

61

of 91.2%. For these eight behaviors, and for these teachers, attitude was the stronger predictor of intention. Subjective norm achieved a significant beta weight on only one behavior: provide information skills needed by students.

Variation in intentions by grade level. Although parental involvement can facilitate student achievement at all grade levels (e.g., Epstein, 2007), parental involvement drops off beginning in middle school (e.g., Epstein, 1995). The responses of elementary and secondary teachers were separated; analysis by T2 test showed significant overall between-group differences. Analysis by *t*-test revealed significant differences on 68.8% of the scales, and on each scale, the scores of elementary teachers were higher than those of secondary teachers.

Implications for Illinois

The need for increased parental involvement in education in Illinois is so strong that the Illinois State Board of Education joined with the Academic Development Institute, and the the University of Illinois Urbana-Champaign, to create IllinoisParents.org (http://illinois parents.org/) to provide parental involvement resources. The Chicago Appleseed Fund for Justice has developed the "Top-Down/Bottom-Up" model for parental involvement (http://www.chicagoappleseed. org/index.htm), emphasizing both parents and districts.

The theory of reasoned action can be used to understand—and influence—the intentions of parents, and school personnel alike. Once a single, specific behavior and group of potential actors are selected, their intentions can be studied using the entire theory. The first analysis in the study will investigate the primary influences on intention (either attitude or norm) for those actors and that specific behavior. Subsequent analyses will investigate the beliefs underlying attitude (or norm) that make the largest *positive*, and *negative*, contributions. This information will guide the development of an information campaign that targets specific beliefs based on a scientific understanding of the formation of intentions. Use of the theory offers the realistic hope of bringing the benefits of parental involvement to all Illinois children.

University and Public School Collaboration Implements Functional Caregiving

Dr. S. Beverly Gulley, *Dean*, School of Education
Dr. Shu-Pi Chen, *Professor Emerita*, School of Nursing
St. Xavier University
Nikolaus Bezruczko, Measurement and Evaluation Consulting
Catherine S. Lawton and Joan M. Maher, Barbara Vick Early Childhood and Family Center

Purpose

This report describes a research collaboration between St. Xavier University and Barbara Vick Early Childhood and Family Center (The Center). The purpose was to develop a home caregiving model to assess and monitor mothers' confidence to care for children with complex needs. The following sections provide background about this university-school partnership, as well as conceptual foundations for Functional Caregiving (FC), FC implementation in several empirical studies, and summary of FC results.

Background

The Center. The Center is a Chicago Public School originally founded by a university-school partnership in 1998 to serve children with special needs in Chicago's Southwest side. The Center is funded by Illinois Preschool for All and enrollment is over 200 preschool children between ages three and five in morning or afternoon sessions for two and one-half hours, four days per week. Roughly two thirds of enrollment is academically at-risk, while remaining children are special education with an Individual Education Plan (IEP). The Center is staffed by regular, special education, and assistant teachers and maintains six classrooms including a section dedicated to autism. Enrollment is typically 65 percent Caucasian, 24 percent African American, 10 percent Hispanic, and one percent Asian. Overall, about 37 percent qualify for federally supported free or reduced lunches. The Center also maintains a birth to 3 program, which implements a parent support program.

The Center provides a developmentally appropriate preschool program individualized to accommodate child needs based on an early childhood best practices model with Reggio Emilio influences. Family and cultural inclusion integrates neighborhoods, cultural heritage, and family care into the educational process. Parental involvement includes planned parent activities, monthly newsletter, parent volunteer program -- Parent Teacher Together (PTT), parent-support groups, book fairs, and special seminars.

University and School-based Team. School of Nursing and School of Education (speech communication) faculties have provided The Center with teacher consultation and professional development. Ongoing activities include dissemination of health information at parent activities, and nursing faculty also writes a monthly newsletter health column and attends support groups and seminars. When appropriate, the nursing faculty and Center teachers conduct joint parent seminars to discuss issues encountered by children with developmental disabilities and explore community resources for care of such children. School of Education early childhood students complete clinical and field experiences under guidance of master teachers.

Method

In 2002, St. Xavier University and The Center addressed the problem of assessing mothers' confidence to care for children with complex needs in their homes by developing a psychometric caregiving construct based on philosophical principles from humanistic psychology. Consequently, a research program was implemented, first, to establish theoretical foundations for a caregiving construct, then methods were developed to operationally define the construct with representative caregiving tasks. After field validation and expert review, questionnaire items were prepared and mothers were contacted for survey participation. Finally, empirical analyses were conducted of questionnaire responses with a mathematical procedure (Rasch model) to establish measurement properties of data collected. An outcome of this research is Functional Caregiving, which is described below.

Functional Caregiving. Functional Caregiving (FC) is a theory about caregiving in a complex, social context defined by mother-child dyad interactions in homes, neighborhoods, and communities. FC focuses on one aspect of this theoretical

caregiving context, mothers' confidence, which is the logical basis for a unidimensional construct. The original FC scale contained 96 items with a fixed format. Each item statement presented the question, "How much confidence do you have in your ability to do each of the following items in taking care of your child?" Mothers responded with a five-point Likert scale where 1 = none; 2 = a little; 3 = somewhat; 4 = a lot; 5 = completely, and mothers were asked to circle a number on the five-point scale that best described her confidence. Measurement properties were established with a Rasch model for rating scales, while dimensionality was investigated with model fit statistics and Principal Components Analysis of model residuals.

Summary

Three FC caregiving studies have been conducted in educational settings, while other research is hospital-based. The first school-based study was conducted with suburban mothers of adult-children with intellectual disabilities from a neighborhood service facility. FC was operationally defined with 61 items, and the results yielded a three-level, hierarchical caregiving structure with high reliability (>.90) and excellent measurement properties. Mothers indicated Advocacy tasks were easiest to endorse, in contrast to Community Relations tasks, which were the most difficult. Replication with an urban sample of mothers corroborated results. Because results in the second study were defined by 96 instead of 61 items, these results substantially increased FC construct breadth. A third study sought to replicate the three-level caregiving hierarchy with mothers of educationally at-risk versus children with special needs. In this research, 130 caregiving tasks were parameterized and, except for five items, all were found to be statistically invariant. Moreover, the obtained item hierarchy was consistent with previous findings, mothers reported Advocacy was easiest to endorse, Personal Caregiving significantly more difficult, while Community Relations was the most difficult to endorse. Content examination showed the obtained hierarchy highly congruent with needs expectations based on humanistic psychology. Lower level FC caregiving tasks describe functional self needs, while higher level FC represents growth and actualization with an affiliation to community. Construct validity of the 96 item form was investigated by statistical decomposition of calibrated item difficulties. Results showed component means (Advocacy, Personal Caregiving, and Community Relations) were monotonically ordered, and regression of components on item calibrations accounted for over 60 percent of item variance. Other validation research revealed significant relations between FC and mothers' health and well being. Longitudinal study shows mothers' confidence increases as mothers gain caregiving experience and depression diminishes. However, a portion of mothers show serious lack of caregiving confidence.

Educational Implications

Pedagogical applications. The FC construct may serve a useful instructional role during training of prospective early childhood education specialists in both nursing and education. Moreover, the objective representation of caregiving in context of homes and communities should facilitate understanding the complex interplay between child needs, community resources, and instrumental role of parents in securing resources for their children.

Monitoring and evaluation. FC offers an important opportunity to identify mothers who may be struggling with caregiving burdens, and the hierarchical structure of caregiving tasks offers nurses and teachers a framework for intervention and parent training.

Developmental dysfunctions. Because common item equating procedures were implemented to link FC core and domain-specific items, the underlying FC construct model should be applicable to caregiving issues related to child dysfunctions such as obesity.

Using a Vicarious Learning Event to Create a Conceptual Change in Preservice Teachers' Understandings of the Seasons

Sarah Boesdorfer, *doctoral student*, Dr. Anthony Lorsbach, *Professor of Science Education*,
and Dr. Marilyn Morey, *Associate Professor*
Department of Curriculum and Instruction
Illinois State University

Abstract:

As preservice elementary teachers are entering science methods courses with misconceptions of topics they will likely teach, science methods educators need to find ways to help these students correct their misconceptions. One of these misconceptions is on the causes of the seasons. The purpose of this study is to discover whether a vicarious learning event, viewing a discussion of students' misconceptions on the causes of the seasons, could create a conceptual change towards the misconceptions of preservice elementary teachers at a large Midwestern university. The following research questions guided this study:

- What misconceptions about the seasons do these preservice teachers hold at the start of this study?

- How does viewing a discussion of students' misconceptions on the causes of the seasons change these preservice elementary teachers' explanations of the causes of the seasons?

- Did the preservice teachers' explanations remain the same 10 weeks after watching the discussion of misconceptions?

In early February fifty-two preservice elementary teachers and forty-two middle-level preservice teachers were asked to answer the following question in writing: "Please explain in as much detail as possible what causes the seasons (summer, winter, etc.). Feel free to draw pictures if that will help in providing as complete an explanation as you can." During a discussion on misconceptions in their science methods course and following the submission of their initial answers to the question above, the preservice teachers watched the video A Private Universe produced by the Harvard-Smithsonian Center for Astrophysics 1987. The video includes a discussion of Harvard graduates and ninth grade students' misconceptions about the causes of the seasons. The preservice teachers were never directly instructed on the causes of the seasons in their methods course. During the following class period, the preservice teachers were again asked to respond to the question above in an attempt to see how their answers changed. The preservice teachers were then asked to answer the same question again ten weeks later in mid April, to assess the lasting effects of the video. Additionally, one group of the middle-level teachers (n=20) was asked to find/create lesson plans to explain the seasons to middle-level learners following the viewing of the video. Their responses were compared with other student responses at the end of the 10-week time period.

As expected, a large majority of the preservice teachers could not explain adequately the causes of the seasons when initially asked. They held the same misconceptions previously reported in other studies. After watching the video and without any discussion of the causes of the seasons, there was a marked improvement in the preservice teachers' explanations for the causes of the seasons; many misconceptions had disappeared from their answers. This improvement was lasting as the preservice teachers' explanations did not change ten weeks later. The video on the misconceptions did not confuse the preservice teachers either as preservice teachers who did not have misconceptions at the beginning of the study did not have any at the end. The smaller sample (N=20) of preservice teachers asked then to develop a lesson plan to explain the seasons had even better results than the group simply asked to view the video.

This study may give us some new ways of thinking about correcting preservice teachers misconceptions. Confronting preservice teachers with the misconceptions, suggesting they do not know more than young students as we did with the video, may be enough of a shock that they correct their own misconceptions without being instructed on topic itself. If this can help correct misconceptions among teachers, then hopefully it will help them correct misconceptions among students.

Using Factor Analysis Associated with Parceling Strategies
for Examining Distance Education

Yu-Tsu Lin
Northern Illinois University

Using parceling strategies can reduce the effects of non-normality and the likelihood of forming difficulty factors in factor analyses. Structural equation model (SEM) is useful for analyzing factors that are correlative or have causality with measuring variables/indicators. When the collected data sample size is small, using parceling associated with SEM will be an appropriate application of investigation in distance education. Although this study population is based in Taiwan, the findings will have implications worldwide.

Introduction

Instructional Technology (IT) facilitates the instructional outcome and forms an innovative learning environment. Within a technological environment, a teacher has to enhance his or her efficacy to interact with the various facilities. Factor analysis can be used to measure the correlation between humans and environment and predict the influence of their interaction. This study will be based on the context of Taiwanese distance education and will implement a specific approach, parceling, applied in the factor analysis. Parceling strategies may be an appropriate approach for the Instructional Technology (IT) quantitative analysis when a structural equation model (SEM) is used, the data distribution is non-normal, and sample size is small. The findings from this study will inform the procedures for other studies and eventually contribute to other researchers who study IT in distance education in universities, like those in Illinois.

Factor Analysis in Structural Equation Model (SEM)

According to Hair, et al. (2006), factor analysis is "an interdependence technique, … whose primary purpose is to define the underlying structure among the variables in the analysis" (p. 104). Kline (1998) indicates that latent constructs and observed scores are the two available classes of factor-based variables for analysis. Exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) are two major approaches to classify the latent constructs (factors) and observed (manifest) variables. In addition, Lee, Song, Skevington, and Hao (2005) explain that EFA is used to group together the items (manifest variables) related to a particular latent construct (factor); CFA allows "the identified latent constructs to be correlated and any parameter to be fixed at a pre-assigned value," and "hypothesis testing or model comparison among nested and non-nested models" (p. 436) is a basic issue in CFA. Structural equation model (SEM) is useful for analyzing factors that are correlative or have causality with measuring variables/indicators. When several variables are included, SEM can be used to test the cause-effect relationship between these variables and the model. Thus, SEM has been used to confirm the factor structure of the instrument. One of the purposes of developing CFA in SEM is to include an element to find a regression relationship between endogenous latent construct and exogenous latent constructs. (Bollen, 1989; Jöreskog & Sörbom, 1996)

Parceling Strategies

The practice of item parceling (combining items into small groups of items within scales or subscales) has received much recent attention in the structural equation modeling literature (Bandalos, 2002; Bandalos & Finney, 2001; Little, Cunningham, Shahar, & Widaman, 2002; Nasser & Takahashi, 2003). A rationale that is often given for item parceling is to reduce the effects of nonnormality and the likelihood of forming difficulty factors in factor analyses with binary items. Thompson and Melancon (1996) demonstrated that using item parceling with non-normal data did result in more normally distributed item parcels and improved the model fit. Their method of item parceling was to create parcels of items with opposite skew in an iterative procedure that resulted in parcels with less skew than the original items. When items are non-normal, aggregating items such that items with opposite skew or difficulty are combined to create more normal parcel distributions is a common approach employed by several researchers in parceling strategies. Researchers have used different strategies to accomplish this, such as a) aggregating the item with the highest positive skew with the item with the highest negative skew and the next most positively skewed item with the next most negatively skewed item (Thompson & Melancon; Nasser & Wisenbaker, 2006), b) parceling items based on positive and negative kurtosis (Hau & Marsh, 2004), or c) aggregating non-normally distributed items with normally distributed ones (Bandalos, 2002). In addition to considering the normality of data aggregation, parceling strategies and number of items per parcel are important when the sample size is small. Marsh, Hau, Balla, and Grayson (1998) further suggested that when testing small

sample sizes more replications (i.e., 2,500) should be used to get stable estimates. Therefore, the goal of the proposed study is to investigate factor analysis to analyze distance education in Taiwan (also applicable in other locations), and seeks to clarify the methods of item parceling that are empirically based and illustrate how to form item parcels for optimum modeling capacity in structural equation models (SEM).

Demonstration Data Set

The 50 participants will be Taiwanese university faculty currently involved or interested in distance education. Data will be collected through an online survey. Tao and Yeh's (2008) Teachers' Perceptions of Distance Education instrument will be used to measure distance education (DE) in this proposed study. The number of items (questions) in DE is 30. Investigating and analyzing the parcels of these items (measuring questions) will be considered as the procedure of CFA. In the regression model, the items (measuring variables) are the predictors (X1, X2, …) and their factor is the criterion (Y). Several items are diagrammed with arrows to form a causal regression model through pathways with their factor to provide a more intuitive representation of the dynamics expected to occur in the predicting data. In the structural model, the causal pathways between variables assume the value of the coefficients, called beta (β) weights, in the regression equations. Beta weights indicate expected increase in Y in standard deviation controlling for other predictors (Kline, 2005). For instance, Teachers' Perceptions of Distance Education (TPDE) instrument is initial accounted for by five indicators (learning effect, LE; customization, C; administrative challenges, AC; geographic and resource integration, GRI; instructional design challenges, IDC) with the regression model, TPDE=β_1(LE)+ β_2(C)+ β_3(AC) + β_4(GRI) + β_5(IDC)+A, and each indicator represents a specific core meaning of several items (questions) through exploratory factor analysis (EFA). The β_1 may be affected by C, AC, GRI or IDC; likewise, β_2 may also be affected by LE, AC, GRI, or IDC, etc. as long as the indicators are not independent. Furthermore, the variation of the indicators depends on the normality of the predictors. Under such a circumstance, eliminating some predictors that are non-normal distribution or skew is the common way to improve the model fit, which is indicated by whether the adequate fit indices are obtained and whether β is statistically significant. However, eliminating predictors usually causes the biased parameter estimation and increases Type I error. In this study, the predictors with the non-normal distribution will be aggregated in a parcel, and the number of the predictors in each parcel is equal. Through using the maximum likelihood (ML) estimation method, analysis will be expected to obtain a model with good-fitness and lower bias after increasing the number of replications. The analysis of variance (ANOVA) test will be employed to analyze the standard error and estimation bias in the structural model. The preliminary findings will be available by late March.

Summary

Causality of learning and instruction is significant. SEM provides a useful model for factor analysis. However, through the employment of parceling strategies, more accurate analysis may be implemented and indicate the causal reality between the instructors and distance educational environments.

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