

Illinois Education Research Council

LEVELING UP:

Narrowing the Teacher Academic Capital Gap in Illinois

By Bradford R. White, Jennifer B. Presley, and Karen J. DeAngelis

June 2008

IERC 2008-1 Policy Brief

LEVELING UP:

Narrowing the Teacher Academic Capital Gap in Illinois



Illinois Education Research Council

Southern Illinois University Edwardsville
Campus Box 1064, Alumni Hall 0107
Edwardsville, IL 62026-1064

<http://ierc.siu.edu/>

ABOUT THE AUTHORS

Bradford R. White (brawhit@siue.edu) is Senior Researcher at the Illinois Education Research Council.

Jennifer B. Presley retires from the Illinois Education Research Council, where she has been founding Director, effective July 1, 2008. She can be reached at P20 Strategies, LLC (p20strategies@gmail.com).

Karen J. DeAngelis (kdeangelis@warner.rochester.edu) is Assistant Professor in the Margaret Warner Graduate School of Education and Human Development at the University of Rochester.

FOREWORD

The Illinois Education Research Council (IERC) was established in 2000 at Southern Illinois University to provide the state with research that supports education policymaking and program development. Since then, one of our major areas of study has been the impact and distribution of teacher quality in our state's schools. The sum of these efforts is reflected in this new policy brief, which summarizes the findings of our latest comprehensive research report, "Leveling Up: Narrowing the Teacher Academic Capital Gap in Illinois." The study is based on an analysis of data on all public school teachers in Illinois each year from 2001 to 2006 (approximately 125,000 teachers annually), and builds on our previous work on teacher quality.

In 2005, we created a teacher quality index that was based on teachers' experience and academic qualifications. In this new study, we present a revised index, the Index of Teacher Academic Capital (ITAC), based just on teachers' academic qualifications. We treat teacher experience as a separate measure from teacher academic capital so that we can better analyze these two distinct components of teacher quality in terms of their distribution across the state and their independent effects on student achievement.

The report finds that overall teacher quality in the state, as measured by the Index of Teacher Academic Capital, is improving and is having a beneficial effect on student achievement. The report also indicates that the growth in the state's overall teacher quality is due largely to improvements in schools that need it the most: those in urban settings and those that serve high percentages of low-income and minority students. Chicago, especially, has made remarkable progress in bolstering the caliber of its teaching force and serves as a positive example for other large urban districts. The district has shown that not only is it possible to improve teacher quality, but also that by hiring new teachers who have stronger academic backgrounds, it is possible to do so over a relatively short amount of time.

While many of the findings are encouraging and point the direction to new policies and practices, the state still has a long way to go to eliminate gaps in the distribution of academically strong teachers among schools. Students' access to teachers with strong academic backgrounds still depends too much on the location and demographic make-up of their schools. Chicago Public Schools has improved the quality of its teaching staffs, but has yet to catch up with the rest of the state. Moreover, the district will have to work even harder in the future to keep this stronger cadre of new teachers.

We would like to thank the Joyce Foundation for funding this research, as well as the staff at Communication**Works** for helping us prepare this document.

—The Researchers

INTRODUCTION

Research indicates that teachers are the most important school-related factor that contributes to student achievement. Recognizing the critical role that teachers play, many efforts are under way—at both the national and local levels—to improve teacher quality in our nation’s public schools.

The federal government has sought to strengthen teacher quality as part of the No Child Left Behind Act of 2001. The law requires all teachers to attain at least a bachelor’s degree, obtain full state teacher certification, and demonstrate knowledge in the subject taught.

In recent years, states and districts have taken steps of their own to raise the qualifications and caliber of teachers. In 2001, Illinois policymakers adopted an “enhanced” version of its basic skills test that teachers must pass before entering the profession. The following year, the state legislature required that all prospective teachers pass the enhanced test—which is aimed at college sophomores’ knowledge level—prior to admission into a teacher education program. In Chicago, district officials have made their “human capital” initiative a centerpiece of their reform strategy. This recent endeavor is aimed at attracting, developing and retaining high-caliber teachers and principals for the city’s schools.

These policy changes have been designed to bolster teacher quality and address the uneven distribution of quality teachers among schools and districts. An earlier study by the Illinois Education Research Council (IERC) examined teacher quality in the state, as determined by teachers’ experience and academic characteristics, and found that students from minority and low-income backgrounds were most likely to attend schools with the lowest levels of teacher quality (DeAngelis, Presley, & White, 2005). Moreover, schools in Chicago had much lower average teacher quality than their counterparts in the rest of the state.

To gain a deeper understanding of the distribution and impact of teachers’ academic backgrounds, this study takes a longitudinal look at how teachers with select academic characteristics were distributed throughout the state’s schools between 2001 and 2006. The analysis is based on a modified measure of teacher quality, the Index of Teacher Academic Capital (ITAC), which includes the five academic characteristics used in the 2005 study. ITAC excludes teacher experience,

This study takes a longitudinal look at how teachers with select academic characteristics were distributed throughout the state’s schools between 2001 and 2006.

INTRODUCTION

The Index of Teacher Academic Capital (ITAC) is a school-level measure that is based on the following five teacher attributes:

- ▶ The mean ACT composite score of teachers at the school;
- ▶ The mean ACT English score of teachers at the school;
- ▶ The percentage of teachers at the school who failed the initial Illinois Basic Skills Test on their first attempt;
- ▶ The percentage of teachers at the school who were emergency or provisionally certified; and
- ▶ The mean Barron's competitiveness ranking of the undergraduate institutions attended by the school's teachers.

which is examined separately, since it did not contribute significantly to the index developed in the earlier study.

Teacher academic capital represents a collection of intellectual resources and assets that are available to schools through their teachers. It is just one of many aspects of teacher quality—along with preparation for teaching, ongoing professional development, daily decisions about curriculum and instruction, and other factors—that influence student learning. However, this report shows that the academic attributes used in this index influence student achievement and should be taken into consideration when developing policies and practices for strengthening teacher quality in schools.

MAJOR FINDINGS

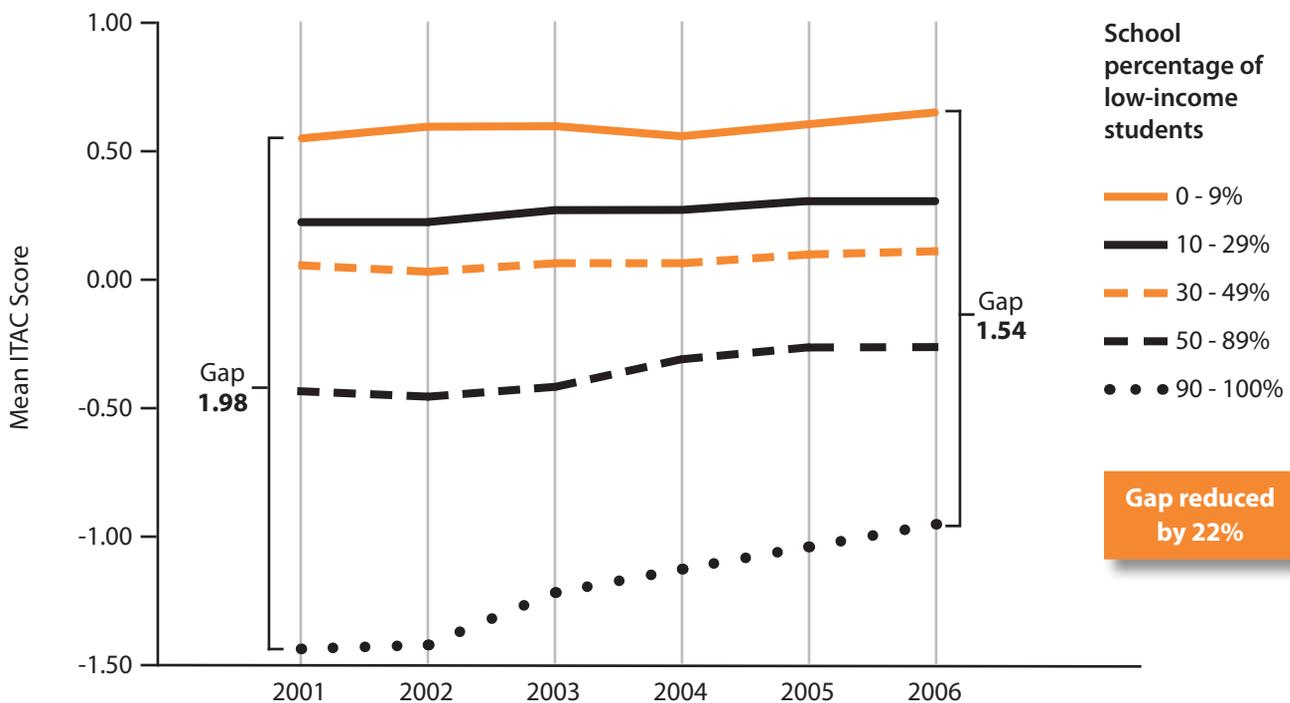
1.

While schools with high-needs student populations still have lower levels of teacher academic capital, on average, than other schools in the state, Illinois has made improvements in hiring teachers with stronger academic backgrounds. Overall state gains can largely be attributed to improvements that have occurred in Chicago.

Across the state, schools with the highest percentages of low-income and minority students tend to have the lowest levels of teacher academic capital. Between 2001 and 2006, however, these schools made the greatest gains in hiring teachers with stronger academic backgrounds, thereby reducing the gaps in the distribution of teachers with these desirable attributes. As Figures 1 and 2 illustrate, the gap between schools with the highest and lowest percentages of low-income students closed by 22 percent, while the gap between schools based on their percentages of minority students closed by 21 percent. This trend represents a “leveling-up effect” across Illinois’ schools. In other words, these gains have not occurred at the expense of other schools.

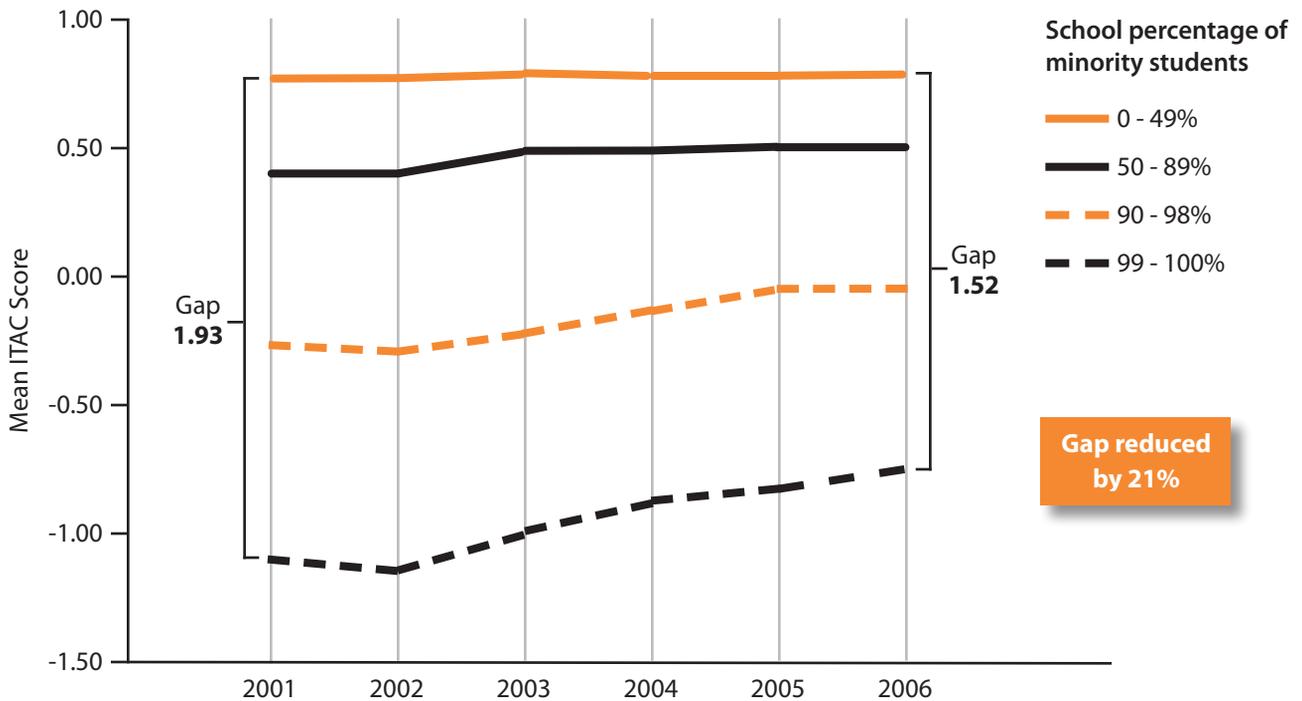
The improvements in Illinois’ high-needs schools are primarily due to positive changes in Chicago, although the district continues to have lower average ITAC scores than the rest of the state (Figure 3). From 2001 to 2006, the gap between Chicago and the highest-ITAC region in the state narrowed by 27 percent. In each of the other six regions, average levels of

Figure 1 Highest-Poverty Schools Make Greatest Gains in ITAC



MAJOR FINDINGS

Figure 2 Minority Students Have Improved Access to Academically Talented Teachers

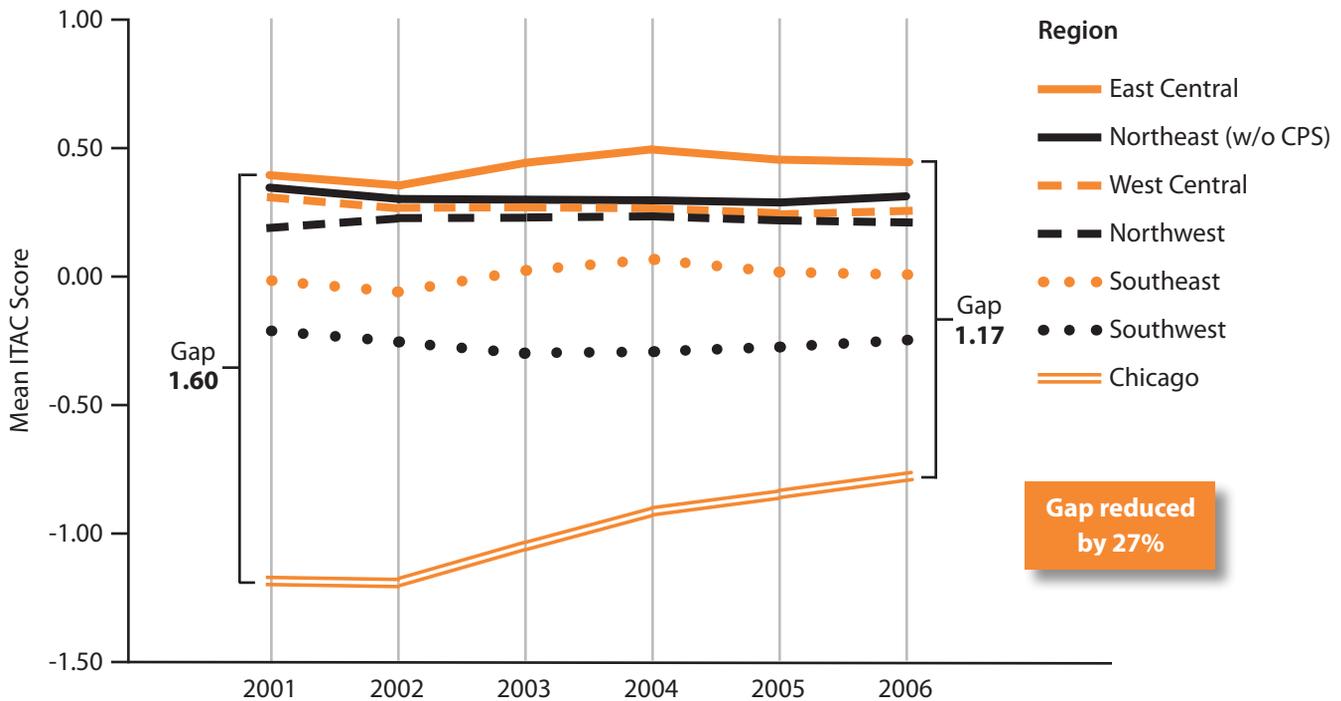


teacher academic capital remained quite steady over the six-year period. Schools in the East Central region were on top in each year measured, perhaps aided by their proximity to graduates from the University of Illinois at Urbana-Champaign, which has the highest competitiveness ranking among Illinois public institutions.

While teacher academic capital has been improving in the neediest schools, ITAC scores have remained relatively flat elsewhere. As a result, after dropping initially in 2002, the overall state ITAC score increased only slightly each year thereafter to 2006, the most recent year for which data are available.

The small improvements in the overall quality of Illinois teachers' academic backgrounds were due mainly to decreasing proportions of

Figure 3 Chicago Narrows the ITAC Gap Among Regions in the State



emergency/provisionally certified teachers—most likely because of provisions in the No Child Left Behind Act that strengthened requirements for putting fully certified teachers in classrooms. Improved average ACT composite scores also help explain the higher ITAC outcomes.

Not surprisingly, high schools across the state surpassed elementary/middle schools on all measures of teacher academic capital (except emergency/provisional certification) for all six years. From 2001 through 2006, high schools employed teachers with increasingly stronger academic backgrounds than elementary/middle schools. Meanwhile, elementary/middle school averages remained relatively flat, causing the gap between the two groups to increase by 4 percent.

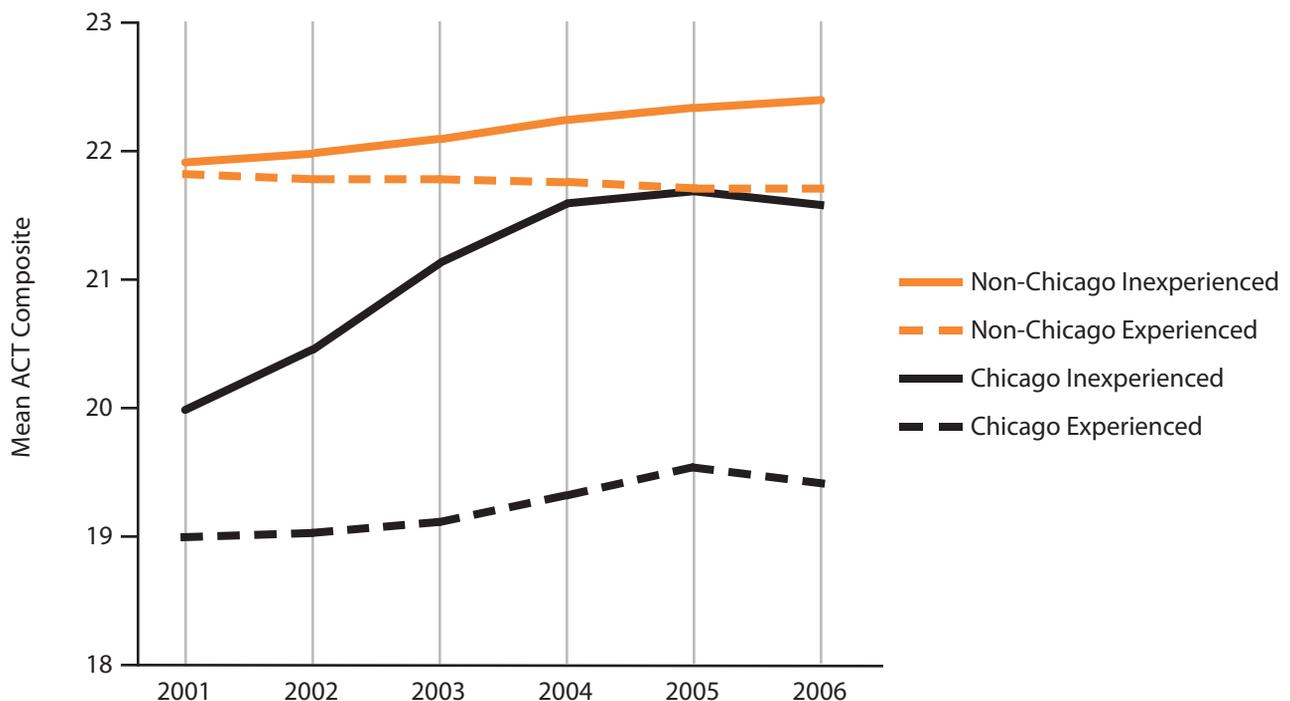
MAJOR FINDINGS

2.

The improvements in Chicago's teacher academic capital are largely the result of hiring inexperienced teachers with stronger academic backgrounds.

Since the index of teacher academic capital is a school-level measure that cannot be applied to individual teachers, the study isolated two components—ACT composite scores and college competitiveness rankings—to see if inexperienced teachers are bringing with them increased academic capital. This study defines inexperienced teachers as those who have three years or less teaching experience. Figures 4 and 5 show that Chicago's newest teachers are, by and large, driving the district's overall improvement. The district is hiring inexperienced teachers with higher ACT scores and from somewhat more competitive undergraduate institutions. Moreover, this growth in the academic quality of new teachers was far greater in Chicago than in the rest of the state. An earlier IERC study (DeAngelis & Presley, 2007) showed that this change in Chicago had been under way for at least a decade.

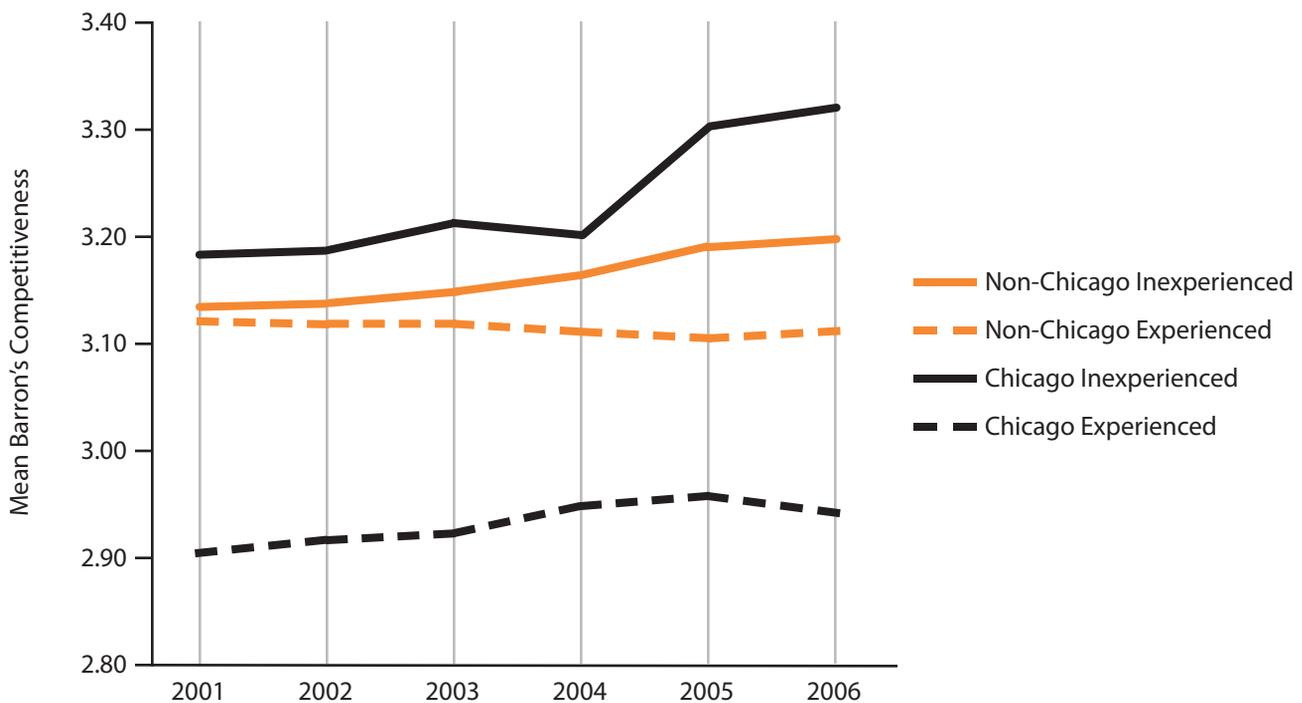
Figure 4 Chicago's Inexperienced Teachers' ACT Scores Are Improving



The consistent improvement in ITAC is happening at the same time that Chicago is seeing a surge in the number of applicants for teaching positions—going from about 2.5 candidates for each opening in 2002 to 10 candidates for each opening in 2006. As school leaders have had more applicants to choose from, more strongly qualified teachers are being employed in Chicago schools.

One might imagine that Teach for America (TFA) was a major contributor to this changing academic profile of teachers in Chicago. However, TFA did not begin recruiting new teachers to Chicago until 2000, and TFA teachers currently constitute only 4 to 5 percent of the district’s inexperienced teachers each year.

Figure 5 Inexperienced Teachers Graduating from More Competitive Colleges



Note that the college competitiveness ranking is a six-point scale with 6 representing most-competitive institutions and 1 representing non-competitive institutions.

MAJOR FINDINGS

3.

There is a positive link between the academic backgrounds of teachers and student achievement. Furthermore, schools that show gains in their teacher academic capital also show gains in student achievement.

Based on an examination of schools' scores on state standardized student achievement tests, the study found a positive link between improvements in ITAC and achievement gains. This provides evidence that improving teacher academic capital can boost student achievement, especially in schools with high-needs student populations. In addition, this study found that ITAC gains tend to have a greater positive effect on a school's student achievement than the negative effect associated with teacher inexperience. Therefore, hiring teachers with stronger academic characteristics can offset the negative impact of lack of teaching experience.

It is important to note that the ITAC effects found at the school level in this study do not take into account the impact of individual teachers or improvements in student achievement beyond the proficiency threshold set by the state. However, the results show that even small hikes in teachers' academic capital within schools have ramifications for students' academic performance.

IMPLICATIONS OF THE RESEARCH

Academic capital is just one of many aspects of teacher quality that together with school environments influence student learning in schools. While teacher academic capital is not a silver bullet for improving the academic success of students, it is a meaningful contributor.

The evidence that teacher academic capital is improving in Illinois' neediest schools is significant, and points to some potential strategies for further increasing the quality of the state's teaching force. The findings of this report provide insight that both supports and challenges conventional wisdom on how best to bolster teacher quality:

Inexperienced teachers are not inherently bad for schools. The study raises questions about whether the proportion of inexperienced teachers at a school is the right policy lever on which to focus. The research finds that recent inexperienced teachers are bringing with them stronger academic capital—a factor whose positive effect on student performance tends to counter the negative impact of teacher inexperience. Focusing too narrowly on reducing the proportion of inexperienced teachers in a school might come at the expense of equalizing teacher academic capital across schools.

Raising standards for teacher qualifications pays off. Schools appear to have benefited from the teacher quality provisions of the No Child Left Behind Act of 2001, the introduction in Illinois in 2001 of a more rigorous basic skills test needed for certification, and the 2002 state requirement that all prospective teachers in Illinois pass that enhanced basic skills test before entering preparation programs. These policies have reduced the proportion of emergency-certified teachers in schools in the state and helped school districts and teacher preparation programs be more selective in the individuals they train, certify, and hire to teach in our public schools.

Focusing too narrowly on reducing the proportion of inexperienced teachers in a school might come at the expense of equalizing teacher academic capital across schools.

IMPLICATIONS OF THE RESEARCH

Principals and district human resources officers should take into consideration candidates' academic qualifications, and provide strong supports to keep new, academically talented teachers in the classroom. As districts experience increases in applications for teaching positions, principals and human resources officers have the ability to be more selective in whom they hire. Unfortunately, in a recent study on teacher attrition in Illinois (DeAngelis & Presley, 2007), the IERC found that teachers with the highest ACT scores and degrees from the most competitive institutions are less likely to remain teaching in the lowest-performing schools. If this trend continues, the improvements in the distribution of Illinois' teacher academic capital in recent years could be eroded. State and district officials need to ensure that all school leaders are implementing effective mentoring and induction support for new teachers, and striving to improve their schools' teaching and learning climates.

This policy brief is available at

<http://ierc.siue.edu/documents/IERC2008-1PB.pdf>

The full research report is available at

<http://ierc.siue.edu/documents/IERC2008-1.pdf>.

REFERENCES

Barron's (2003). *Profiles of American colleges*. Woodbury, NY: Barron's Educational Series, Inc.

DeAngelis, K. J., & Presley, J. B. (2007). *Leaving schools or leaving the profession: Setting Illinois' record straight on new teacher attrition* (IERC 2007-1). Edwardsville, IL: Illinois Education Research Council.

DeAngelis, K. J., Presley, J. B., & White, B. R. (2005). *The distribution of teacher quality in Illinois* (IERC 2005-1). Edwardsville, IL: Illinois Education Research Council.



Illinois Education Research Council

Southern Illinois University Edwardsville
Campus Box 1064, Alumni Hall 0107
Edwardsville, IL 62026-1064
Toll free (866) 799-IERC (4372)
<http://ierc.siu.edu/>
ierc@siue.edu

The Illinois Education Research Council was established in 2000 at Southern Illinois University to provide Illinois with education research to support P-20 education policy making and program development. The IERC undertakes independent research and policy analysis, often in collaboration with other researchers, that informs and strengthens Illinois' commitment to providing a seamless system of educational opportunities for its citizens.

Based in Chicago with assets of \$935 million, the Joyce Foundation supports efforts to strengthen public policies in ways that improve the quality of life in the Midwest region.