



Teacher Distribution in Milwaukee Public Schools

Summer 2006

Background

In April 2004, The Joyce Foundation approved a grant to the Education Trust to work with key state and local education leaders in Ohio, Illinois, and Wisconsin, with an additional focus on Cleveland Municipal School District, Chicago Public Schools, and Milwaukee Public Schools (MPS), in a comprehensive approach to improving the distribution of effective teachers serving low-income, minority and low-performing students.

The project was conducted and directed by two coordinated and overlapping working groups of key education stakeholders, one at the state level and one at the local level. Working groups were to consist of representatives from the different branches of government and both K-12 and higher education, with additional participation by business, community and teacher union leaders. With assistance, coordination, and analysis support provided by the Education Trust, the working groups have engaged in a three-stage process, collaborating and sharing information with one another. In MPS, the working group was the Milwaukee Partnership Academy (MPA) and the Differentiated Compensation Task Force, a subcommittee of the MPA examining issues related to differentiated compensation for potential implementation at MPS. The Education Trust worked with staff from the Department of Public Instruction (DPI) and MPS to tailor their analyses, and they helped to coordinate the work across sites to understand state-level policies that may contribute to teacher distribution issues, both for MPS and other districts throughout the state.

In Stage I, MPS collected student, school and teacher information to conduct a review of the distribution of key teacher characteristics across different kinds of students and schools, with a focus on low-performing, low-income, and minority students. The teacher dimensions included experience and education level, and the school achievement variable was value-added and attainment status. MPS uses a value-added model developed by Dr. Rob Meyer at the Wisconsin Center for Education Research for school improvement purposes. Classroom level value-added analyses were attempted, but given data system limitations, they were

not continued. Analyses by salary level were also completed.

In Stage II, the working group discussed potential sources of teacher distribution problems throughout the range of educational levels and practices, including policies enacted at the state, university, district, and local school level. The working group also examined data from an NCREL-Learning Points study on recruitment and retention of teachers in “hard-to-staff” schools. This group has also begun work with the Wisconsin Center for Education Research (WCER) to examine the labor market for MPS, including, but not limited to salary levels, district and school level hiring practices, working conditions, and intra-district teacher transfer and assignment provisions.

At the final stage, representatives from the Education Trust met with MPS Senior Management staff and the MTEA (Milwaukee Teachers’ Education Association) Board to discuss the findings and to explore potential actions that could be taken to address the distribution issues uncovered during the study.

Analysis

MPS, not unlike many other school districts, collects and maintains limited information about its staff and their qualifications in electronic form. Most of the data maintained by the MPS human resources department is directly related to managing benefits and compensation for staff. Unfortunately, that means that data that have potential for contributing as a proxy for teacher quality are not available in electronic form, thereby limiting the analyses.

In these analyses, we considered two widely accepted measures of teacher quality—years of teaching experience and educational attainment (e.g., Bachelor’s, Master’s degree). Both data elements are readily available in the MPS staff information system as they are linked to teachers’ salaries. We recognize that there are some stellar teachers in their first couple of years of teaching; similarly, we know there are great teachers who have no degrees beyond a bachelor’s. However, there is a body of research that indicates, in general, teachers with more experience and more education are more effective in the classroom.¹

¹ For a review of the literature on teacher experience and effectiveness, see [Teacher Quality: Understanding the Effectiveness of Teacher Attributes](#) by Jennifer King Rice.

Therefore, we utilized these two characteristics as proxies for teacher quality in our analyses.

Student characteristics included percent of school population in poverty (using free or reduced lunch status – FRL – as a proxy), percent of school population that is non-white, percent of school population that is Exceptional Educational Needs (EEN), and percent of school population that is English language learners (ELL). School performance was measured in two ways – whether a school was on the No Child Left Behind (NCLB) School Identified For Improvement list (SIFI), and MPS value-added/attainment status. As mentioned earlier, this is a local measure of student achievement that evaluates both growth (increases in scale scores adjusted for demographics and percent proficient on the state’s tests in reading and math). Schools with higher-than-the-district-average rates of proficiency and with rates of growth (i.e., high value-added scores) in student achievement that exceed their peers across the district are called “high value-added, high attaining.” Schools with growth and attainment lower than the district average are called “low value-added, low attaining.”

Additionally, a more detailed analysis was conducted with data from four MPS “focus” schools. The focus schools included two schools identified as low value-added/low attainment and two identified as high value-added/high attainment. In this analysis, teachers in the two types of schools were compared to each other on four additional characteristics. The characteristics included teachers’ undergraduate grade point average (GPA), teachers’ content area major, and two characteristics related to the institutions from which the teachers graduated. This report will discuss findings relative to the content area major only.

Findings: Teacher Education Level

Tables 1 through 4 present teacher education levels by a variety of school characteristics. In general, the data are consistent with nationwide trends; teachers with the lowest educational attainment (Bachelor’s only) are represented in greater proportion at schools with the highest percent minority (>90%), ELL (>45%), and students in poverty (>80%). Schools with lower proportions of minority students (<60-90%) and the lowest poverty (<50%) are more likely to have a workforce with higher educational attainment.

Table 1: Teacher Education Level by Percent Poverty

Level of Education	Percent Poverty		
	<50% FRL (N=399)	50-80% FRL (N=2463)	>80% FRL (N=2473)
BA/BS	43%	48%	56%
MA/MS +	57%	52%	45%

As noted in Table 1, teachers with higher educational attainment (Master’s or higher) or more likely to be teaching in a school with lower poverty. Conversely, in schools with the highest level of poverty, a greater proportion of teachers have only a Bachelor’s degree.

Table 2: Teacher Education Level by Percent Minority

Level of Education	Percent Minority		
	<60% (N=644)	60-90% (N=1721)	>90% (N=2877)
BA/BS	48%	45%	55%
MA/MS +	52%	55%	45%

Table 3: Teacher Education Level by % Special Education Population (EEN – Exceptional Educational Needs)

Level of Education	Percent Special Ed			
	0-10% EEN	10-20% EEN	20-30% EEN	>30% EEN
BA/BS	56%	51%	48%	46%
MA/MS +	44%	49%	52%	54%

Table 4: Teacher Education Level by % English Language Learners Population (ELL)

Level of Education	Percent ELL		
	0-15% ELL (N=4328)	15-45% ELL (N=804)	>45% ELL (N=104)
BA/BS	50%	54%	69%
MA/MS +	50%	46%	31%

Mirroring the data in Table 1, MPS data in Table 2 regarding teacher distribution among students of color reveal that teachers with higher educational attainment are less likely to be working in schools with the greatest numbers of minority students.

In contrast to other analyses, Table 3 data regarding special education show that schools that have greater than twenty percent of students with special needs have a higher percentage of teachers with a Master’s degree. This is perhaps due to the district’s partnerships with local universities to train regular education teachers in special education, offering master’s degree programs to ensure students with special needs are taught by special education-certified teachers.

Table 4 shows that schools with the greatest proportion (>45%) of English Language Learners are much less likely to employ teachers with graduate degrees—69% of the teachers in those schools have only a Bachelor’s degree. This points to the need for local institutions of higher education to offer master’s degree programs in bilingual education and English as a second language.

Also consistent with the hypothesis that the least educated teachers are instructing the most needy populations are findings on low and high performing schools. Figures 1 and 2 briefly describe these findings.

Figure 1 shows that elementary-grades low value-added/low attainment schools have higher proportions of teachers with only a Bachelor’s degree. However, teachers at high performing schools are more likely to have a Master’s degree.

Figure 2 shows no significantly different patterns in teacher distribution when looking at middle grades reading outcomes. However, in the area of mathematics, teachers in high performing schools are slightly more likely to have a master’s degree or higher compared to their peers in lower achieving schools (49% compared to 46%).

Findings—Years of Teaching Experience

The second proxy for teacher quality examined within MPS is years of teaching experience. National trends indicate that teachers with the most experience are generally placed in schools with the lowest poverty and lowest numbers of non-white children. Data in Table 5 below reveal low poverty (<50%) schools have an aggregate of 25% of their teachers with fewer

Figure 1: Teacher Education Level by Value Added Status: Elementary Reading and Math

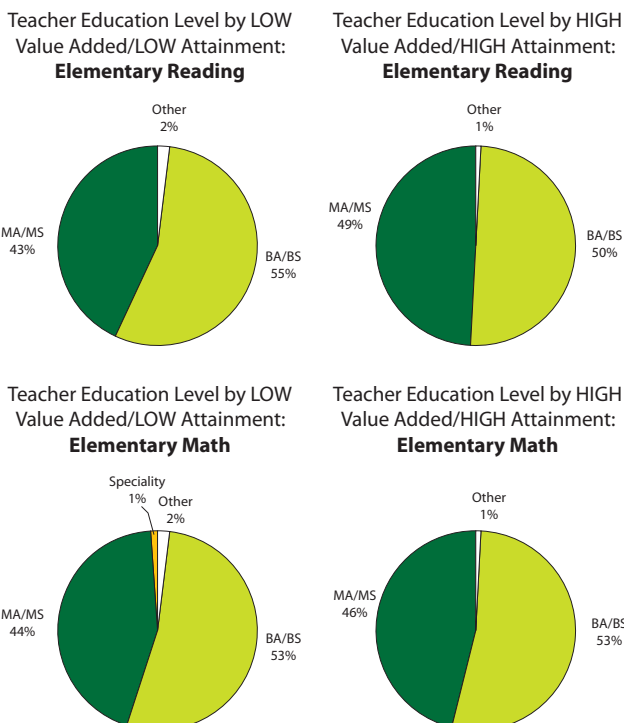
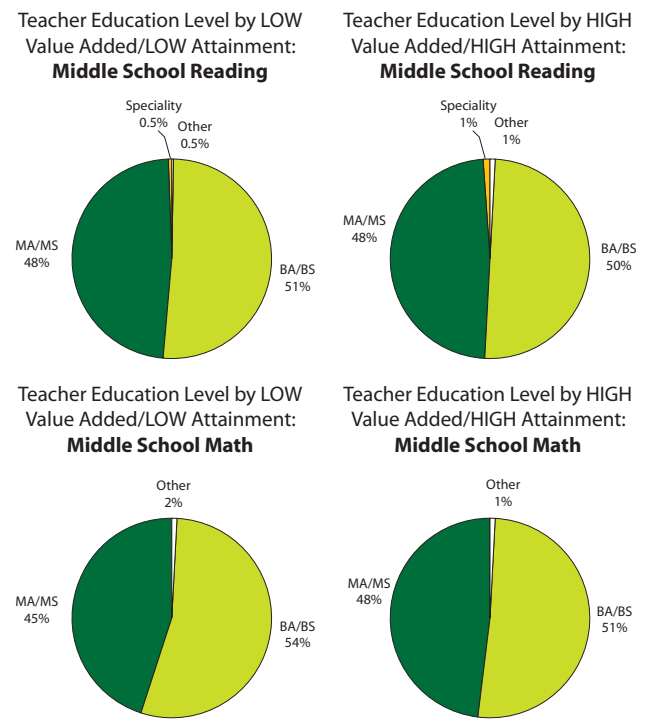


Figure 2: Teacher Education Level by Value Added Status: Middle School Reading and Math



than five years of experience, while high poverty schools have 40% of their teachers new to the profession (less than 5 years experience).

Table 5: Years of Employment Experience at MPS by Percent Poverty (Free and Reduced Lunch)

Years of Employment Experience in MPS	<50% FRL (N=416)	50-80% FRL (N=2528)	>80% FRL (N=2534)
0-3 yrs.	11%	15%	17%
3-5 yrs.	14%	17%	23%
5-7 yrs.	10%	10%	13%
7-9 yrs.	12%	10%	9%
9-15 yrs.	22%	16%	16%
15-24 yrs.	21%	19%	15%
24-30 yrs.	6%	7%	4%
30+ yrs.	4%	6%	3%

Table 6: Years of Employment Experience in MPS by Percent Minority

Years of Employment Experience in MPS	<60% (N=678)	60-90% (N=1753)	>90% (N=2954)
0-3 yrs.	11%	15%	17%
3-5 yrs.	15%	16%	23%
5-7 yrs.	10%	9%	13%
7-9 yrs.	12%	11%	9%
9-15 yrs.	20%	18%	15%
15-24 yrs.	21%	20%	15%
24-30 yrs.	8%	6%	4%
30+ yrs.	5%	6%	4%

Table 7: Years of Employment Experience in MPS by Percent English Language Learners Population (ELL)

Years of Employment Experience at MPS	0-15% ELL (N=4453)	15-45% ELL (N=815)	>45% ELL (N=107)
0-3 yrs.	15%	16%	20%
3-5 yrs.	20%	18%	29%
5-7 yrs.	11%	13%	11%
7-9 yrs.	10%	11%	9%
9-15 yrs.	16%	16%	20%
15-24 yrs.	18%	17%	10%
24-30 yrs.	6%	5%	0%
30+ yrs.	5%	4%	.9%

Data in Table 6 shows that MPS data continues to reflect national trends, where teachers who have five years or less of employment experience are represented in greater proportion at schools with the highest minority populations (>90%).

Data from Table 7 demonstrates that in schools with greater than 45% of the students who are English language learners, nearly half of the teachers have five or fewer years of experience. Contrasting high ELL density schools with schools having 15% or fewer ELLs, we see just 35% of the teachers are in their first five years. This is likely due to the district's recruitment efforts with bilingual teachers and relatively new programs to encourage bilingual paraprofessionals to complete a Bachelor's degree and obtain a teaching certificate. Nonetheless, a substantially higher proportion of novice teachers are employed at schools with high ELL populations relative to other schools.

As with teachers' educational attainment, we also examined teachers' experience as it varied by school performance. Figures 4 and 5 below depict the condition within MPS on both reading and math indicators within elementary and middle schools.

Figure 4 shows that teachers with fewer years of employment experience are represented in greater numbers at low achieving elementary schools, while middle career teachers are represented in greater proportion at high achieving schools.

Figure 5 shows that middle schools that are low achieving have higher numbers of teachers with less employment experience, while high achieving schools have higher numbers of middle career teachers.

Figure 4: Years of Employment Experience in Elementary Schools by Value Added Status

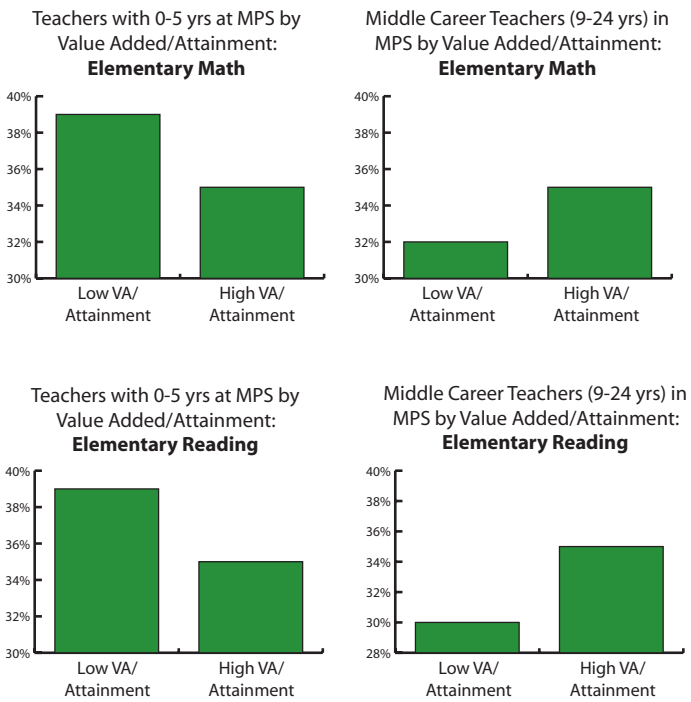
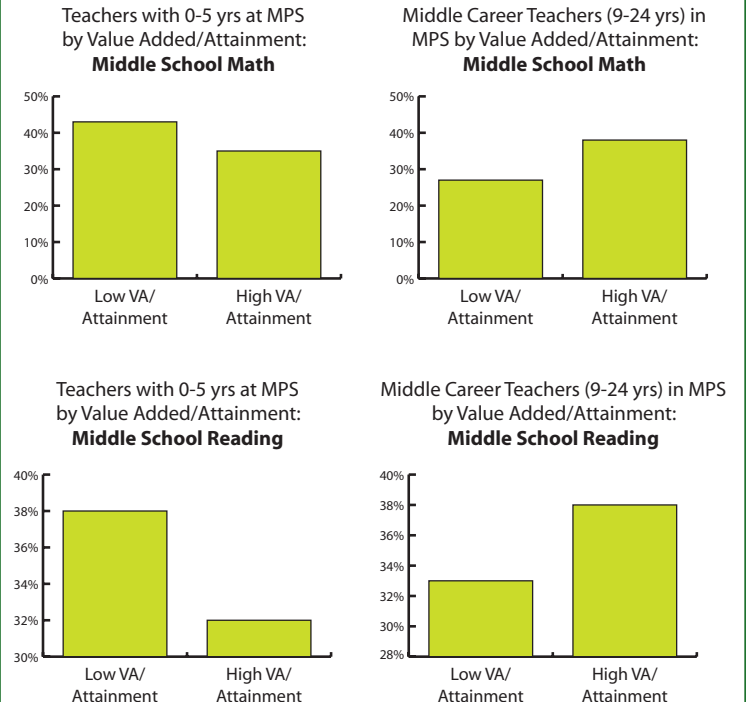


Figure 5: Years of Employment Experience in Middle Schools by Value Added Status



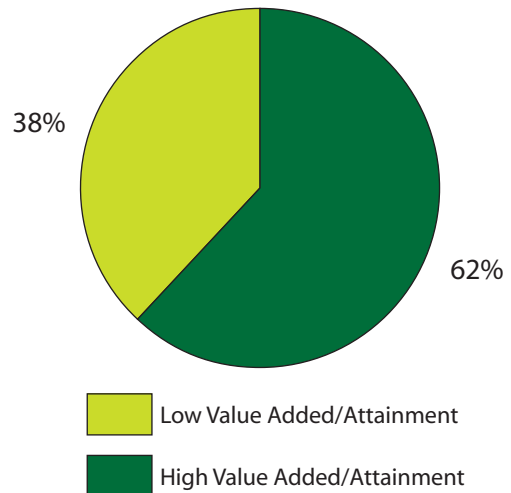
Focus School Analysis

Data from four focus schools were examined more closely on a number of indicators, including undergraduate GPA, location and affiliation of the undergraduate institution, and whether or not the teacher obtained a content area major in addition to her degree in education. Since only the latter item showed significance in our analyses, we present this finding in Figure 6.

MPS data from the focus schools illustrate higher densities of teachers who have both content area majors and an education major in high performing schools than in low performing schools. However, education majors were equally represented in both types of schools.

Figure 6: Teacher Undergraduate Major by Value Added Status

Content Area Majors by Value Added Status



Conclusion and Next Steps

Although many MPS teachers are assigned and re-assigned based upon a school-based interview process, it is apparent that patterns of distribution of teachers by experience and education resemble those of districts that rely exclusively on seniority-based hiring practices.² Using the experience and education level of MPS teachers, we have found that the least experienced teachers and those with the lowest educational attainment are more likely to be instructing children of color, children who are English language learners, and children in poverty. Further, these teachers are more likely to be teaching those children most in need of expert teachers – children in low performing schools.

In order to address these issues, MPS has considered a number of steps. First, the district has agreed to make public the issues of inequity discovered during this study. Once acknowledged, issues can be more readily discussed with partners in the teachers' union and higher education. This includes public dissemination to local media and presentations at regional and national conferences.

The district also intends to engage an outside consultant to examine labor contracts for areas for

improvement, with a focus on getting the most talented teachers in front of the neediest children. This may include such provisions as earlier hiring timelines for high needs schools and capping the percent of novice teachers in low-performing schools.

The district is aggressively pursuing improvements in its data systems to better enable linkages between the staff and students. A data warehouse redesign project is currently underway which will improve our ability to conduct research on important topics affecting student achievement.

Finally, the MPS value-added system has moved from reports at the school-level in reading and math to individual grade levels. With funding from the Joyce Foundation, the Wisconsin Center for Education Research is working with the district to develop classroom-level value-added indicators which will allow us to identify teachers who are most effective with the lowest performing children. Instructional practices can then be modeled and shared within schools and across the district in order to improve teaching and learning for all students.

² For more information about staffing rules in urban teachers' contracts, see "Unintended Consequences: The Case for Reforming the Staffing Rules in Urban Teachers Union Contracts" by Jessica Levin, Jennifer Mulhern, and Joan Schnuck at The New Teacher Project, 2005. Available: www.tntp.org

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