



The Power of Place: Assessing Whether Novice Teachers Benefit from Similarities in In-Service and Student Teaching Schools

In this research brief we connect data on in-service and student teaching schools to assess whether similarities in these environments predict the performance of novice teachers. These analyses recognize that student teaching is not a one size fits all experience. Rather, what makes for an effective student teaching placement may vary according to where a teacher is hired. Descriptively, we find that a meaningful percentage of candidates are hired by the same school district in which they student taught. Empirical analyses show that novice teachers are more effective when their in-service school is similar to their student teaching placement site. These results are particularly strong for novice teachers working in their student teaching school. Taken together, these findings highlight the importance of job-specific knowledge and encourage educator preparation programs and school districts to work more closely together.

Introduction

In recent years educator preparation programs (EPPs) have been under increasing pressure to improve programmatic practices and the quality of program graduates. As a way to improve educator preparation, researchers and teacher educators are critically examining the length of student teaching experiences and the characteristics of student teaching placement sites. This focus reflects the importance of student teaching: it is the culmination of candidates' preparation and an opportunity to refine classroom management and instructional skills while in full control of a K-12 classroom.

Prior analyses confirm the value of student teaching placements. Novice teachers have higher value-added estimates when they student taught in good learning environments—e.g. schools with higher levels of teacher retention, teacher collaboration, and student achievement

growth—and were placed with highly-effective clinical teachers. While these findings suggest directions for EPP improvement, there is a need for continued research to more fully understand the interplay between student teaching sites and the work environments of novice teachers. It is possible that what makes for an effective student teaching placement varies according to the type of school in which a teacher is hired. This idea fits with research showing that teachers are more effective when they have greater familiarity with the school, students, and content/curriculum.

Therefore, in this research brief, we describe the similarity of in-service and student teaching schools and assess whether the match between in-service and student teaching schools predicts the performance of novice teachers. These analyses extend prior work and challenge EPPs and school districts to more fully link student teaching data to district hiring and assignment practices.

Background

To conduct these analyses we received student teaching placement data¹ from six UNC System EPPs. These EPPs are geographically spread across North Carolina, and together, they account for 70 percent of the initially-prepared teachers in the UNC System. The student teaching data provided by these EPPs covered the 2011-12 through 2015-16 academic years² and allowed us to link characteristics of the student teaching school to characteristics of the in-service school for candidates who secured teaching positions in North Carolina.

Using these data we created indicators for novice teachers who were hired by the same school or district in which they student taught. Furthermore, we examined similarities in school performance and student demographics between the in-service and student teaching schools in two ways. First, we calculated the difference, in absolute value, between the performance composites, percentages of economically-disadvantaged students, and percentages of racial/ethnic minority students between the in-service and student teaching schools. This provides a measure of similarity between the schools but does not consider the direction of differences—e.g. whether the in-service school has a higher or lower performance composite. To gain more understanding, our second coding approach identifies whether the in-service school is more than one standard deviation higher than the student teaching school, more than one standard deviation lower than the student teaching school, or within one standard deviation (in either direction) of the student teaching school for each school characteristic.

In analyses, we assessed whether these match characteristics predict the Education Value-Added Assessment System (EVAAS) estimates and North Carolina Educator

Evaluation System (NCEES) ratings of novice teachers (defined as teachers in their first, second, or third-year).³ We standardized all EVAAS estimates within test (e.g. 4th grade math) and year and created a composite (standardized) evaluation rating.⁴ All models controlled for characteristics of the teacher and characteristics of the in-service school.⁵ Our main analyses include a university fixed effect, which allows us to assess whether similarities in in-service and student teaching schools predict the performance of novice teachers from the same EPP.

How similar are novice teachers' in-service and student teaching placement schools?

For candidates who secured a teaching position in North Carolina, Figure 1 illustrates the percentage hired by the student teaching school (same school) and the percentage hired by a different school within the same district. Approximately 15-20 percent of the UNC System EPP candidates in our sample were hired by their student teaching school; EPP 3 was an exception, with over 30 percent of its candidates hired by the student teaching school. Descriptive analyses show that candidates hired by their student teaching school have higher GPAs than peers hired by a school other than their placement school. In addition to those employed in the same school, Figure 1 shows that another 20-40 percent of candidates were hired by a different school within the student teaching district. Combined, this indicates that a meaningful percentage of candidates—ranging from 37 percent for EPP 6 to 60 percent for EPP 3—were hired by the student teaching district. This fact should encourage school districts to actively partner with EPPs to identify high-quality placements that are a good fit for the candidate.

¹ These data included a unique identifier for the teacher candidate, the semester and year during which the candidate student taught, the school in which the candidate student taught, and the name of the clinical teacher.

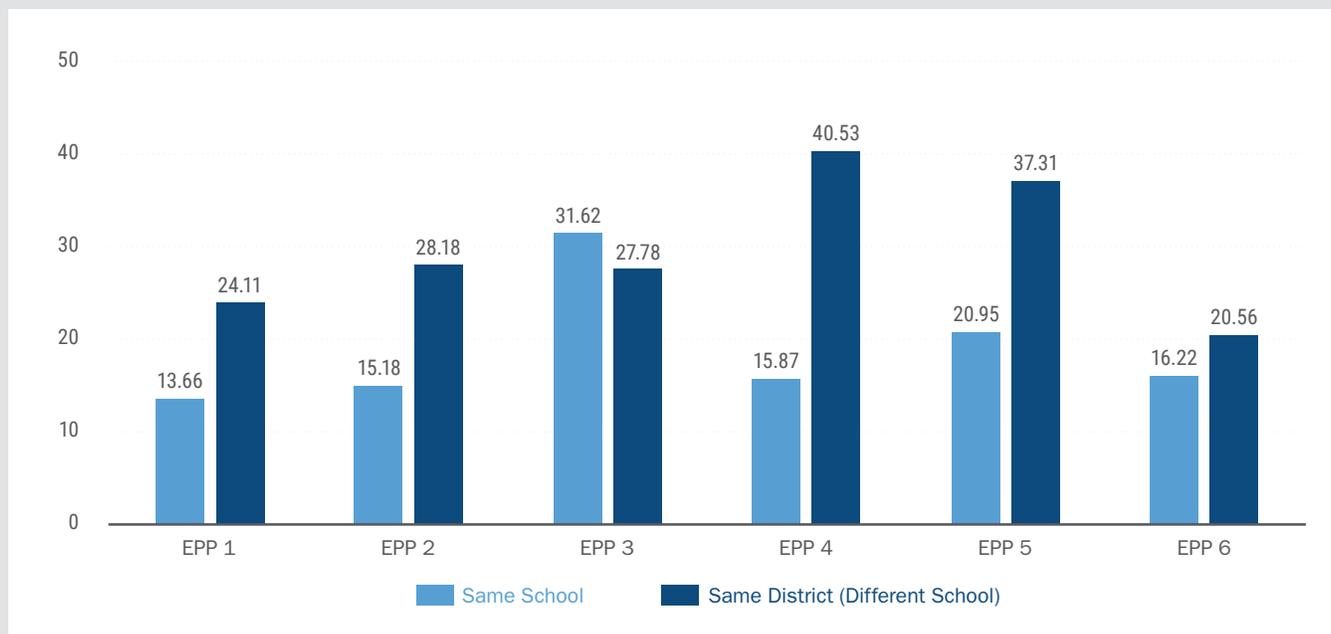
² Data for EPP 1 covered 2012-13 through 2015-16.

³ We estimate models on first-year teachers only and for first, second, and third-year teachers, combined. Results displayed in this brief are for first, second, and third-year teachers.

⁴ EVAAS estimates come from North Carolina's mCLASS, End-of-Grade, End-of-Course, and final exams. We created the composite evaluation rating by summing teachers' ratings on Standards 1-5 of the NCEES and then standardizing this evaluation measure.

⁵ The teacher characteristics are indicators for female and minority, collegiate GPA, and teacher experience. The characteristics of the in-service school include indicators for school level and the percentage of minority and economically disadvantaged students.

Figure 1: The Percentage of Candidates Securing Teaching Positions in the Same School or District



Note: This figure displays the percentage of candidates hired by their student teaching school and the percentage of candidates hired by a different school within the same district.

Table 1 reports on the similarities between novice teachers' in-service and student teaching schools. Across EPPs, the average absolute value difference in these school characteristics ranged from 14 to 23 percentage points. For example, the average absolute value difference in the percentage of economically-disadvantaged students between the in-service and student teaching school for EPP 2 candidates was approximately 18 (18.16) percentage points. For each of the school characteristics, approximately 66–75 percent of candidates were hired by in-service schools that were similar to the student teaching school (i.e. within one standard deviation for the respective school characteristic). The values for performance composites show that candidates are more likely to be hired in lower performing in-service schools rather than higher performing in-service schools. For example, 25 percent of EPP 5's candidates were hired by in-service schools with a performance composite more than one standard deviation lower than the student teaching school; only nine percent of EPP 5's candidates were hired into in-service schools with performance composites more than one standard deviation higher than the student teaching school. Descriptive data on the percentage of economically-

disadvantaged students differ across EPPs. Some programs had a higher percentage of graduates working in in-service schools with substantially more economically-disadvantaged students (e.g. EPPs 1, 4, and 5); other programs had a higher percentage of graduates working in in-service schools with substantially fewer economically-disadvantaged students (e.g. EPPs 2, 3, and 6). Lastly, results show that programs had a higher percentage of graduates working in in-service schools with substantially more racial/ethnic minority students than in-service schools with substantially fewer racial/ethnic minority students.

Are novice teachers more effective if they student taught in the same school?

There are two reasons why candidates hired by their student teaching school may be more effective as novice teachers. First, student teaching represents an extended job interview. When a school hires a candidate who student taught there, that suggests the school leadership believes the candidate will be effective.⁶ Descriptive data supports this explanation: candidates hired by the student

⁶ It is also possible that schools hire their former student teachers due to vacancies or higher levels of teacher turnover.

Table 1: How Similar Are Novice Teachers' In-Service and Student Teaching Placement Schools?

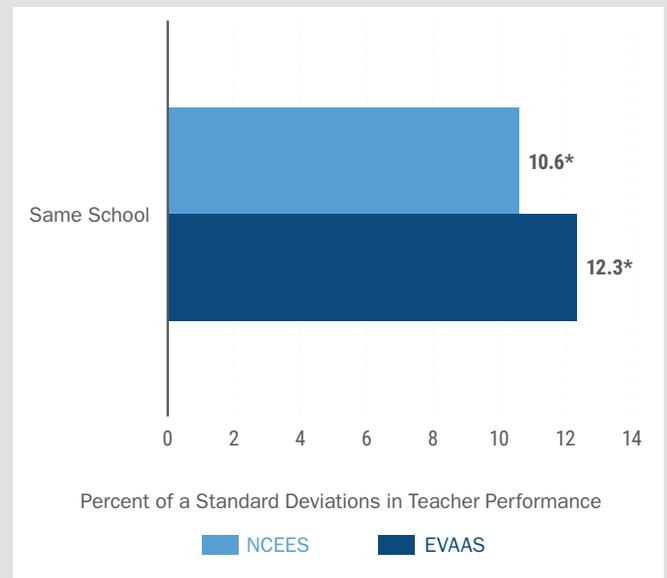
Match Between In-service and Student Teaching Schools	EPP 1	EPP 2	EPP 3	EPP 4	EPP 5	EPP 6
Performance Composite						
Absolute value difference	13.81	18.67	16.26	17.79	18.90	16.43
In-service school: Higher performance composite	7.95%	12.01%	8.44%	5.90%	9.21%	7.07%
Similar performance composites	78.68%	67.41%	76.89%	68.87%	65.25%	74.89%
In-service school: Lower performance composite	13.37%	20.59%	14.67%	25.24%	25.54%	18.04%
Percent Economically-Disadvantaged						
Absolute value difference	17.33	18.16	18.33	18.44	20.92	13.56
In-service school: More economically-disadvantaged students	16.01%	13.73%	9.74%	19.29%	19.53%	4.89%
Similar economically-disadvantaged values	72.39%	70.11%	74.34%	69.64%	64.70%	81.87%
In-service school: Fewer economically-disadvantaged students	11.60%	16.17%	15.93%	11.07%	15.77%	13.24%
Percent Racial/Ethnic Minority						
Absolute value difference	22.77	18.58	18.19	16.89	20.51	19.43
In-service school: More minority students	30.62%	17.92%	15.49%	15.38%	20.93%	25.76%
Similar minority values	65.89%	71.07%	76.11%	75.24%	67.44%	70.65%
In-service school: Fewer minority students	3.49%	11.00%	8.41%	9.39%	11.63%	3.60%

Note: For each of the participating UNC System EPPs, this table displays the similarities between in-service and student teaching schools. 'Similar' refers to in-service and student teaching schools within one standard deviation of each other for the respective school characteristic. 'Higher/more' and 'lower/fewer' refer to schools more than one standard deviation apart for the respective school characteristic.

teaching school have higher GPAs than peers hired in other schools. Second, novice teachers hired by their student teaching school should have a wealth of knowledge about that environment. This includes greater familiarity with the school leadership, school policies and culture, other teachers, and the students.

Figure 2 illustrates that novice teachers working in their student teaching school are more effective than peers from the same EPP who are not teaching in their student teaching school. Specifically, candidates working in their student teaching school have EVAAS estimates 12.3 percent of a standard deviation higher and NCEES ratings 10.6 percent of a standard deviation higher. Further analyses show that these results are statistically significant for candidates with GPAs in the lowest, middle, and top quartiles for their respective EPPs. These results across candidate GPA suggest that schools hiring the highest-quality candidates is not the only explanation for the same school findings. To further test this, we estimated models comparing the performance of novice teachers working in the same in-service school—some of these teachers had student taught in that school, others had not. This lets us adjust for the fact that schools hiring student teachers may be better equipped to recognize and attract talented teachers. Results from these models remain positive and

Figure 2: Are Novice Teachers More Effective if They Student Taught in the Same School?



Note: This figure displays whether novice teachers working at their student teaching school are more effective than peers who are not employed by their student teaching school. All results are expressed as a percentage of a standard deviation (in EVAAS estimates or a composite NCEES rating) and come from models with a university fixed effect. '+' and '*' indicate statistical significance at the 0.10 and 0.05 levels, respectively.

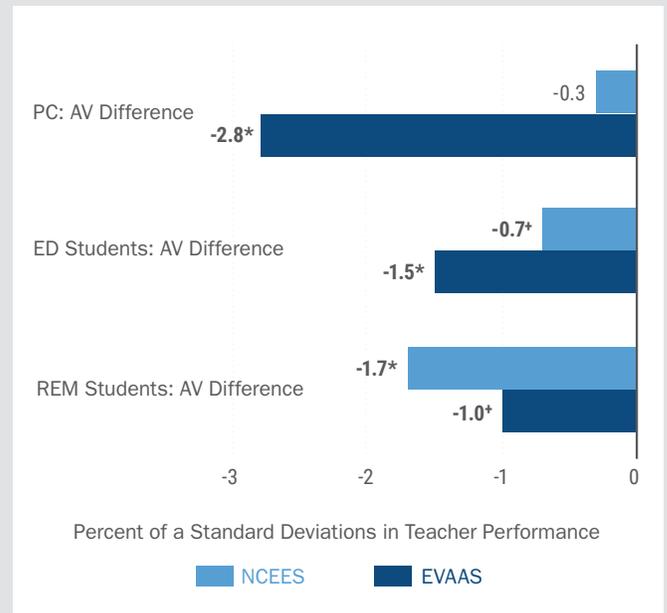
statistically significant. Novice teachers who student taught at their in-service school are more effective than their within-school colleagues who student taught elsewhere. Taken together, these results suggest that familiarity with the school contributes to novice teacher effectiveness.

Are novice teachers more effective when their in-service and student teaching schools are similar?

Building from the same school analyses, we investigated whether similarity in in-service and student teaching environments benefits the performance of novice teachers. As a first approach, we examined the absolute value differences in the characteristics of in-service and student teaching schools. Figure 3 shows that novice teachers are more effective when there is greater similarity between the two environments. For example, a difference of ten percentage points in the performance composites of in-service and student teaching schools is associated with a 2.8 percent of a standard deviation reduction in novice teachers' EVAAS estimates. The results for differences in the percentages of economically-disadvantaged and racial/ethnic minority students are also negative and statistically significant.

A concern with these absolute value analyses is that they do not consider the direction of the differences between the in-service and student teaching schools. That is, the impact of differences in school characteristics may depend on whether the in-service school has a higher or lower value. Therefore, we compared the performance of novice teachers

Figure 3: Does Similarity Between In-Service and Student Teaching Schools Benefit Novice Teachers?



Note: This figure displays whether absolute value (AV) differences in the performance composite (PC) and percentages of economically-disadvantaged (ED) and racial/ethnic minority (REM) students between the in-service and student teaching schools predict the performance of novice teachers. All results are expressed as a percentage of a standard deviation (in EVAAS estimates or a composite NCEES rating) and come from models with a university fixed effect. '+' and '*' indicate statistical significance at the 0.10 and 0.05 levels, respectively.

working in comparable schools with that of novice teachers working in very different in-service environments. Table 2 shows that novice teachers have higher EVAAS estimates (by 12 percent of a standard deviation) when their in-service school is higher performing than their student teaching school. Conversely, novice teachers have lower EVAAS

Table 2: Does Similarity Between In-Service and Student Teaching Schools Benefit Novice Teachers?

Match Between In-service and Student Teaching Schools	EVAAS Estimates	Evaluation Ratings
Performance Composite		
In-service school: Higher performance composite	12.0*	2.4
In-service school: Lower performance composite	-18.2*	-1.9
Percent Economically-Disadvantaged		
In-service school: More economically-disadvantaged students	-3.1	-1.9
In-service school: Fewer economically-disadvantaged students	-5.6+	-2.0
Percent Racial/Ethnic Minority		
In-service school: More racial/ethnic minority students	-4.9	-3.9+
In-service school: Fewer racial/ethnic minority students	3.7	-3.5

Note: This table displays whether novice teachers employed in in-service schools that differ from the student teaching school (by more than one standard deviation in either direction) are more or less effective than novice teachers working in in-service schools with similar characteristics to the student teaching school (within one standard deviation). All results are expressed as a percentage of a standard deviation (in EVAAS estimates or a composite NCEES rating) and come from models with a university fixed effect. '+' and '*' indicate statistical significance at the 0.10 and 0.05 levels, respectively.

estimates (by 18 percent of a standard deviation) when their in-service school is lower performing than their student teaching school. Regarding student demographics, we find that novice teachers have lower EVAAS estimates when their in-service school has substantially fewer economically-disadvantaged students and lower evaluation ratings when their in-service school has substantially more racial/ethnic minority students than their student teaching school.

Discussion

At the root of these analyses is a straightforward hypothesis: teachers are more effective when they are familiar with the contexts—i.e. the school, the students, the academic content—in which they teach. We tested this hypothesis by assessing whether similarities between in-service and student teaching schools predict the performance of novice teachers. These analyses add nuance to the student teaching literature and show that student teaching is not a one size fits all experience.

Overall, we have three key results. First, a meaningful percentage of candidates are hired to teach by the district in which they student taught. This highlights the local

nature of teacher labor markets in North Carolina. Second, novice teachers hired by their student teaching school are more effective than peers who are hired by a different school. These results hold regardless of candidate GPA and when comparing the performance of novice teachers working at the same in-service school. This suggests that knowledge of the school and its students boosts novice teacher effectiveness. Lastly, our results show that similarity between in-service and student teaching environments matters. Novice teachers especially struggle when their in-service school is much lower-performing than their student teaching school.

Taken together, these results call upon EPPs and school districts to work more closely together. A closer collaboration will help EPPs place candidates and will help EPPs and school districts connect student teaching data to teacher hiring and assignments. This connection can facilitate better matches—more same school hires, greater similarity in sites—between student teaching and in-service environments that benefit novice teachers and the students they teach.

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For more research on this topic

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