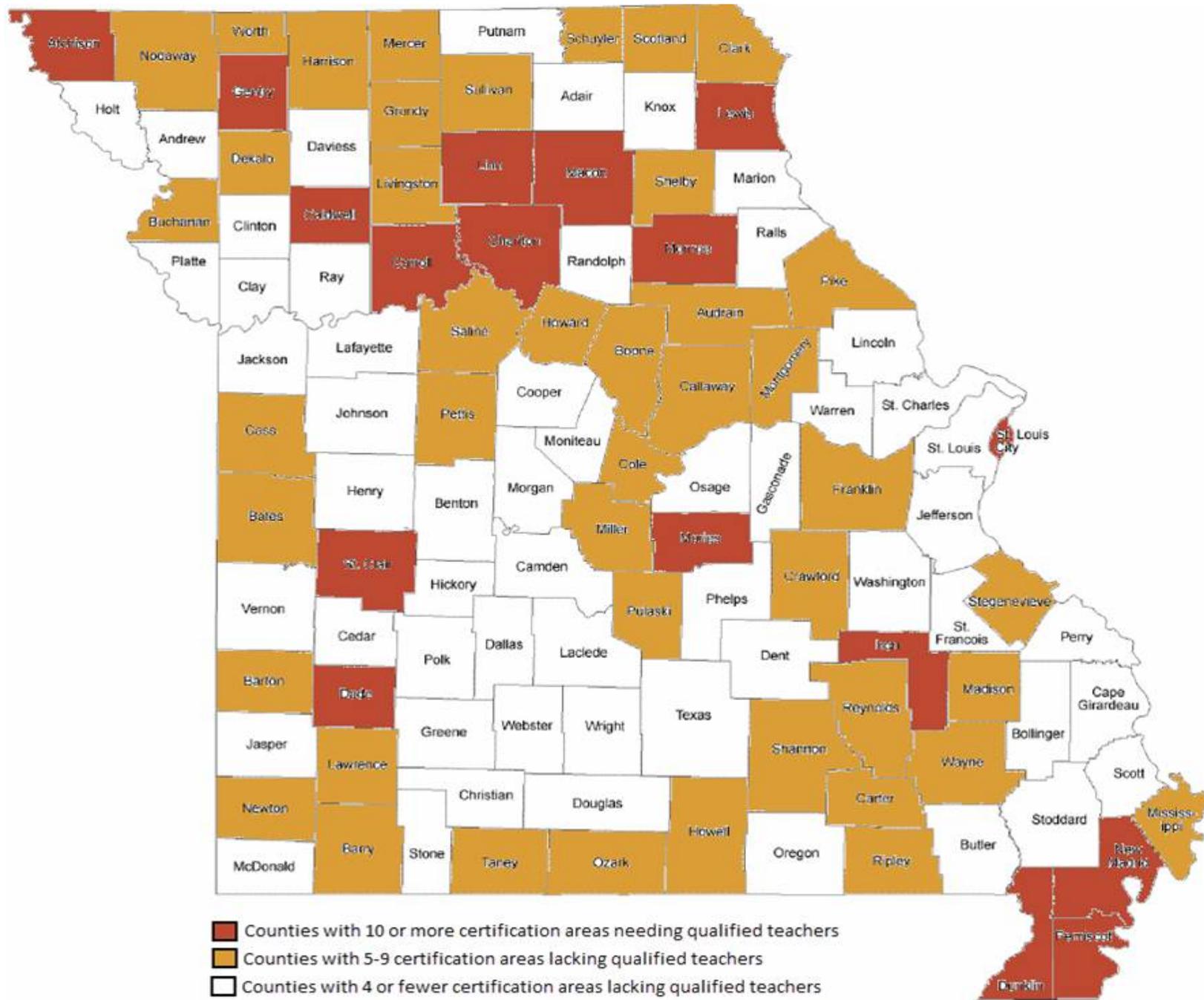


Measure	Highest 5percent Minority schools (110 schools) Non-white students and Hispanics of any race	Highest 5percent FRPL of schools (110 schools) Students eligible for Free and reduced lunch	Most Rural School Buildings (315 schools) NCES Urbanicity Classification **Rural: Remote**	Lowest 5percent FRPL of schools (110 schools) Students eligible for Free and reduced lunch
FRPL rate	88.0% (average)	91.9%-100%	60.4% (average)	0%-16.4%
Avg. poverty rate of community	30.1%	30.7%	18.4%	7.1%
*% Minority (Students)	98.5%	86.4%	3.6%	16.6%
*% Minority (Teachers)	52.0%	41.9%	0.9%	4.5%
* Discipline Incident Rate	3.4%	2.2%	0.6%	0.4%
• Elementary	2.4%	2.0%	0.2%	0.2%
• Secondary	7.9%	4.4%	1.4%	1.1%
Avg. years of experience	10.7	9.97	12.1	13.72
*Adjusted average salary	\$52,282.42	\$49,951.79	\$48,225.08	\$60,115.89
• 1 <sup>st</sup> yr teachers w/ Bacc.	\$39,031.83	\$38,868.87	\$38,488.02	\$39,343.84
• 1 <sup>st</sup> yr teachers w/ Mast.	\$44,689.04	\$43,603.59	\$43,443.01	\$44,498.51
• Teachers w/ 5 years experience or less	\$41,949.93	\$42,138.66	\$42,343.00	\$46,920.98
• Teachers w/ 6-10 years experience	\$49,031.10	\$48,804.28	\$47,072.14	\$53,653.01
• Teachers w/ 11+ years experience	\$62,678.20	\$60,512.59	\$53,667.07	\$70,430.06
* Retention Rate 1 yr (2013-2014)	69.2%	68.9%	81.2%	85.5%
* Retention Rate 3 yr (2011-2014)	44.6%	44.8%	60.1%	68.5%
* Absent 10 days or more	32.9%	30.2%	17.5%	31.5%
% First Year Teachers	13.0%	15.4%	13.9%	6.8%
% Teachers with less than 3 yrs experience	24.4%	26.9%	15.0%	8.9%
1 <sup>st</sup> Yr Teachers assigned a mentor	82.5%	78.6%	97.5%	92.4%
% First Year Principals	18 schools (16.4%)	18 schools (16.4%)	43 schools (13.7%)	7 schools (6.4%)
Avg overall preparation 1st yr teacher response 1-5 scale (percent)	3.94 (90.8%)	3.87 (90.1%)	4.24 (97.8%)	4.45 (99.2%)
Avg overall preparation Principal response 1-5 scale (percent)	3.56 (87%)	3.66 (87%)	3.94 (93.4%)	4.30 (97.6%)
**% Less than fully Qualified	15.1%	16.3%	13.0%	5.7%
• Elementary	12.4%	14.7%	8.7%	4.3%
• Secondary	27.9%	27.7%	19.8%	10.5%
**% Teaching Out-of-Field	5.6%	5.0%	6.6%	2.5%
• Elementary	4.2%	4.2%	4.1%	1.4%
• Secondary	12.2%	10.6%	10.3%	6.4%
*Effectiveness Index	78.5%	78.8%	81.2%	84.7%
Overall teacher impact				
Student Performance: ELA Proficiency	24.0%	24.2%	54.1%	68.8%
Student Performance: Math Proficiency	22.0%	26.5%	50.7%	66.0%



- Counties with 10 or more certification areas needing qualified teachers
- Counties with 5-9 certification areas lacking qualified teachers
- Counties with 4 or fewer certification areas lacking qualified teachers

# Equitable Access to Excellent Educators

## TOP 10 by 20

### MISSOURI PROUD



**Linda Glasgow 2015-16**  
Missouri Teacher of the Year  
Blue Springs R-IV

Having excellent educators in all classrooms provides an equitable opportunity for every Missouri student to learn at a high level. This update highlights four districts that are working to ensure that their students have access to effective educators.

#### Parkway School District • Spark!

Parkway School District identified the need for recruiting and retaining high-quality teacher candidates and developed the immersion-based Spark! program for aspiring teachers. They use existing school district resources for an authentic teaching and learning experience for high school students interested in pursuing a teaching career. District teachers serve as their mentors and coaches.



*Michael Dragoni, 2015-16 Missouri Teacher of the Year finalist from Ritenour*

*Preparing, developing and supporting effective educators is one of the ways Missouri is working towards the Top 10 by 20 goal of college and career readiness. Do you have an effective educator story? Contact us at [moequity@dese.mo.gov](mailto:moequity@dese.mo.gov) or 573-751-2931.*

#### Fort Zumwalt School District • Identifying Teacher Shortages

Fort Zumwalt identified teacher shortages in the areas of special education and industrial technology and came up with a three-fold solution. They host an annual job fair facilitated by principals, a “College Day” experience for high school students interested in becoming teachers, and they offer four-year scholarships (worth \$24,000) for up to five aspiring teacher candidates focused on special education, math and science.

#### Center School District • Finding Aspiring Teachers

Center School District highlights the benefits of becoming a teacher through recruitment fairs and word-of-mouth marketing. Its partnership with the Career Education Consortium at the high school level encourages and identifies aspiring teachers. Thirty-five Center high school graduates have returned to teach in that district.

#### Cassville R-IV School District • “Grow Your Own” Teacher Recruitment Program

Cassville R-IV has a “Grow Your Own” marketing campaign that both inspires and encourages high school students to pursue teaching careers. Their partnerships with the local community college and nearby universities also encourage students to return home and teach in Cassville. Twenty-five percent of Cassville’s staff are “home grown.”



# Equitable Access to Excellent Educators

TOP  
**10** by **20**

**MISSOURI PROUD**



Volume 2

## Excellent Teachers in Urban Schools

This issue highlights College of Education programs within the University of Missouri system that are designed for candidates who desire to teach in urban settings.

### University of Missouri Kansas City (UMKC)

UMKC's Institute of Urban Education (IUE), the first of its kind in the United States, was established as a four-year teacher education program in 2007. The completion of the program leads to a Bachelor of Arts degree in elementary or middle school education. The program specifically focuses on preparing teachers for success in urban classrooms and introduces issues of social justice and multicultural learning styles. Field coursework is taught in actual classrooms at charter schools and in Kansas City Public Schools. This features a year-long clinical co-teaching experience that begins before the first day of school. IUE students can earn \$5,000 scholarships per academic year for the program with a four-year commitment to teach in urban school settings in Kansas City.

### University of Missouri St. Louis (UMSL)

Through its mission and vision, UMSL is devoted to serving the diverse metropolitan community of St. Louis. The College of Education is the most diverse in the state, with a 25 percent minority representation of faculty and students. The school has successfully partnered with Teach for America to ensure urban schools have highly qualified, culturally diverse educators in classrooms. Teacher candidates also earn dual certification in special education to address statewide specialty area shortages. UMSL offers a "Teach in 12" program that affords teacher candidates who already hold an undergraduate degree the opportunity to earn a teaching certificate in 12-15 months, as well as a Bachelor of Education Studies degree for individuals pursuing non-certified educational arenas.

### University of Missouri-Columbia (MU)

Unique features of MU's teacher preparation program include a full-year clinical experience; a Teach Abroad program for teacher candidates to gain international exposure in South Africa, India, or Ghana; and student-led spring break field experiences in Detroit and Atlanta public school systems to develop cultural competencies. In a strategic effort to recruit culturally diverse teacher candidates, the College of Education offers a four-year, \$6,000-\$8,000 scholarship to first-generation college students from minority groups.



# Equitable Access to Excellent Educators

TOP  
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**MISSOURI PROUD**



Volume 3

## Excellent Teachers in Urban Schools

Teacher preparation is a critical aspect of the Missouri Equity Plan to ensure that all students have equitable access to excellent educators, particularly in urban and rural communities where there is the greatest need. This update (continued from Volume 2) features the Colleges of Education at Missouri State University and University of Central Missouri and their work to prepare teacher candidates for the unique demands of urban public and/or charter school settings.

### Missouri State University - MSU

MSU in Springfield boasts an extensive screening process for urban teacher candidates and provides a year-long student teaching practicum in high-need, high-poverty schools for relevant and real urban experiences. The co-teaching model allows the teacher candidate and master teacher to meet for planning purposes the summer prior to the first day of school and gives the teacher candidate the opportunity to spend a full academic year in the same school setting.



Under the current leadership of the Dean of the College of Education, MSU intentionally practices the diversity it preaches with a well-represented, diverse faculty which has increased by 50 percent in the past several years. A multicultural leadership scholarship in the amount of \$5,000 per semester is available for selected teacher leaders. Feedback from partnering school districts indicates that Missouri State teacher candidates have caring hearts and are passionate about urban teaching and learning, they are well-prepared, and they are “Ready to Teach, Day One!”

### University of Central Missouri - UCM

UCM prides itself on an early-immersion teacher preparation program beginning in the sophomore year to give teacher candidates diverse practical experiences within small cohort groups. The College of Education provides teacher candidates with exposure to special education students in a variety of public school settings, including its own portfolio of charter schools in Kansas City. The College of Education also offers developmental education services for TRIO, a program for first-generation college students who need additional academic support to meet the state requirements on the new content assessments and performance measurements.

Scholarships are granted to select upper classmen who demonstrate an unwavering commitment to finish their degrees, while iPads are furnished for every UCM teacher candidate to remove technology barriers and ensure successful completion of his or her program of study. The College of Education partners with local and regional community colleges through the A+ program, providing the opportunity for future teachers who earn associate degrees to further their education at a four-year university. Based on feedback from 19 partnering school districts, UCM teacher candidates are considered to be well-prepared for the challenges of teaching and learning in traditional urban public and charter school settings.

# Equitable Access to Excellent Educators

TOP  
**10 by 20**™

**MISSOURI PROUD**



## Ensuring Equitable Access to Excellent Educators



Educational stakeholders from a cross-section of rural, urban and suburban school districts came together on January 27, 2016, for Missouri’s first-ever Equity Lab. Districts in attendance included Cassville, Caruthersville, Center, De LaSalle Charter, Ft. Zumwalt, Marshall, Raytown and Riverview Gardens. The Center for Great Teachers and Leaders and Central Comprehensive Center staff were there to assist the Missouri Department of Elementary and Secondary Education’s Office of Educator Quality.

The Missouri Equity Lab’s design and delivery is centered around the vision of “Ensuring Equitable Access to Excellent Educators” with a three-fold purpose:

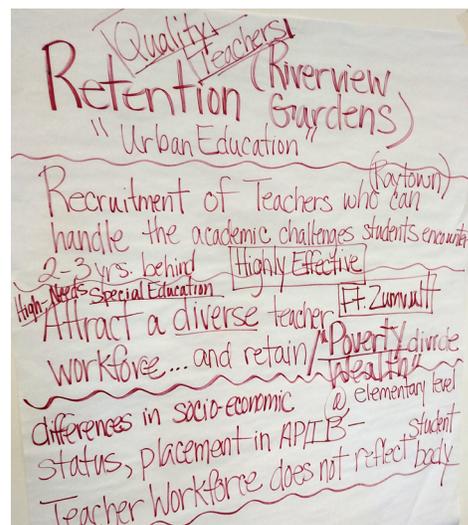
1. Introduce the audience to the educational inequities that exist in Missouri
2. Explore district data, identify root causes and develop strategies for ensuring equitable access to excellent educators
3. Build a framework for the development of District Equity Plans in support of the Missouri Equity Plan

Districts with higher concentrations of minority students and low-income families are working hard to recruit and retain highly qualified teacher candidates. They continue to face challenges in recruiting culturally diverse candidates to reflect ever-changing student demographics.

Based on candid conversations about the lack of educationally equitable conditions in the school settings they represent, participants provided actionable steps to provide students with equitable access to excellent educators. There are several viable solutions:

- Enhancing PD for all teachers and school leaders, with an emphasis on Culturally Responsive Teaching
- Implementing strategic HR teacher recruitment efforts
- Developing a marketing plan to attract highly qualified, culturally diverse candidates to the field of education
- Aligning the District Equity Plan with the CSIP and local school board strategic goals
- Engaging community stakeholders in the development of a culture of equity

Participants were empowered to continue this educational equity work in their respective school communities, and a follow-up Equity Lab will be held this summer. Would your district like to participate in the next Equity Lab? Contact the Office of Educator Quality at 573-751-2931 or moequityed@dese.mo.gov.



## Technical Assistance Response

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**Date:** March 22, 2016

**To:** Andrea Dixon-Seahorn, Ed.S., Special Consultant for Equitable Education, Office of Educator Quality, Missouri Department of Elementary and Secondary Education

**cc:** Paul Katnik, Assistant Commissioner, Missouri Department of Elementary and Secondary Education

**From:** Alex Berg-Jacobson, Technical Assistance Associate, Center on Great Teachers and Leaders

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Thank you for reaching out to the Center on Great Teachers and Leaders (GTL Center) with your request for information about:

- Teacher incentives to pursue a career in the education profession
- Successful strategies to recruit high-quality, culturally diverse teacher candidates
- Curriculum modules or content for urban teacher preparation programs
- Strategies to address content and subject areas or geographic locations with teacher shortages

The following technical assistance response addresses each of these topics.

## Teacher Incentives to Pursue a Career in the Education Profession

There has been relatively little research into the success of incentives as a strategy to attract college students to the teaching profession or to attract individuals within the profession to hard-to-staff schools. However, there is reason to believe that these recruitment challenges are a national issue. A report by McKinsey & Company asked college students about the factors that *disincentivized* them from entering teaching compared to their alternative career choice. The report authors found teaching was perceived to be a less desirable profession, with only 9 percent of respondents saying they planned to enter teaching. Those students not going into teaching noted that teaching lacked a variety of attributes they sought in a profession, including quality of coworkers, prestige, a challenging work environment, high-quality training, and sufficient compensation (Auguste, Kihn, and Miller, 2010).

One body of research focuses on **financial incentives**:

- Some studies have examined the relationship between **salaries and the recruitment of high-quality teachers** into the profession and the evidence is mixed. Figlio (2002) found that teacher salary increases in nonunionized school districts were positively associated with the probability that these districts would hire well-qualified teachers.<sup>1</sup> However, this association was not found for unionized districts. On the other hand, Hanushek, Kain, O'Brien, and Rivkin (2005) did not find evidence that districts with higher salaries systematically attract more effective teachers (in terms of student outcomes).
- **Tuition assistance, tuition reimbursement, or loan forgiveness** are other types of common financial incentives used to recruit teachers. One study examined the [National Science Foundation Robert Noyce Teacher Scholarship Program](#), which provides funding to highly qualified individuals with science and mathematics majors to teach in high-need schools. The study found that a higher level of financial assistance was associated with increases in its perceived influence on a student's decision to become a teacher. However, only a small percentage of recipients (3.5 percent) actually reported that they would not have become a teacher if they had not received funding, and, in general, participant characteristics explained more of the variation in perceived influence (Liou & Lawrenz, 2011). Another study examined the Florida Critical Teacher Shortage Program<sup>2</sup> and found that receiving tuition reimbursement increased the likelihood an individual would become certified in shortage areas. The study also found that receiving loan forgiveness was associated with a higher probability that an individual would remain in teaching (Feng & Sass, 2015).
- Some studies have examined the effects of **bonuses, one-time or successive payments**, provided to teachers for agreeing to teach in high-poverty or low-performing schools. These studies found evidence that bonuses are associated with increases in the recruitment of high-quality teachers to these schools (Cowan & Goldhaber, 2015; Glazerman, Protik, Teh, Bruch, & Max, 2013; Steele, Murnane, & Willett, 2010). However, the study findings are mixed as to whether bonuses are associated with increased retention of these teachers long-term.

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<sup>1</sup> In this case *well-qualified* includes average SAT verbal scores and whether a teacher majored in the teacher's assigned subject.

<sup>2</sup> Funding for this program was discontinued in 2009–10.

- One particular federal incentive program of note is the federal **Teacher Incentive Fund (TIF) grant** (reauthorized under the Every Student Succeeds Act as the **Teacher and School Leader Incentive Program**).<sup>3</sup> One study analyzed the impact of TIF bonuses on recruitment practices using survey data gathered after one year of implementation (Max et al., 2014).<sup>4</sup> The authors found that principals in schools offering pay-for-performance bonuses were more likely to use the TIF program as a recruitment tool and both principals and teachers were more likely to say the program impacted their choice of school. On the other hand, the authors also found that schools offering bonuses had generally lower reported indicators of positive working conditions (e.g., satisfaction with school morale, opportunities for advancement). A follow-up study, conducted two years into implementation, found that, in the second year, the differences in recruitment strategies went away, and the extent to which principal recruitment efforts were successful did not differ for schools offering the bonuses compared to schools not offering them (Chiang et al., 2015).

Financial incentives may not be the only factor influencing the decisions of teacher candidates. Other incentives, such as **indirect compensation**, may be worthy of further examination.<sup>5</sup> King (2012) considers the elements of teacher compensation, the potential strengths and weaknesses of indirect compensation, and some examples of this type of compensation in education.

There is also evidence that the factors influencing a teacher’s decision to enter the profession and the challenges in attracting teachers to high-need schools are not uniform (Boyd, Lankford, Loeb, & Wyckoff, 2013; Jacob, 2007), which may point to the need for strategies to be **tailored to fit the unique context of each hard-to-staff community**.

Although the research into the effectiveness of incentives as a recruitment strategy is relatively limited, there are a variety of current and past programs to learn from. One recent example is the **Teach Nevada Scholarships** program. In this program, scholarship funds—a maximum of \$3,000 per semester and \$24,000 per student overall—are made available to:

- Recent high school graduates not yet enrolled in a teacher preparation program
- Students in a noneducation-related degree program and who change to a teacher preparation program
- Students who have completed some postsecondary education and re-enroll in a teacher preparation program
- Veterans and the spouses of veterans

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<sup>3</sup> It should be noted that Kansas City Public Schools received a TIF grant in 2010. For more information about their Pay Incentives based On the Need for Excellent Education Reform (PIONEER) program see: <http://www2.ed.gov/programs/teacherincentive/missouripro.pdf> and [http://www.nctq.org/docs/PIONEER\\_Guidebook-Kansas\\_City.pdf](http://www.nctq.org/docs/PIONEER_Guidebook-Kansas_City.pdf)

<sup>4</sup> This was a survey of teachers and principals in 10 TIF evaluation districts including schools with and without pay-for-performance bonuses. Important to note, this study was conducted before bonuses were actually distributed. Also, it should be noted that schools were assigned randomly to offer or not offer bonuses.

<sup>5</sup> Indirect compensation in this context includes commuter benefits, food, education assistance, or child care, for example.

- Students with some experience working in the classroom as a paraprofessional or substitute teacher

The funding is explicitly for students not already enrolled in a traditional or alternative teacher preparation program and cannot be used by those individuals already holding a teaching license. More information can be found

at: [http://www.doe.nv.gov/Legislative/Teach\\_Nevada\\_Scholarships\\_and\\_Incentives/](http://www.doe.nv.gov/Legislative/Teach_Nevada_Scholarships_and_Incentives/)

Another program, called the **Teachers Mortgage Assistance Program**, provides first-time homebuyer teachers in Connecticut home loans at below-market interest rates if they purchase the home in a community designated by the state as *priority or transitional school district*. The program is also designed to support teachers in subject shortage areas to move to communities understaffed in that subject. More information about this program can be found

at: <http://www.chfa.org/Homeownership/for%20Homebuyers/Homebuyer%20Mortgage%20Programs/for%20Selected%20Professions/TeachersMortgageAssistanceProgram.aspx>

There are similar programs in San Francisco (the **Teacher Next Door Program**) and New York City (the **Housing Support Program**), which provide similar incentives. More information about these programs can be found at: <http://sfmohcd.org/teacher-next-door-program-tnd> and <http://teachnycprograms.net/hsp/proginfo.php>

One useful resource for locating additional incentive programs in the field is the **American Federation of Teachers Database of Loan Forgiveness and Funding Opportunities**. This online tool allows users to search for loan forgiveness programs by district type, subject area, state, and grade level, among other criteria. This resource can be accessed

at: <http://www.aft.org/funding-database>.

## Successful Strategies to Recruit High-Quality, Culturally Diverse Teacher Candidates

Missouri’s equity plan identified a need to increase recruitment of **high-quality** and **diverse** candidates into teacher education programs (Missouri Department of Elementary and Secondary Education, 2015).

Although the research into potential benefits of a diverse teacher population is still developing, there are some studies to consider:<sup>6</sup>

- There is research suggesting that **minority teachers may be more inclined to work with high-minority and high-poverty student populations**. One study found that minority teachers are more likely to be working in schools serving high-poverty, high-minority, or urban communities. Moreover, the demographic characteristics of schools (i.e., minority and poverty student population) were not found to be significantly associated with the likelihood of minority teachers to turn over, although this association was found for White teachers (Ingersoll & May, 2011).
- Another area of research is the **impact of teacher diversity on the academic achievement of minority students**. Dee (2004) analyzed data from the Tennessee Project STAR, which employed random assignment of students and teachers, to assess whether there is a relationship between student achievement and the pairing of same-race teachers and students. Dee found that own-race teacher assignments had a statistically significant positive effect on mathematics and reading scores for both Black and White students (Dee, 2004). Another study found that Black teachers were more effective with minority students, particularly Black students (Hanushek et al., 2005).
- Some studies have examined whether **teachers with a different race than their students have lower expectations than those teachers of the same race as their students**. For example, using teacher-reported evaluations of student behavior and performance, Dee (2005) examined the extent to which teacher demographics influence this evaluation. Dee found evidence that the odds of a student being seen as disruptive or inattentive are higher for teachers who do not have the same racial/ethnic designation. A more recent study using different data but similar methods found similar results for teacher educational expectations (Gershenson, Holt, & Papageorge, 2015).
- Finally, many studies have considered the **benefits of interactions with people of diverse backgrounds for all students**. For example, a meta-analysis of 515 independent studies involving 250,089 individuals from 38 nations found that contact<sup>7</sup> between different groups typically reduces group prejudice (Pettigrew & Tropp, 2006).

Although these studies provide evidence of the benefits of a diverse teacher workforce, they do not confirm that increasing diversity alone is sufficient. And one scholar has countered the notion that the presence of minority teachers, particularly Black male teachers, are enough to

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<sup>6</sup> For a more comprehensive review of the research, see *The State of Diversity in American Education* report by the Albert Shanker Institute (Albert Shanker Institute, 2015).

<sup>7</sup> Here, *contact* is defined as “actual face-to-face interaction between members of clearly defined groups” (Pettigrew & Tropp, 2006).

improve student outcomes by pointing to persistent achievement gaps in cities with a significant proportion of minority teachers relative to the national average (Toldson, 2013).

Similarly, there is reason to believe that increasing recruitment alone may be insufficient to make a sustainable increase in teacher diversity. Recent research found that efforts to increase recruitment of diverse teacher candidates have been successful but observed that minority teacher turnover increased during the same time period. Specifically, from 1989 to 2009, the attrition rate for minority teachers increased from 15.1 percent to 19.3 percent (Ingersoll & May, 2011). This finding suggests that, to have a lasting impact on diversity in the teaching workforce, strategies to support retention are also very important.

There are a variety of strategies in the field with the goal of increasing the recruitment (and retention) of high-quality and diverse teacher candidates

- One strategy put forth to improve the overall quality of teacher candidates is to **increase the selectivity of the teacher preparation program** itself. More selective preparation programs, especially alternative programs, have been found to produce more effective teachers, suggesting that increasing selectivity could positively impact teacher quality (Clark et al. 2013; Glazerman, Mayer, & Decker, 2006; Henry et al., 2013; Urban Teacher Residency United [UTRU], 2014). On the other hand, one study found evidence suggesting that increases in teacher testing requirements were not associated with increases in teacher quality, perhaps due to these requirements representing barriers to entry into the profession and discouraging high-quality candidates (Angrist and Guryan, 2008).
- Another strategy may be to elevate the teaching profession and make it more attractive to high-performing students preparing to enter the workforce (Auguste et al., 2010). **Teacher cadet programs** are one strategy some states have implemented to encourage early recruitment of high school students (National Education Association, 2009). One example of this sort of program in the field is South Carolina’s **Center for Educator Recruitment, Retention, and Advancement** launched in the 1985–86 school year. This program has served approximately 2,700 juniors and seniors annually in about 170 high schools across the state, ultimately reaching more than 60,000 high school participants. More information can be found at: <http://teachercadets.com/about.aspx>
- Another program that focuses on early recruitment of new teacher candidates is **Educators Rising** (formerly Future Educators Association). This organization starts in high school and focuses on increasing diversity in participants’ local teaching workforce, steering participants toward exploring high-need subject areas and supporting participants to ultimately take on teacher leadership roles. More information can be found at: <https://www.educatorsrising.org/>
- In their recent report *The State of Teacher Diversity in American Education*, the Albert Shanker Institute profiles eight programs focused on the recruitment and retention of high-quality diverse teacher candidates. Many of these programs include partnerships with institutions of higher education, especially community colleges, and offer participants mentoring and assistance with placement. The report can be accessed at: [http://www.shankerinstitute.org/sites/shanker/files/The%20State%20of%20Teacher%20Diversity\\_0.pdf](http://www.shankerinstitute.org/sites/shanker/files/The%20State%20of%20Teacher%20Diversity_0.pdf)

- The National Education Association released a similar report in 2014—*Time for a Change: Diversity in Teaching Revisited*—which also provides an overview of federal and state approaches to increasing the diversity of the teacher workforce, underscoring that few states invest in a single strategy, making it difficult to evaluate impact. The report can be accessed at: [http://www.nea.org/assets/docs/Time for a Change Diversity in Teaching Revisited \(web\).pdf](http://www.nea.org/assets/docs/Time_for_a_Change_Diversity_in_Teaching_Revisited_(web).pdf)

## Curriculum Modules or Content for Urban Teacher Preparation Programs

An urban setting has long been recognized as a uniquely challenging teaching environment. Research has consistently found high turnover in urban environments (Guarino, Santibanez, & Daley, 2006; Ronfeldt, Loeb, & Wyckoff, 2013). In addition, urban communities are often diverse, with large populations of minority racial and ethnic groups, students with disabilities, and students with limited proficiency in English, which requires teachers to be prepared to serve students with diverse needs and cultural contexts.

Unfortunately, according to a recent poll by Teach Plus, many newly prepared teachers feel they were not fully prepared to meet the demands of their classroom or serve all of their students (Teach Plus, 2015). And recent reviews of traditional and alternative preparation programs by the National Council on Teacher Quality (NCTQ) point to a need for substantial improvements (NCTQ, 2013; 2014). Furthermore, some scholars have suggested that strong preparation is particularly important for those individuals teaching in an urban setting (Berry, Montgomery, & Snyder, 2008). And there is evidence that recent completers of teacher preparation programs often feel unprepared and reluctant to teach in an urban community in particular (Siwatu, 2011; Watson, 2011).

There is a great deal of literature examining what characteristics of teacher preparation programs are most strongly connected with teacher effectiveness.<sup>8</sup>

- Selection into teacher preparation programs is the first step, and there is evidence that more selective programs produce more effective teachers (Clark et al. 2013; Glazerman et al. 2006; Henry et al. 2013; UTRU, 2014). Moreover, certain characteristics may predict success in urban schools, including previous attendance in a K–12 urban school, community service experience in high-poverty settings, practical experience in high-poverty urban schools, and a strong urban commitment (Whipp & Geronime, 2015). More generally, this points to the importance of prior experiences in an urban setting.
- With respect to coursework, research is mixed as to whether it is connected with a teacher’s ability to raise student achievement. One study found no correlation with teacher effectiveness (Constantine et al., 2009), and another study found that teachers who completed more methods-related coursework and practice teaching felt better prepared and were more likely to stay in teaching (Ronfeldt, Schwartz, & Jacob, 2014). Yet another study found evidence that content knowledge impacted teacher effectiveness in a teacher’s second year, suggesting that second-year teachers are better able to make use of their knowledge (Boyd, Grossman, Lankford, Loeb, & Wyckoff, 2009).
- Preparation linked to practice (i.e., clinical experiences) has been found to produce teachers who are more effective in their first year of teaching (Boyd et al., 2009), and many studies have identified practical clinical experiences as a key strategy in improving teacher preparation (Dailey, 2013; Freedberg & Rice, 2015; Perlstein, 2015). Moreover, a recent survey of Teachers of the Year found a “high-quality final clinical practicum” was

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<sup>8</sup> A recent policy brief produced by the American Institutes for Research Education Policy Center gives a more in-depth overview of research into teacher preparation program characteristics and considerations (DeMonte, 2015).

most commonly identified as one of the “top three” preservice supports (Behrstock-Sherratt, Bassett, Olson, & Jacques, 2014).

And there are many examples of programs designed to better prepare teachers for urban school settings.

- One approach is to focus on cultural competency (also known as *cultural proficiency*). One example of culturally based curricular materials supported by research is **Math in a Cultural Context** at the University of Alaska. This set of interrelated federally funded projects led to the development of 10 supplemental mathematics modules for elementary and middle school students. The efficacy of these curricular materials have been shown to be successful through quasi or experimental methods of analysis (Lipka and Andrew-Ihrke, 2009). More information can be found at: <https://www.uaf.edu/mcc/about/>
- **Urban Teacher Residency (UTR)** programs are one approach to addressing the challenge of effectively preparing and placing teacher candidates in hard-to-staff urban districts. UTRU is one of the largest UTR networks in the country, with 17 partner programs in 14 cities. UTR programs have a rigorous selection process, combine content and clinical experiences throughout two years, and require participants to serve three to four years. More information can be found at: <http://nctresidencies.org/>
- In addition, a **recent report by UTRU** gives an overview of the elements of successful clinical-oriented approaches to teacher preparation, particularly for urban environments, and snapshots of more than 20 programs from across the country (UTRU, 2015).

## Strategies to Address Content and Subject Areas or Geographic Locations With Teacher Shortages

The problem of teacher shortage, or the insufficient supply of teachers to meet demand, has become a more visible problem in recent years (Brenneman, 2015). Teacher shortages are not uniformly distributed across subject areas or geographic regions. Rural and urban communities often face greater challenges in maintaining an adequate supply of teachers. Specific subject and content areas have historically been understaffed, including science, technology, engineering and mathematics (STEM); special education; and foreign languages.

To measure teacher shortages, states often turn to proxy measures, such as unfilled vacancies, prevalence of emergency or provisional licensure, and teachers assigned out-of-field, for example. These and other measures have been used for the past 25 years to identify teacher shortage areas, which are reported to the U.S. Department of Education in the Teacher Shortage Area Nationwide Listing. However, research suggests that the root causes of teacher shortages are complex and vary across school districts (Ingersoll & Perda, 2010; Cowan, Goldhaber, Hayes, & Theobald, 2015), possibly pointing to a need for thoughtful data analysis.

To better identify, understand, and address teacher shortages, some states are producing educator shortage reports or predictor tools.

- Many states produce studies of teacher supply and demand using multiple metrics to analyze trends in the production of new teachers, teacher mobility (i.e., turnover, transfers), overall shortages and surpluses, and other aspects of the teacher labor market. A 2009 report by the Regional Educational Laboratory Midwest reviewed the elements of these state studies in their region and noted substantial variation in the complexity and cost (Lindsay, Wan, & Gossin-Wilson, 2009). Some examples of supply and demand reports produced in the past five years include:
  - Alaska: [http://www.alaskateacher.org/supply\\_and\\_demand.php](http://www.alaskateacher.org/supply_and_demand.php)
  - California: <http://www.ctc.ca.gov/commission/agendas/2015-04/2015-04-4D.pdf>
  - Illinois: [http://www.isbe.net/research/htmls/supply\\_and\\_demand.htm](http://www.isbe.net/research/htmls/supply_and_demand.htm)
  - Maryland: <http://www.marylandpublicschools.org/msde/divisions/certification/progap/proval/docs/MarylandTeacherReport20142016.pdf>
  - Massachusetts: <http://www.air.org/resource/massachusetts-study-teacher-supply-and-demand-trends-and-projections>
  - Minnesota: <http://archive.leg.state.mn.us/docs/2015/mandated/150084.pdf>
  - Ohio: <http://oerc.osu.edu/research/teacher-supply-and-demand-study>
  - Oklahoma: <http://www.okhighered.org/studies-reports/teach-supply/>
- Other states are creating educator shortage predictor tools to predict areas of need and support targeted interventions to avoid shortages. In fact, such a tool was included in the Missouri 2015 equity plan and is under development in Arkansas and Louisiana.

Although understanding the problem is crucial, states also must identify strategies to address short-term and long-term challenges. One approach is to focus on recruitment and hiring strategies for identified areas of shortage, and there are a variety of recruitment strategies to consider.

- One resource for identifying recruitment strategies currently being implemented to address teacher shortages is a **response to information request prepared by the Education Commission of the States**. This brief, prepared earlier this year, references programs and legislative actions taken by states across the country experiencing teacher shortages. The brief can be accessed online: <http://www.ecs.org/state-information-request-teacher-shortages/>
- One specific example of a strategy to address shortages in Georgia is House Bill 280, which created **differentiated compensation for mathematics and science teachers**, offering different incentives to elementary (K–5) and secondary (6–12) teachers.<sup>9</sup> In its inaugural year, the governor and legislature approved 9.59 million of funding for the program under the Quality Basic Education Program (Georgia Department of Education, 2011). The only cost to districts associated with the salary increases was an increase in certain benefits (Georgia Alliance of Education Agency Heads Math/Science Task Force, 2008).
- In Oklahoma, the **Teacher Shortage Employment Incentive Program** provides loan reimbursement (or the cash equivalent) to teachers prepared in Oklahoma who teach mathematics or science in an Oklahoma public secondary school for at least five years. More information about this program can be found at: <http://www.okhighered.org/otc/tseip.shtml>
- In Ohio, the **STEM Teacher-Signing Bonus Program**, created in 2009, offers a signing bonus or loan forgiveness to new STEM or foreign language teachers. The bonus is \$4,000 per year or the equivalent amount in loan forgiveness (for up to five years, or \$20,000). To qualify, teachers must be licensed to teach foreign language or a STEM subject and must teach in hard-to-staff schools for five years (Ohio Business Alliance for Higher Education & the Economy, 2007).
- The challenge of recruiting teachers qualified to teach English language learners (ELLs) is complex. ELL teachers must have specialized language skills and cultural competency, and the demand for such teachers is growing across the country. A brief prepared by the GTL Center,<sup>10</sup> *Recruiting Teachers for Schools Serving English Language Learners*, gives an overview of a variety of possible recruitment strategies to increase the supply of these teachers, including (Garcia & Potemski, 2009):
  - Recruiting more teachers with the necessary background
  - Training general education teachers to work with ELLs
  - Recruiting paraprofessionals to become certified ELL teachers

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<sup>9</sup> Elementary teachers were offered a \$1,000 stipend per endorsement in mathematics or science for each year the endorsement was in effect up to five years. Secondary school teachers certified in mathematics or science were automatically moved to the fourth salary step equated with six years of service, unless this step had already been reached.

<sup>10</sup> Under its previous name, the National Comprehensive Center for Teacher Quality.

- Developing alternative pathways for ELL teachers
- Expanding recruitment efforts beyond the continental United States

This final strategy has recently been implemented to address teacher shortages in Dallas, Texas, and Oklahoma (DeNisco, 2016).

- Another complex but all too common shortage area is special education. A variety of resources have been created to help states and districts address this challenge. The **National Center to Improve Recruitment and Retention of Qualified Personnel for Children With Disabilities** is an example of an organization established to support this work. Although the work of the center has ended, its website and resources are still accessible, including both practice briefs and case studies. More information about this work can be found at: <http://www.personnelcenter.org/index.cfm>
- In addition, the **National Coalition on Personnel Shortages in Special Education and Related Services** is a partnership of 30-plus organizations dedicated to addressing shortages of special education teachers. The coalition's website offers, among other things, a resource page with comprehensive recruitment strategies to consider. More information about the work of the coalition can be found at: <http://specialedshortages.org/take-action/recruitment-strategies/>
- Finally, schools and districts in rural communities face unique and often steep challenges with teacher shortages, and this is certainly the case in Missouri (Missouri Department of Elementary and Secondary Education, 2015). A previous resource, prepared by the GTL Center, gives an overview of rural recruitment strategies and may be a good starting place for practitioners thinking through this issue (Hayes, 2009). One particular strategy currently being implemented across the country is a **rural education collaborative**, or a partnership of rural school districts, to share resources and best practices. A recent report produced by Battelle for Kids explores the potential of this strategy to address challenges unique to rural communities (Battelle for Kids, 2016).

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