How Illinois Districts are Addressing Teacher Shortages:

An Evaluation of the Teacher Vacancy Grant Pilot Program

SEPTEMBER 2024 - REPORT

Written By:

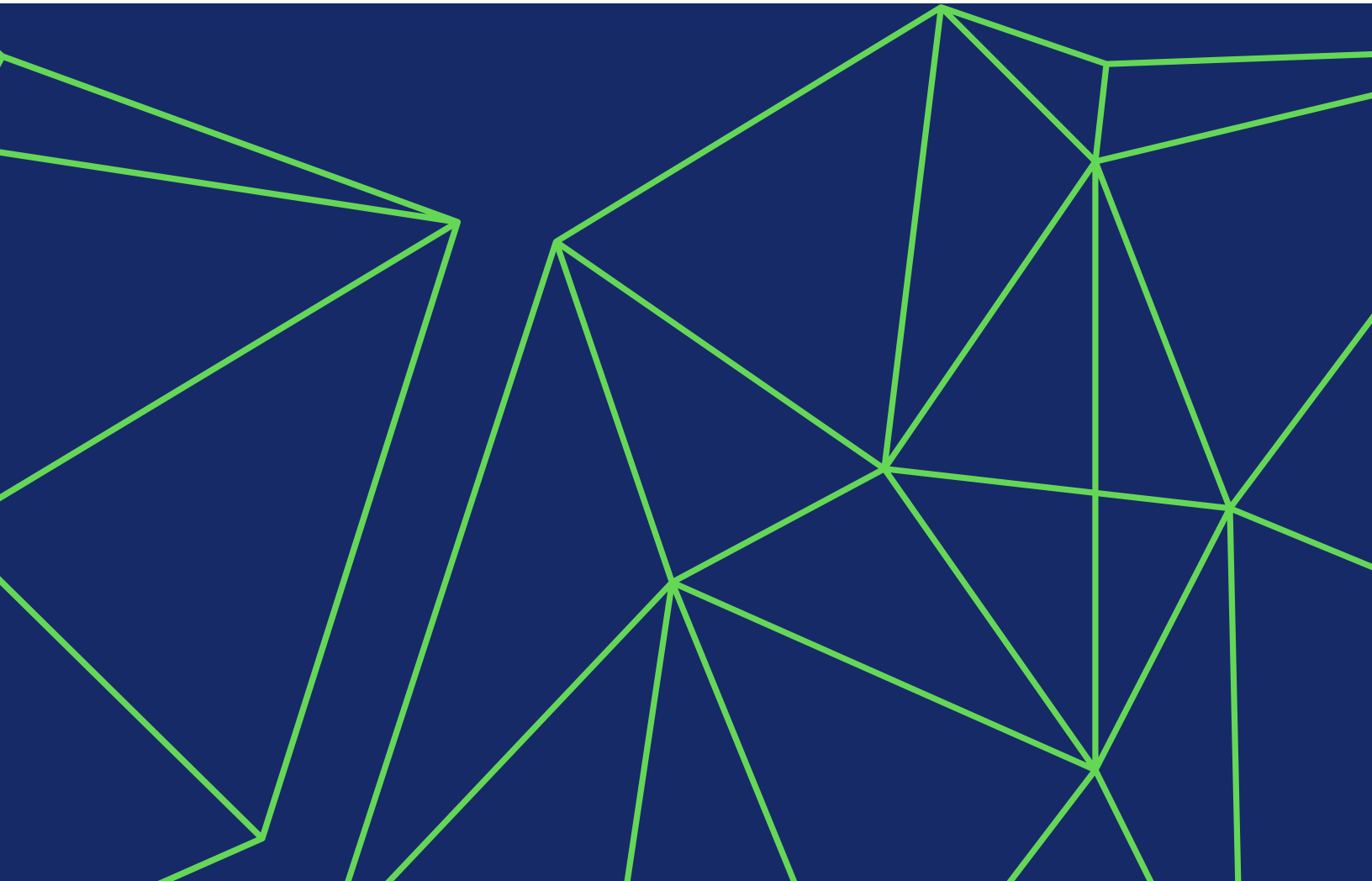
Shereen Oca Beilstein, PhD
Meg Bates, PhD

DPI DISCOVERY PARTNERS INSTITUTE

IWERC

Illinois Workforce and Education Research Collaborative

PART OF THE UNIVERSITY OF ILLINOIS SYSTEM



Suggested Citation

Beilstein, S. O., & Bates, M. (2024). *How Illinois districts are addressing teacher shortages: An evaluation of the Teacher Vacancy Grant Pilot Program*. Chicago, IL: Illinois Workforce and Education Research Collaborative (IWERC), Discovery Partners Institute, University of Illinois. https://dpi.uillinois.edu/applied-research/iwerc/current-projects/teacher-workforce-portfolio/TVGPP-report-1

Acknowledgements

This report was written as part of an evaluation of the Teacher Vacancy Grant Pilot Program administered by the Illinois State Board of Education (ISBE). This evaluation was funded by the Illinois P-20 Council at the invitation of the Office of Governor JB Pritzker. We thank the Illinois P-20 Council, the Governor's Office (especially Mackenzie Eisen), and ISBE staff (especially Kirsten Parr) for their support and feedback on this work.

The Illinois Workforce and Education Research Collaborative (IWERC) is supported by a group of foundations including The Brinson Foundation, CME Group Foundation, Crown Family Philanthropies, Joyce Foundation, Pritzker Traubert Foundation, Robert R. McCormick Foundation, Spencer Foundation, Square One Foundation, Steans Family Foundation, and two anonymous donors. We thank them for allowing IWERC to pursue important research questions of interest to the state of Illinois.

Executive Summary

Research shows that teacher vacancies in Illinois are concentrated in rural and urban areas; specific content areas, such as special education, bilingual education, and mathematics; and specific grade bands (Bates et al., 2024; Beilstein & Withee, 2022a, 2022b, 2022c; Bruno, 2022; ISBE et al., 2024). Additionally, districts with persistent teacher shortages also tend to serve higher proportions of students from low-income families, students with individualized education programs, and English language learners (Withee & Beilstein, 2023). As a result, teacher shortages contribute to inequitable student access to high-quality education.

For example, in school year 2022-23 (SY23), of the roughly 3,500 unfilled teaching positions reported in Illinois, 80% of vacancies were concentrated in 20% of districts, or about 170 of 865 districts, statewide (ISBE 2023a, 2023b). In response, Gov. JB Pritzker and the Illinois State Board of Education developed the Teacher Vacancy Grant Pilot Program (TVGPP), a three-year initiative designed to support school districts that experience the greatest challenges staffing teacher positions (Office of the Governor JB Pritzker, 2023). During the first year of the program (SY24), 170 TVGPP-eligible districts were asked to apply for funding, which totaled $45 million.

In this report, we, which were submitted on a rolling basis during SY24, to answer the following research questions:

- How did districts conceptualize the causes of teacher shortages? How did this differ for rural and urban districts?
- What did districts propose as solutions to mitigate these shortages with grant funds? How did this differ for rural and urban districts?
- What was the overall alignment between the causes and solutions districts proposed?
- How did districts allocate funding to various solutions, and what are the implications of this funding use?

Key Findings

Causes. Districts most commonly identified *compensation*, *lack of qualified applicants*, *routine attrition*, and *competition from neighboring districts* as root causes of teacher shortages. Rural and urban districts identified similar causes, although rural districts were more likely to cite *location* as a cause, while urban districts were more likely to cite *student characteristics*. Across the board, districts identified multiple causes for teacher shortages, suggesting that districts view the causes as multifaceted.

Solutions. Districts commonly proposed *special compensation* (e.g., bonuses), development of *teacher preparation* pathways, and *professional learning* as solutions. Rural and urban districts proposed similar solutions, although rural districts were more likely to offer stipends for *classroom*

resources. Across the board, districts proposed multiple solutions, suggesting that they see their solutions as multipronged as they do causes.

Alignment between causes and solutions. Districts' proposed solutions were well-aligned to the causes they identified. Over 98% of districts developed solutions that properly emphasized recruitment, retention, or both, depending on their description of causes. This alignment was achieved, in part, because most districts identified causes and solutions in both recruitment and retention.

Funding allocation. Districts allocated money to teachers in the form of bonuses, both for hiring ($3.0M) and retention ($4.1M), tuition payments for their pursuit of coursework toward initial licensure or additional endorsements ($8.3M), and professional learning ($1.2M for mentoring alone, among other professional learning strategies). They also allocated funding towards classroom resources as well as supplies and services to improve teacher morale, but these efforts cost much less in real dollars. Funding allocations were generally multipronged.

Summary. Our analysis of both the narratives and budgets included in districts' TVGPP applications came to the same overall conclusion. Districts allocated much of their grant funding to the compensation and development of their future and current teachers, especially in areas that have been historically difficult to staff (e.g., special education, bilingual education/English as a Second Language, science, and mathematics). In this way, teachers, as well as Illinois teacher colleges, were the biggest indirect recipients of grant funds. A forthcoming report will examine short-term outcomes from the TVGPP, as reported by districts.

How Illinois Districts are Addressing Teacher Shortages: An Evaluation of the Teacher Vacancy Grant Pilot Program

Background

Enacted as part of Gov. JB Pritzker's fiscal year 2024 budget and implemented by the Illinois State Board of Education (ISBE), the Teacher Vacancy Grant Pilot Program (TVGPP) is a three-year initiative designed to support school districts that experience the greatest challenges staffing teacher positions (Office of the Governor JB Pritzker, 2023). These staffing challenges, as measured by unfilled teaching positions, are not distributed across all Illinois districts evenly.

Research shows that teacher vacancies in Illinois are concentrated in rural and urban areas; specific content areas, such as special education, bilingual education, and mathematics; and specific grade bands (Bates et al., 2024; Beilstein & Withee, 2022a, 2022b, 2022c; Bruno, 2022; ISBE et al., 2024). Additionally, districts with persistent teacher shortages also tend to serve higher proportions of students from low-income families, students with individualized education programs, and English language learners (Withee & Beilstein, 2023). As a result, teacher shortages contribute to inequitable student access to high-quality education.

Of the roughly 3,500 unfilled teaching positions reported in Illinois for school year 2022-23 (SY23), the year during which this program was developed, 80% of vacancies were concentrated in 20% of districts, or about 170 of 865 districts, statewide (ISBE 2023a, 2023b). These 170 districts, which serve approximately 870,000 students, were designated as being eligible for TVGPP funding, which amounted to $45 million in total during the first year, SY24.

Although local, state, and federal policymakers and education leaders have developed numerous policies and programs to mitigate teacher shortages in Illinois and across the country, many of these programs solely target one component of the educator pipeline (e.g., preparation, recruitment, or retention) and often dictate the mechanisms, or strategies, recipients must use. Examples include creating advertising campaigns to recruit future educators in high school, building partnerships between districts and teacher preparation programs to encourage current staff and community members to pursue licensure, or providing financial incentives for new and current teachers. Because the causes of shortages are complex and intersectional, as they span the extent of the educator pipeline from preparation to retention, concentrate in specific geographic and content areas, and connect to decision-making at all levels of governance (Darling-Hammond et al., 2023; Edwards et al., 2024; García & Weiss, 2020; Sutcher et al., 2019), stitching together these targeted efforts can collectively lead to improved teacher recruitment and retention.

The model for TVGPP funding, however, is unique in the flexibility that qualifying districts were given. Indeed, the variability in staffing challenges found across and within Illinois districts suggests that teacher shortages are localized. Thus, districts had the freedom to allocate TVGPP money in "innovative, creative, and evidence-based ways" (ISBE, n.d.). Due to such flexibility, the grant application process required districts to use available data to identify causes of shortages in their schools and to align solutions to those causes. If proposed solutions were not based in evidence (i.e., solutions lacked research demonstrating improved recruitment and retention) nor deemed by ISBE to be sufficiently aligned to causes, districts were asked to reassess and amend their applications for further review. To assist in program implementation, ISBE provided districts with information on a variety of evidence-based strategies that their districts could adopt, with solutions targeting recruitment (e.g., creating teacher apprenticeships, improving hiring practices); retention (e.g., cultivating strong working conditions, enhancing mentoring and induction programs); and both recruitment and retention (e.g., providing financial incentives such as hiring and retention bonuses).

For example, one source of teacher shortages stems from historically declining numbers of educators. Enrollments in and completions of teacher preparation programs in Illinois and nationwide have decreased substantially over the past decade, though the number of completions has rebounded slightly in recent years (Advance Illinois, 2023). These decrements have led to smaller pools of qualified teacher applicants. In response, many teacher pathway initiatives have been developed that offer financial support, experiential learning opportunities, and mentorship for teacher candidates, such as teacher residencies and Grow Your Own programs. Adopted widely at both the district and state levels, teacher pathway programs have been linked to higher rates of retention (Carl & Seelig, 2023; Espinoza et al., 2018; Gist et al., 2018; Goldhaber et al., 2017; Silva et al., 2015), though it should be noted that the evidence base for some pathway programs is small but growing.

As another example, teacher attrition—especially among early-career teachers—contributes greatly to teacher shortages (Darling-Hammond et al., 2023; Ingersoll et al., 2018). Multiple factors influence teachers' decisions to leave their positions or the profession, including personal reasons and low salaries. But frequently, teachers cite poor working conditions and relationships with leadership (Beilstein et al., 2023; García & Weiss, 2020; Ingersoll et al., 2018; Illinois Association of Regional Superintendents of Schools et al., 2022; Podolsky et al., 2016).

Working conditions have been associated with teacher turnover, retention, and effectiveness: They predict teachers' job satisfaction and career decisions, even more than student demographics (Johnson et al., 2012; Ladd, 2011; Loeb et al., 2005). Furthermore, research shows that successful working conditions are cultivated by effective leaders, and improvements in working conditions

can lead to lower teacher turnover, higher teacher quality (Boyd et al., 2011; Grissom, 2011; Ladd, 2011), and increased student learning (Johnson et al., 2012).

In short, the TVGPP represents a tremendous opportunity not only for Illinois districts, but also for our collective understanding of practices that work for resolving teacher shortages in critical geographic and content areas. In this report, we analyze districts' applications to receive TVGPP funding, which were submitted on a rolling basis during SY24, to answer the following research questions:

1. How did districts conceptualize the causes of teacher shortages? How did this differ for rural and urban districts?
2. What did districts propose as solutions to mitigate these shortages with grant funds? How did this differ for rural and urban districts?
3. What was the overall alignment between the causes and solutions districts proposed?
4. How did districts allocate funding to various solutions, and what are the implications of this funding use?

Methods

Data and Sample

We examined the narratives and budget details included in 156 district applications. Narratives were pulled from applications ISBE approved by early January 2024, and budget details were provided by ISBE in December 2023[1]. These 156 districts received $42,704,613 in grant funding. The amount districts received during this first year varied. ISBE developed a funding formula that was based on districts' numbers of unfilled teaching positions, with higher total vacancies resulting in larger awards. The average district grant was around $273,748, ranging from $92,164 (19 districts) to $9,588,925 (City of Chicago SD 299).

District Characteristics

Unfilled teaching positions totaled 2,761.5 for the 156 districts in this sample, which comprised 78.7% of all unfilled teaching positions statewide in SY23 (ISBE, 2023). However, despite accounting for three-fourths of all unfilled teaching positions statewide, this sample represents only 18.0% (156 of 865 districts) of Illinois districts, suggesting that teacher shortages in Illinois are concentrated in the TVGPP districts.

Across districts, the average count of unfilled teaching positions was 17.7, ranging from 2.0 to 1,094.0, and the average vacancy rate was 6.8%, ranging from 0.5% to 36.5%. Regarding funding, the districts in the sample have fewer resources than others (using Illinois' Evidence-Based Funding tiers as a measure, in which Tier 1 districts are furthest from funding adequacy and Tier 4 districts have more than adequate funding). Specifically, 50.6% of districts (79 districts) in our

[1] To receive TVGPP funding in subsequent grant years, districts will be required to provide a data analysis as part of an annual application process.

sample are classified as EBF Tier 1, 44.2% (69 districts) as EBF Tier 2, and 5.1% (8 districts) as EBF Tier 3. Regarding locale, 92 districts are located in rural areas and 64 in urban areas.

Analysis of District Narratives

To answer research questions 1, 2, and 3, we qualitatively coded district narratives along two dimensions: (1) reported *causes* of and (2) proposed *solutions* for teacher vacancies. We developed a detailed codebook to reflect the themes found in district narratives using MacQueen et al.'s (1998) inductive and deductive process. Two coders met to develop the codebook, discuss and resolve disagreements, and revise the codebook accordingly. To establish interrater reliability, 27.1% (42 of 155 districts) of narratives were double coded, and substantial interrater reliability was reached (for causes and solutions, respectively, pooled Cohen's k = 77.2% and 86.8%; Cohen, 1960; De Vries et al., 2008; Landis & Koch, 1977).

For analysis of alignment between causes and solutions, codes were also assigned to broader categories of recruitment, retention, or both recruitment and retention. Although we provide short descriptions of the codes in the tables below, please see Appendix A for the complete codebook.

Analysis of District Budget Details

To supplement and confirm coding of application narratives, and to address research question 4, we analyzed the budget details supplied by districts in their applications. We began by analyzing the *function-object codes* each district used to allocate their grant funding to budget lines (for ISBE's full list of function-object code definitions, please go to https://www.isbe.net/FTPFiles/Functions-Objects.pdf). These codes allow the district to share the general *function* of the funding (e.g., for instruction, for administration) and the specific *object* being supported with the funding (e.g., salaries, benefits, services, supplies).

Districts gave brief explanations of how the money allocated to each function-object code would be used. Districts often repeated the same function-object code if a new description for a distinct purpose (with a unique budget amount) was needed. In other words, the same code could be used more than once by a district. Our analysis combined all relevant budget lines within the code.

Overall, districts used 71 unique function-object code combinations to express how they budgeted their TVGPP funds. However, 23 of those combinations were used only once (by a single district). Furthermore, 54 of those combinations were used by fewer than 5% ($n < 8$) of the districts. Ultimately, only 17 function-object code combinations were used by more than 5% of districts. We thus limit our analyses to the most common combinations.

Importantly, function-object codes have limitations for extrapolating overall uses of funds. The codes are used for districts to designate what is being paid for and how it is being paid. As such, districts used *numerous* different codes to denote the same general expense type; for instance, paying for an employee's tuition towards a specific education credential might take the form of reimbursement to the employee (one function-object code) or direct payment to a college (a different function-object code). Conversely, districts embedded multiple distinct expense *types* within the same code; for instance, the instructional salary code might include retention bonuses for current teachers, stipends for student teachers, or hiring bonuses for new teachers, all quite different expenses in practice. Given these limitations, we also coded budget details for commonly identified expenses (e.g., bonuses) to give a more specific portrait of funding use.

Results

Causes of Teacher Vacancies Reported in District Narratives

Table 1 displays all causes that emerged from our qualitative analysis and the frequencies in which the causes were found in the 156 TVGPP district narratives. Our analysis suggests that the causes for teacher vacancies across these districts are complex. On average, districts reported 4.7 causes for their unfilled teaching positions.

A majority of districts cited noncompetitive *compensation* (73.1% or 114 of 156 TVGPP districts in our sample) and competition from *neighboring districts* (57.7%, 90 districts), largely due to differences in compensation, as their main challenges in teacher recruitment and retention. As one district noted,

> This is the second year in a row that [we have] started with unfilled teaching and educational service professional vacancies. Despite significant increases in contractual pay and benefits, the district continues to remain at a disadvantage competitively when comparing pay and benefits of other regional districts. With an already limited pool of applicants, many teaching candidates and even existing teachers are choosing other districts.

Additionally, most districts (69.9%, 109 districts) shared that they receive few to no qualified applicants (i.e., *lack of qualified teachers*) in subject areas and specializations that are difficult to staff (e.g., science, mathematics, special education, and bilingual education/English as a Second Language, or ESL). For example, one district noted that, "the majority of our vacancies require specialized endorsements such as special education and middle school endorsements." Due to their location, this district lacks partnerships with "local collegiate institutions that provide these types of endorsements, making it difficult to attract student teachers in those areas." This quote illustrates another key theme, *teacher preparation*, which was found in 26.9%, or 42, district narratives.

And finally, many districts reported challenging *working conditions* (45.8%, 72 districts) and *attrition* (62.2%, 97 districts) as root causes for their current teacher vacancies. To illustrate, one district that had been struggling with both issues wrote,

> Over the course of the last few years, there has been a sharp increase in the number of teacher vacancies. We are not unlike districts across the state, or country for that matter, when it comes to the reasons for our unfilled positions. To start, resignations and retirements came in unprecedented numbers during and after the COVID-19 pandemic. The increased workload that came from preparing for multiple modalities as we had to navigate between remote, hybrid, and in-person learning; health concerns related to the virus; the new technical skills required to teach online; and the management of increased emotional needs of students caused additional stress on our teaching staff that in turn fed into our current openings. The vacancies forced administrators to employ less than ideal strategies to help in the short-term. They had to combine classes, utilize current teachers and administrators to fill-in gaps, and in certain cases, combine positions. Unfortunately, the added burden on everyone led to increased stress and burnout and has resulted in a high-stress culture that we are actively working to reverse.

Table 1. Frequencies of reported causes for teacher vacancies found in TVGPP district narratives.

Causes of teacher vacancies	Count of TVGPP districts	Percent of TVGPP districts (N = 156)
Compensation – Inadequate salary/benefits	114	73.1%
Lack of qualified teachers – Limited pool of qualified applicants, often in difficult-to-staff areas	109	69.9%
Attrition – Early or routine staff departure	97	62.2%
Neighbor districts – Loss of staff to nearby districts due to compensation or other attractions	90	57.7%
Working conditions – Untenable school climate due to high stress, heavy workload	72	46.2%
Location – Surrounding area too rural, no housing, long commute	63	40.4%
Teacher preparation – Lack of partnerships with teacher preparation programs, difficulty placing student teachers	42	26.9%
Student characteristics – District is perceived to have unique challenges (or challenges in hiring teachers with the right perspective/training) because of the specific student population	30	19.2%

Student behaviors – District is perceived to have unique challenges due to student behavioral problems, socioemotional issues, low achievement	27	17.3%
Professional learning – Lack of adequate coaching, mentoring, professional learning	24	15.4%
Leadership – Poor leadership, high leadership turnover, vacant leadership positions	20	12.8%
Classroom resources – Insufficient curriculum, funds for classroom supplies, classroom technologies	15	9.6%
Recruitment – Problems with job advertisements, interview process	13	8.3%
Growth opportunity – Lack of formal, financial support for teachers to further licensure/credentials	12	7.7%

Comparing Causes between Rural and Urban Districts

A comparison of rural and urban districts shows that both types of districts struggle with the same top causes for vacancies (e.g., noncompetitive compensation, competition for staff from neighboring districts, challenging working conditions, teacher attrition, and lack of qualified applicants), with two exceptions. Rural districts were more likely to cite location as a cause (reported by 60.9% of rural compared to 10.9% of urban districts). As one rural district wrote,

> [We are] unfortunately, geographically, a bit off the beaten path. Due to our geographic location, potential candidates face unique challenges related to transportation, childcare, and housing. Each of these challenges comes with additional financial considerations. Furthermore, our geographic location presents additional constraints for us because many candidates do not know that our district exists as an option. As a small rural district, we are in need of additional funding, support, and expertise to help transform our school district into a well-known employer-of-choice in our area. We want our current and aspiring educators to know that we value them and that we want to support them.

Urban districts, on the other hand, cited student characteristics more often (28.1% for urban compared to 13.0% for rural districts). According to an urban district,

> We also struggle to retain teachers because they seek opportunities in other school districts—districts not categorized as "high needs." Educators may perceive that students in other districts do not have as many socio-economic challenges, less adverse childhood experiences, and may exhibit fewer behavioral challenges in the classrooms. Educators may also believe students in other school districts have greater parental involvement in their child's educational experience.

Despite these differences, rural and urban districts averaged 4.8 and 4.5 identified causes per application, respectively, suggesting that many districts saw their root causes of shortages as being multifaceted.

Table 2 lists top causes for rural and urban districts. Codes in **purple** indicate differences in top causes between rural and urban districts, whereas all other codes are similar across rural and urban districts. Appendix B contains a comparison of all causes reported by rural and urban districts.

Table 2. Top causes for vacancies reported by **rural** and **urban** districts.

Cause	Count of rural districts	Percent of rural districts (n = 92)	Cause	Count of urban districts	Percent of urban districts (n = 64)
Compensation	72	78.3%	Lack qualified teachers	52	81.3%
Attrition	59	64.1%	Compensation	42	65.6%
Lack qualified teachers	57	62.0%	Neighbor districts	39	60.9%
Location	56	60.9%	Attrition	38	59.4%
Neighbor districts	51	55.4%	Working conditions	29	45.3%
Working conditions	43	46.7%	Teacher preparation	19	29.7%
Teacher preparation	23	25.0%	Student characteristics	18	28.1%

Solutions for Teacher Vacancies Proposed in District Narratives

Table 3 displays all solutions that emerged from our qualitative analysis and the frequencies in which the solutions were found in the 156 TVGPP district narratives. The strategies districts proposed to reduce teacher vacancies were equally as multifaceted as their identified causes. On average, districts proposed 4.1 different solutions.

Teacher preparation emerged as the most common solution districts proposed to offset teacher vacancies in their schools (69.9% or 109 of 156 TVGPP districts in our sample). This strategy often included developing formal, paid pathways for current, non-licensed staff (e.g., paraprofessionals, teacher aides, and other employees) to gain licensure, often in hard-to-fill areas (e.g., science, mathematics, special education, bilingual education/ESL). Districts also devoted much of their plans to providing current teachers with enhanced *professional learning* (66.7%, 104 districts) as well as formal *growth opportunities* to earn additional credentials, again often in hard-to-fill areas (48.1%, 75 districts). *Special compensation*, which included distributing hiring and retention

bonuses, surfaced as the third most common solution (66.0%, 103 districts). These bonuses were often directed toward teacher positions in areas and specializations that are difficult to staff.

In sum, a majority of districts focused their strategies on financially investing in the teacher workforce directly and in higher education institutions that could build and upskill the teacher workforce. Summarizing the impact of TVGPP, one district concluded,

> By investing in the growth, needs, and well-being of our educators with the help of the Teacher Vacancy Grant, we intend to redefine the district as a preferred employer in the region. We believe that this approach will help us to foster an environment where teachers feel supported and valued, thereby enhancing the experience of our current teachers and serving to attract new ones as well. Funding from this grant opportunity is exactly what we need to plan and launch programming to recruit and retain our best and brightest educators in our district.

Table 3. Frequencies of proposed solutions for teacher vacancies found in TVGPP district narratives.

Solutions for teacher vacancies	Count of TVGPP districts	Percent of TVGPP districts (N = 156)
Teacher preparation – Development of pathway programs	109	69.9%
Professional learning – Provision of induction/mentoring programs, coaching, other professional learning opportunities	104	66.7%
Special compensation – Short-term or one-time hiring bonuses, retention bonuses, tuition reimbursements, other stipends	103	66.0%
Growth opportunity – Furnishing costs for current teachers' pursuit of additional licensure/endorsements	75	48.1%
Recruitment – Increasing advertising budget, improving interview protocol, hiring recruitment staff	74	47.4%
Teacher support – Implementing self-care programs, affinity groups, teacher/staff celebrations	56	35.9%
Classroom resources – Stipends for classroom supplies	48	30.8%
Location – Stipends for relocation, commute, general living costs	32	20.5%
Standard compensation – Increasing salary, improving healthcare coverage	18	11.5%
Support staff – Hiring more staff, such as school support personnel or substitutes	17	10.9%

Comparing Solutions between Rural and Urban Districts

Many of the most frequent solutions for teacher vacancies that rural and urban districts proposed were similar (e.g., teacher preparation pathways, special compensation, professional learning, formal growth opportunities), mirroring the previous comparison of rural to urban districts for causes of vacancies. There was one exception, however. Rural districts were more likely to implement stipends for classroom resources (reported by 41.3% of rural districts compared to 15.6% of urban). But overall, rural and urban districts both proposed 4.1 solutions on average, suggesting that many districts viewed their solutions as multifaceted.

Table 4 displays the top solutions for rural and urban districts. One code in **purple** shows one difference in top solutions between rural and urban districts, whereas all other codes are similar across rural and urban districts. Appendix C contains a complete comparison of solutions reported by rural and urban districts.

Table 4. Top solutions proposed by **rural** and **urban** districts.

Solution	Count of rural districts	Percent of rural districts (n = 92)	Solution	Count of urban districts	Percent of urban districts (n = 64)
Professional learning	65	70.7%	Teacher preparation	50	78.1%
Teacher preparation	59	64.1%	Special compensation	45	70.3%
Special compensation	58	63.0%	Recruitment	41	64.1%
Growth opportunity	46	50.0%	Professional learning	39	60.9%
Classroom resources	38	41.3%	Growth opportunity	29	45.3%
Teacher support	36	39.1%	Teacher support	20	31.3%
Recruitment	33	35.9%	Location	14	21.9%

Alignment across Reported Causes and Proposed Solutions

Nearly all TVGPP districts' (98.1% or 153 of 156 districts) analyses of their causes for teacher vacancies aligned with their proposed solutions. Misalignment occurred when recruitment and retention were both listed as causes, but only one of these pipeline areas was addressed in districts' proposed solutions (e.g., two districts focused solely on retention solutions, and one solely on recruitment solutions).

Reported causes for teacher vacancies in TVGPP districts extend across the pipeline. Nearly all (97.4%, 152 districts) districts reported that the causes for their teacher vacancies were related to issues in both recruitment and retention. Few districts (2.6%, 4 districts) reported one component

of the pipeline as a cause (e.g., three districts reported recruitment issues only, whereas one district reported retention issues only).

Correspondingly, nearly all TVGPP districts (96.8%, 151 districts) devised solutions that extend across the pipeline to address vacancies. Few districts (3.2%, 5 districts) proposed strategies that focused on one component of the pipeline (e.g., three districts proposed strategies that only targeted recruitment, whereas two districts only targeted retention).

Funding Allocations to Proposed Solutions for Teacher Vacancies

In addition to examining the frequency with which districts proposed certain solutions to their vacancies, we also investigated the amount of money designated to these solutions. We first present findings from our analysis of districts' reported function-object codes for expenses related to the grant, then use broader categories of funding to summarize teacher compensation strategies.

Function-Object Code Findings

Finding 1. We found that districts commonly used strategies focused on enhancing teacher compensation, providing mentoring/coaching, and creating a pipeline of teachers to fill positions through student teacher support and continuing education for current teachers. To a lesser extent, districts also offered classroom resources and other materials/services designed to enhance the morale and culture at the school.

This finding is derived from Table 5 below, which summarizes the top most-commonly-used codes across the 156 districts in the sample. (For a summary of all the most-commonly-used codes, please see Appendix D.) From this table, one can see:

- Over two-thirds of all districts used code 1000-100 (instructional salaries), which included direct increases to teacher compensation, largely through hiring, retention, and other bonuses, as well as paying student teachers. Districts clearly felt that, for alleviating teacher vacancies, money talks.
- Four codes under the general function 2210 (instructional improvement) were also widely used, revealing the widespread use of strategies focused on teacher mentoring, instructional coaching, professional learning, and tuition reimbursement for teachers (or aspiring teachers) to take courses towards an educator license or additional endorsement. Many of these budget lines were described in terms of growing the skills of the current teacher workforce, supporting current teachers more so they will stay, and building an internal teacher pipeline.

- Strategies related to providing classroom resources and supporting teacher culture (through fun events, outings, and food) were woven throughout many of these codes—and explicit in some (such as function 2560 related to food services).

Table 5. Top function-object codes used by districts.

Function-object code	Number of districts using this code	Percent of districts using this code	Commonly described uses of the code
1000-100 (Instructional salaries)	104	66.7%	Hiring, retention, and mentor stipends. Paying student teachers.
2210-200 (Instructional improvement benefits)	74	47.4%	Tuition reimbursement. Benefits for instructional coaches and mentors. Various stipends.
2210-100 (Instructional improvement salaries)	71	45.5%	Instructional coaches. Mentor stipends. Tuition reimbursement. Other various stipends.
2210-300 (Instructional improvement services)	68	43.5%	Professional learning & professional learning consultants. Tuition reimbursement.
1000-200 (Instructional benefits)	66	42.3%	Benefits related to stipends in 1000-100. Paying student teachers. Tuition reimbursement.

Finding 2. We also determined that a large amount of the total grant funding was allocated to the common approaches described above: instructional salaries and instructional improvement work, including pursuit of additional coursework towards a license or endorsement. Teachers, as well as Illinois teacher colleges, are the biggest indirect recipients of grant funds.

This finding is derived from Table 6, which displays the function-object codes on which the most total dollars across all districts were spent, as well as the function-object codes on which districts that used each code most heavily invested. From this, one can see:

- The largest amount of money, by far, was spent on 1000-100 (instructional salaries, or i.e., enhanced compensation to teachers in some form).
- Several other top codes in the overall expenditures were in function 2210 (instructional improvement), 1000 (instruction again), and 4000 (typically used for paying public colleges or state entities for coursework and licensure fees). This, again, suggests great spending going to teachers—through direct compensation, including coverage of tuition costs, but also through professional learning and mentoring—and to teacher colleges—through coverage of tuition costs.

- Although the specific codes change somewhat when looking at district average spending, the key takeaway is mostly the same. Districts spent largely on payments to colleges and instructional salaries.

We should note that many of these top expenditures—by amount—are simply things that cost more. Salaries and tuition are costly, especially as compared to providing climate and culture building opportunities for teachers (other strategies found to be used somewhat commonly). However, Table 5 and Table 6, combined, show that these grant dollars are being used both in dollars and in frequency on instruction and instructional improvement, including course-taking at teacher colleges.

Table 6. Top 10 function-object codes by **overall amount spent** and **average amount spent by utilizing districts**. Codes in both groups are in **dark gray**.

Function-object code	Number of districts	Total amount spent across all districts	Function-object code	Number of districts	Average amount spent by utilizing districts
1000-100 (Instructional salaries)	104	$14,185,881	4000-600 (Payment to other governmental units, other object)	4	$187,105
2210-300 (Instructional improvement services)	68	$3,341,738	1000-100 (Instructional salaries)	104	$136,403
2210-100 (Instructional improvement salaries)	71	$3,701,656	2300-100 (General admin salary)	4	$102,384
2210-200 (Instructional improvement benefits)	74	$2,837,872	2900-100 (Other salary)	c4	$80,400
1000-200 (Instructional benefits)	66	$4,217,291	3000-300 (Community services, services)	2	$68,924
2640-300 (Staff services, services)	40	$1,409,812	4000-300 (Payment to other governmental units—services)	16	$64,798
1000-300 (Instructional services)	26	$1,145,742	2210-600 (Instructional	7	$60,698

			improvement objects)		
2640-200 (Staff services benefits)	27	$1,234,956	2120-200 (Guidance benefits)	2	$57,500
2640-100 (Staff services salaries)	21	$1,069,568	2210-100 (Instructional improvement salaries)	71	$52,136
4000-300 (Payment to other governmental units—services)	16	$1,036,774	3000-600 (Community services other objects)	2	$52,000

Additionally, our analysis demonstrated that districts proportionately spent heavily on instructional salaries and instructional improvement (often via formal coursework towards a license/endorsement). However, results showed that some districts invested large proportions of their funding in improving the physical and technical environment within which teachers work (i.e., the emergence of codes 2220-500 and 2530-500, focused on classroom tech and school facilities, such as a teachers' lounge, respectively). For a complete analysis of the average proportion of funds spent across individual districts, please refer to Appendix E.

Finding 3. Districts used multipronged approaches, which mirrors results from our analysis of the proposed solutions found in district narratives. We analyzed how districts distributed their funding across multiple codes, which would indicate whether districts intensely focused on one strategy versus implementing a multipronged approach. On average, districts used 5.2 function-codes, suggesting a more multipronged approach to the complex problem of teacher vacancies.

Interestingly, only six districts went "all-in" on one code. Five of those districts were all-in on the same code: 1000-100 (instructional salary). These all-in districts were thus betting on direct teacher compensation—in some form—as a useful single-pronged approach. The next section more deeply analyzes these different kinds of direct compensation across all districts.

Teacher Compensation: A Finer Grain

District-level allocations. As it became apparent that teacher compensation was a common strategy in many budget-line descriptions, we noted expenses on different kinds of compensation within and across function-object codes. Although not exhaustive of all the ways districts used teacher compensation, Table 7 provides a look at some clear and common approaches.

From this, we can clearly see the large expenditures on coursework and licensure (going to teachers or teacher colleges, depending on the approach), bonuses/stipends, and paying student

teachers. We note that, while more districts used hiring bonuses than retention bonuses, districts who gave retention bonuses spent much more on them in dollars and proportion of grant funds. We also note that many districts linked multi-year commitments to these compensation strategies, requiring teachers to work in that district, and often in that role, for the agreed-upon duration. If teachers were to leave earlier than anticipated, they would have to pay back a pro-rated amount of the stipend or salary received.

Individual-level allocations. To obtain a sense of the dollars that teachers would receive from the common teacher-compensation strategies described above, we noted when budget details provided breakdowns of specific stipends at the individual level (e.g., of the $60,000 one district spent on signing bonuses, the amount individual teachers received was $1,500). Table 7 also details the range in dollars spent per individual across districts using that strategy.

Table 7. Common compensation strategies combined across function-object codes.

Compensation strategy	Number of districts using strategy	Total dollars spent on strategy	Average dollars spent on strategy (by utilizing districts)	Proportion of grant funds spent on strategy (by utilizing districts)	Range spent per individual
Coursework & licensure costs	116	$8,303,108	$71,579	30%	
Non-licensed staff					$250 – $35,000
Licensed staff					$840 – $13,416
Both					$1,000 – $15,000
Hiring bonuses	65	$3,000,488	$46,161	20%	
Signing bonuses					$500 – $10,000
Relocation stipends					$1,500 – $5,000
Student loan forgiveness					$500 – $5,500
Stipends for serving as mentors	59	$1,171,699	$19,859	10%	$167 – $5,000
Retention bonuses	50	$4,097,588	$81,952	39%	$202 – $10,000
Paying student teachers*	28	$9,072,393	$324,014	25%	
Stipend per					$200 – $6,250

semester					
Stipend per year					$500 – $10,000
Salary per semester					$8,400 – $21,270
Housing stipends	11	$363,995	$33,090	10%	$400 – $15,400

**Note on student-teacher payments in Table 7:* City of Chicago SD 299, or Chicago Public Schools, allocated grant funds to their Teacher Residency Program to pay resident student-teachers' salaries and programmatic costs. Thus, the total and average dollars reported above on student-teacher payments is largely driven by this district. Excluding Chicago Public Schools, the total and average dollars spent on student-teacher payments, across the remaining 27 districts, was $1,695,975 and $62,814, respectively. The proportion of grant funds spent on student-teacher payments for these 27 districts was 23%.

Conclusion

Our analysis of TVGPP application narratives and budget details found that districts' solutions aligned to their identified causes of shortages. Nearly all the districts in our sample proposed evidence-based solutions that properly emphasized recruitment, retention, or both, depending on their description of causes. Findings indicate that large proportions of TVGPP funding were allocated to offering financial incentives and career growth opportunities for future and current teachers, particularly in areas that have been historically difficult to staff (e.g., special education, bilingual education/ESL, science, and mathematics). Ultimately, TVGPP funds resulted in investments in teachers as well as Illinois teacher colleges.

The most common, and heavily financed, recruitment strategy TVGPP districts adopted was around building new, or further expanding existing, teacher pathways for current non-certified staff, such as paraprofessionals and substitutes, to gain licensure. Often noting lack of qualified applicants as an indicator of difficulty with recruitment, many of these districts decided to invest TVGPP funds on further educating their current non-certified staff, many of whom, in turn, committed to work in that district once appropriately licensed. Districts provided tuition reimbursements, stipends to cover licensure and endorsement costs, and payments for student teachers, among other methods. As another measure to reduce teacher vacancies, especially in hard-to-fill areas, many districts also invested in providing currently licensed staff with formal growth opportunities to pursue additional endorsements.

Providing current staff, both non-certified and certified, with subsidized pathways for further education not only helps districts target their specific and specialized hiring needs, it also provides districts with a pool of teachers who are familiar with, and often part of, the community. During a period when enrollment and completion of teacher preparation programs have historically been on the decline, a growing evidence base for investments in pathway programs, including residency

and Grow Your Own models, shows promise (Carl & Seelig, 2023; Espinoza et al., 2018; Gist et al., 2018; Goldhaber et al., 2017; Silva et al., 2015).

Another frequently adopted recruitment strategy, which also came with large financial investments of TVGPP funds, was the provision of hiring bonuses, in the form of signing bonuses or student loan repayments, for new teachers. Relatedly, the most common retention strategies enacted by districts also directed large amounts of TVGPP funds to current staff through retention bonuses and other types of retention-related stipends. The use of these financial incentives aligns with our analysis of application narratives, which found that nearly three-fourths of TVGPP districts cited noncompetitive salary and benefits as a cause of teacher shortages, and within this group, many districts said that they lose applicants to neighboring districts offering higher salaries.

Providing financial incentives such as these are a widely adopted recruitment and retention mechanism among districts and states across the country. However, to improve teacher retention sustainably, scholars attest that strategies should be multipronged and wide-ranging (Espinoza et al., 2018; Podolsky et al., 2016). Results suggest that TVGPP districts did incorporate a range of strategies, as most districts proposed four to five different solutions that targeted both recruitment and retention. Though we previously highlighted those strategies that cost the most money, it is important to note that districts also allocated funding towards classroom resources as well as supplies and services to improve teacher morale. These efforts, however, cost much less in real dollars. A forthcoming report will examine short-term outcomes from the TVGPP, as reported by districts.

References

Advance Illinois (2023). *The State of our educator pipeline 2023: Strengths, opportunities, and the early impact of the COVID-19 pandemic*. https://drive.google.com/file/d/18X5gGCRWG2Egl7C0OWjLxtBCReeuq7nc/view

Bates, M., Withee, T., & Beilstein, S. O. (2024). *Underneath the hood: Consistencies and surprises in the SY24 Educator Shortage Survey*. Chicago, IL: Illinois Workforce and Education Research Collaborative, Discovery Partners Institute, University of Illinois and Goshen Education Consulting, Inc. https://omsdpiprod.wpenginepowered.com/wp-content/uploads/2024/06/WP1-240502-1.pdf

Beilstein, S. O., Kom Nguiffo, J., Withee, T., & Bates, M. (2023). *"Having to fight for everything": Voices of Illinois educators on why they leave or stay in the profession*. Chicago, IL: Illinois Workforce and Education Research Collaborative, Discovery Partners Institute, University of Illinois and Goshen Consulting. https://iarss.org/wp-content/uploads/2023/02/WC-stakeholder-qual-report-230207-FINAL.pdf

Beilstein, S. O., & Withee, T. (2022a). *Illinois' persistent educator shortage: Multiple sources point to the same conclusion*. Chicago, IL: Illinois Workforce and Education Research Collaborative, Discovery Partners Institute, University of Illinois and Goshen Consulting. https://omsdpiprod.wpenginepowered.com/wpcontent/uploads/2022/10/Persistent_Educator.pdf

Beilstein, S. O., & Withee, T. (2022b). *Chronic teacher shortages: Part 1—Content and geographic areas with high need*. Chicago, IL: Illinois Workforce and Education Research Collaborative, Discovery Partners Institute, University of Illinois and Goshen Consulting. https://iarss.org/wpcontent/uploads/2022/04/ChonicTeacher.pdf

Beilstein, S. O., & Withee, T. (2022c). *Chronic teacher shortages: Part 2—Demand for teachers by grade band*. Chicago, IL: Illinois Workforce and Education Research Collaborative, Discovery Partners Institute, University of Illinois and Goshen Consulting. https://omsdpiprod.wpenginepowered.com/wp-content/uploads/2022/10/ChronicTeacherPt2.pdf

Boyd, D., Grossman, P., Ing, M., Lankford, H., Loeb, S., & Wyckoff, J. (2011). The influence of school administrators on teacher retention decisions. *American Educational Research Journal*, *48*, 303-333. doi: 10.3102/0002831210380788

Bruno, P. (2022). *Pandemic-era school staff shortages: Evidence from unfilled position data in Illinois*. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4306263

Carl, B., & Seelig, J. (2023). A landscape analysis of "Grow Your Own" educator strategies in Wisconsin rural schools (WCER Working Paper No. 2023-4). Wisconsin Center for

Education Research, University of Wisconsin–Madison. https://wcer.wisc.edu/docs/working-papers/WCER_Working_Paper_No._2023-4_.pdf

Cohen, J. (1960). A coefficient of agreement for nominal scales. *Educational and Psychological Measurement*, *20*, 37-46.

Darling-Hammond, L., DiNapoli, M., Jr., & Kini, T. (2023). *The federal role in ending teacher shortages*. Palo Alto, CA: Learning Policy Institute. https://doi.org/10.54300/649.892

De Vries, H., Elliott, M. N., Kanouse, D. E., & Teleki, S. S. (2008). Using pooled kappa to summarize interrater agreement across many items. *Field Methods*, *20*, 272-282.

Edwards, D. S., Kraft, M. A., Christian, A., & Candelaria, C. A. (2024). Teacher Shortages: A Framework for Understanding and Predicting Vacancies. *Educational Evaluation and Policy Analysis*, *0*(0). https://doi.org/10.3102/01623737241235224

Espinoza, D., Saunders, R., Kini, T., & Darling-Hammond, L. (2018). *Taking the long view: State efforts to solve teacher shortages by strengthening the profession.* Palo Alto, CA: Learning Policy Institute. https://learningpolicyinstitute.org/product/long-view

García E., & Weiss, E. (2020). *Examining the factors that play a role in the teacher shortage crisis: key findings from EPI's perfect storm in the teacher labor market series.* Washington DC: Economic Policy Institute. https://files.eric.ed.gov/fulltext/ED611183.pdf

Gist, C. D., Bianco, M., & Lynn, M. (2019). Examining Grow Your Own Programs Across the Teacher Development Continuum: Mining Research on Teachers of Color and Nontraditional Educator Pipelines. *Journal of Teacher Education, 70*(1), 13-25. https://doi.org/10.1177/0022487118787504

Goldhaber, D., Krieg, J. M., & Theobald, R. (2017). Does the match matter? Exploring whether student teaching experiences affect teacher effectiveness. *American Educational Research Journal*, *54*(2), 325-359.

Grissom, J. A. (2011). Can good principals keep teachers in disadvantaged schools? Linking principal effectiveness to teacher satisfaction and turnover in hard-to-staff environments. *Teachers College Record, 113*(11), 2552-2585.

Illinois Association of Regional Superintendents of Schools, Illinois Workforce and Education Research Collaborative, ROE LeadHUBS, & Goshen Education Consulting. (2022). *Educator working conditions: Investigating why educators leave the profession.* https://iarss.org/wp-content/uploads/2022/09/Educator-Working-Conditions-220927final.pdf

Illinois State Board of Education. (2023a). *Teacher Vacancy Grant Pilot Program methodology explanation & list of 170 districts selected – UPDATED 5/24/23.* https://www.isbe.net/Documents/TVG-Methodology-District-List.pdf

Illinois State Board of Education (2023b). *Unfilled Positions 2023 public data set.* https://www.isbe.net/Pages/Unfilled-Positions-Archive.aspx

Illinois State Board of Education. (n.d.). *Teacher Vacancy Grant Pilot Program*. https://www.isbe.net/Pages/Teacher-Vacancy-Grant-Pilot-Program.aspx

Illinois State Board of Education, Illinois Association of Regional Superintendents of Schools, Illinois Workforce and Education Research Collaborative, Goshen Consulting, & ROE LeadHUBS. (2024). *Educator shortage report: Academic year 2023 - 2024*. https://iarss.org/2023-educatorshortage/EducatorShortageReportSY24.pdf

Ingersoll, R., Merrill, E., Stuckey, D., & Collins, G. (2018). *Seven trends: The transformation of the teaching force - updated October 2018* (Report No. 2018–2). Consortium for Policy Research in Education, University of Pennsylvania. http://repository.upenn.edu/cpre_researchreports/108

Johnson, S. M., Kraft, M. A., & Papay, J. P. (2012). How context matters in high-need schools: The effects of teachers' working conditions on their professional satisfaction and their students' achievement. *Teachers College Record*, *114*(10), 1-39.

Ladd, H. F. (2011). Teachers' perceptions of their working conditions: How predictive of planned and actual teacher movement? *Educational Evaluation and Policy Analysis*, *33*, 235-261.

Landis, J. R., & Koch, G. G. (1977). An application of hierarchical kappa-type statistics in the assessment of majority agreement among multiple observers. *Biometrics*, 363-374.

Loeb, S., Darling-Hammond, L., & Luczak, J. (2005). How teaching conditions predict teacher turnover in California schools. *Peabody Journal of Education*, 80(3), 44-70.

MacQueen, K. M., McLellan, E., Kay, K., & Milstein, B. (1998). Codebook development for team-based qualitative analysis. *Cultural Anthropology Methods, 10*(2), 31-36.

Office of the Governor JB Pritzker. (2023, June 7). *Gov. Pritzker signs fifth balanced budget* [Press release]. https://www.illinois.gov/news/press-release.26561.html

Podolsky, A., Kini, T., Bishop, J., & Darling-Hammond, L. (2016). *Solving the teacher shortage: How to attract and retain excellent educators*. Palo Alto, CA: Learning Policy Institute. https://doi.org/10.54300/262.960

Silva, T., McKie, A., & Gleason, P. (2015). *New findings on the retention of novice teachers from teaching residency programs* (Report No. NCEE 2015-4015) National Center for Education Evaluation and Regional Assistance. https://eric.ed.gov/?id=ED560735

Sutcher, L., Darling-Hammond, L., & Carver-Thomas, D. (2019). Understanding teacher shortages: An analysis of teacher supply and demand in the United States. *Education Policy Analysis Archives*, 27(35). http://dx.doi.org/10.14507/epaa.27.3696

Withee, T., & Beilstein, S. O. (2023). *Districts with chronic shortages. Part 1: Characteristics of districts with ongoing shortage*. Chicago, IL: Illinois Workforce and Education Research Collaborative, Discovery Partners Institute, University of Illinois and Goshen Consulting.

https://iarss.org/wp-content/uploads/2023/06/WP2-Districts-With-Chronic-Shortages-FINAL-230628.pdf

Appendix A
Codebook

Table A1. Codebook for reported causes found in district narratives.

Pipeline category	Code	Definition
Recruitment and retention	Compensation	District offers noncompetitive salary, benefits, healthcare.
	Student characteristics	District points to perception that their specific student population poses unique challenges (or challenges in hiring teachers with the right perspective/training).
	Student behaviors	District points to specific student behaviors as a concern (e.g., low achievement, behavioral problems, socioemotional/trauma).
	Location	The area surrounding the district deters recruitment and retention (e.g., area is too rural, no housing, lack of access to healthcare, long commute, run-down buildings/facilities, high crime).
	Neighboring districts	District lost applicants and/or current teachers due to competition from neighboring districts that offer better salary, housing options, commute, access to healthcare, and/or community attractions. *Note:* Losing teachers due to better compensation in neighboring districts falls under this code and under *compensation*.
	Growth opportunity	District does not provide financial support for teachers to further their education or licensure/credentials
Recruitment	Lack of qualified teachers	District receives small number of—or, at times, no—qualified applicants due to hard-to-fill specialization and/or onerous certification requirements.
	Teacher preparation	District cites issues with teacher preparation programs (TPPs; e.g., district is too far from TPP, has no TPP partnerships, cannot place student teachers, too few teacher candidates and graduates).
	Recruitment practices	District reports issues during the recruitment process (e.g., lack of places to advertise, problematic interview procedures, need more staff to recruit).
	Working conditions	District cites untenable working conditions as a problem (e.g., high stress, heavy workload, burnt-out or underappreciated staff, COVID-related stressors, poor parent-teacher or teacher-teacher connections).
	Classroom resources	District curriculum is insufficient (i.e., challenging, disliked, or outdated); district does not provide

Retention		needed classroom supplies; or classroom technologies need updating.
	Professional learning	District does not provide teachers needed coaching, mentoring, or professional learning.
	Attrition	Teachers left the district due to personal choices (e.g., moving closer to home), changing professions, or retired. *Note:* Districts that cite losing teachers to neighboring districts is not coded here, but under *neighboring districts*.
	Leadership	District points to leadership as an area of concern (e.g., poor leadership, leadership turnover, vacancy in key leadership positions).

Table A2. Codebook for proposed solutions found in district narratives.

Pipeline category	Code	Definition
Recruitment and retention	Standard compensation	Proposed improvements for salary and/or benefits, including healthcare
	Special compensation (bonuses)	Implementation of short-term or one-time hiring bonuses, often for a specific subject area/specialization, retention bonuses, tuition reimbursements, or other stipends (e.g., taking on extra work)
	Location support	Provision of stipends or commuting costs, moving costs, general living costs (e.g., childcare, laundry, food), or upgrading run-down buildings/facilities
	Support staff	Hiring more support staff (e.g., social workers, substitutes); utilizing online platforms to fill vacant positions; or hiring retired teachers and paying for renewed licensure/fees
	Growth opportunity	Provision of tuition reimbursements and other costs for teachers pursing further education, licensure/certification, often in hard-to-fill areas
Recruitment	Teacher preparation	Development of pathway programs, which can include the following strategies: building partnerships with TPPs; creating high school education pathways; implementing grow your own programs for paraprofessionals, teacher aides, and other non-licensed staff; providing student teachers with stipends and paying current teachers to mentor student teachers
	Recruitment practices	Investing in recruitment practices can include the following measures: increasing advertisement of job openings; improving interview protocol and building communities of practice around hiring; recruiting international teachers; creating an administrative position devoted to recruitment or hiring recruiting consultants; providing referral bonuses for current staff who recruit new teachers
Retention	Classroom resources	Providing stipends to teachers that cover costs for classroom supplies
	Leadership	Investing in leaderships' professional learning; developing an informal leadership pipeline; or creating programs to encouraging leadership retention
	Professional learning	Provision of additional teacher professional learning that includes instructional coaches, induction & mentoring programs, other learning opportunities, and stipends for current teachers to serve in mentorship/coaching roles

	Alleviating workload	Removal of teacher or leadership responsibilities
	Teacher support	Commitment to building teacher support culture that includes socio-emotional learning for teachers, self-care programs, teacher affinity groups, and celebration of teachers through giveaways, swag, and meals. Can also extend to all staff in district.
	New programs	Implementation of new student behavior or socio-emotional learning programs for students

Appendix B
Causes for Vacancies

Table B. Frequencies of causes for vacancies reported by rural and urban districts.

Causes of teacher vacancies	Count of rural districts	Percent of rural districts (n = 92)	Count of urban districts	Percent of urban districts (n = 64)
Compensation	72	78.3%	42	65.6%
Lack qualified teachers	57	62.0%	52	81.3%
Attrition	59	64.1%	38	59.4%
Location	56	60.9%	7	10.9%
Neighbor districts	51	55.4%	39	60.9%
Working conditions	43	46.7%	29	45.3%
Teacher preparation	23	25.0%	19	29.7%
Student characteristics	12	13.0%	18	28.1%
Leadership	8	8.7%	12	18.8%
Student behaviors	15	16.3%	12	18.8%
Professional learning	16	17.4%	8	12.5%
Classroom resources	13	14.1%	2	3.1%
Growth opportunity	7	7.6%	5	7.8%
Recruitment	7	7.6%	6	9.4%

Appendix C
Solutions for Vacancies

Table C. Frequencies of solutions for vacancies proposed by rural and urban districts.

Solution	Count of rural districts	Percent of rural districts (n = 92)	Count of urban districts	Percent of urban districts (n = 64)
Teacher preparation	59	64.1%	50	78.1%
Special compensation	58	63.0%	45	70.3%
Professional learning	65	70.7%	39	60.9%
Growth opportunity	46	50.0%	29	45.3%
Recruitment	33	35.9%	41	64.1%
Teacher support	36	39.1%	20	31.3%
Classroom resources	38	41.3%	10	15.6%
Location	18	19.6%	14	21.9%
Standard compensation	13	14.1%	5	7.8%
Support staff	11	12.0%	6	9.4%

Appendix D
Common Function-Object Codes

Table D. Most common function-object codes used by districts (excluding codes used by fewer than 5% of districts).

Function-object code	Number of districts using this code	Percent of districts using this code	Commonly described uses of the code
1000-100 (Instructional salaries)	104	66.7%	Hiring, retention, and mentor stipends. Paying student teachers.
2210-200 (Instructional improvement benefits)	74	47.4%	Tuition reimbursement. Benefits for instructional coaches/mentors. Various stipends.
2210-100 (Instructional improvement salaries)	71	45.5%	Instructional coaches. Mentor stipends. Tuition reimbursement. Other various stipends.
2210-300 (Instructional improvement services)	68	43.5%	Professional learning & professional learning consultants. Tuition reimbursement.
1000-200 (Instructional benefits)	66	42.3%	Benefits related to stipends in 1000-100. Paying student teachers. Tuition reimbursement.
1000-400 (Instructional supplies & materials)	42	26.9%	Classroom resources. Supplies and services to improve culture.
2640-400 (Staff services supplies)	41	26.2%	Supplies and services to improve culture. Recruitment materials and services.
2640-300 (Staff services, services)	40	25.6%	Supplies and services to improve culture. Recruitment materials and services. Professional learning & professional learning consultants.
2210-400 (Instructional improvement supplies)	36	23.1%	Supplies for mentors. Supplies and services to improve culture.
2640-200 (Staff services benefits)	27	17.3%	Various benefits such as bonuses for current staff; housing allowances; loan forgiveness; mentors; tuition reimbursement.

1000-300 (Instructional services)	26	16.7%	Tuition reimbursement. Supplies and services to improve culture. Idiosyncratic methods of working around shortages, such as buying out recruitment agencies and licensing programs to teach students in a class with an unfilled position.
2640-100 (Staff Services Salaries)	21	13.4%	Various stipends and bonuses.
4000-300 (Payment to other governmental units—services)	16	10.2%	Tuition reimbursements to public colleges. Licensure costs.
2900-300 (Other services)	13	8.3%	Housing stipends. Recruitment materials and services. Supplies and services to improve culture. Supplies for mentors.
2560-400 (Food supplies)	9	5.8%	Supplies and services to improve culture (particularly free meals for teachers).
2560-300 (Food services)	8	5.1%	Supplies and services to improve culture (particularly free meals for teachers).
4000-200 (Payment to other governmental units—benefits)	8	5.1%	Tuition reimbursements to public colleges. Licensure costs.

Appendix E
Proportions Allocated by Individual Districts to Common Function-Object Codes

Table E provides a slightly different view of function-object code use. The left-hand columns simply restate amount of total money spent as a proportion of the grant dollars. However, the right-hand columns show the average proportion of funds spent by individual districts on a function-object code (excluding districts that did not use the code). In other words, we can see places where districts chose to invest more in specific approaches.

While much of the story is the same as in previous tables, we will note the emergence of codes 2220-500 and 2530-500, focused on classroom tech and school facilities (e.g., teachers' lounge), respectively. Although used quite rarely, the districts that used the funds to improve the physical and technical environment invested somewhat heavily in these approaches.

Table E. Top 10 function-object codes by **overall proportion of grant funds spent** and **average proportion of district grant funds spent** for districts who used that code. Codes in both groups are in **gray**.

Function-object code	Number of districts	Proportion of all grant funds	Function-object code	Number of districts	Average proportion of utilizing districts' grant funds
1000-100 (Instructional salaries)	104	33%	4000-600 (Payment to other governmental units—other object)	4	49%
1000-200 (Instructional benefits)	66	10%	1000-100 (Instructional salaries)	104	46%
2210-100 (Instructional improvement salaries)	71	9%	2120-200 (Guidance benefits)	2	36%
2210-300 (Instructional improvement services)	68	8%	2220-500 (Educational media capital outlay)	4	26%
2210-200 (Instructional improvement benefits)	74	7%	2210-600 (Instructional improvement objects)	7	24%
2640-300 (Staff services, services)	40	3%	2210-100 (Instructional improvement salaries)	71	24%

1000-300 (Instructional services)	26	3%	4000-300 (Payment to other governmental units—services)	16	23%
2640-100 (Staff services salaries)	21	3%	2210-300 (Instructional improvement services)	68	22%
2640-200 (Staff services benefits)	27	3%	2900-100 (Other salary)	4	22%
4000-300 (Payment to other governmental units—services)	16	2%	2530-500 (Facilities capital outlay)	2	20%

Authors

Dr. Shereen Oca Beilstein is a Research Specialist at the Illinois Workforce and Education Research Collaborative (IWERC) at University of Illinois System.

Dr. Meg Bates is Director of IWERC.

DPI DISCOVERY PARTNERS INSTITUTE

IWERC

Illinois Workforce and Education Research Collaborative

PART OF THE UNIVERSITY OF ILLINOIS SYSTEM

The Illinois Workforce & Education Research Collaborative, a Discovery Partners Institute research unit of the University of Illinois System, conducts rigorous, relevant, and timely cradle-to-career research. IWERC collaborates with community partners to co-construct solutions to pressing issues and ensure informed decision-making leads to statewide equity advancement.

IWERC is an applied research initiative of Discovery Partners Institute, which also advances tech talent development and business building in Chicago. With state investment, an innovation district in development, and a high-powered network of university partners regionally and internationally as a part of the University of Illinois System, DPI has the resources to attract, develop, retain, and leverage the most ambitious talent in Chicago to address global challenges in our environment, agriculture, industry, life sciences, and shared digital future.