2021 ILLINOIS EDUCATOR SHORTAGE SURVEY

Chronic Teacher Shortages

Part 1: Content and Geographic Areas with High Need

Shereen Oca Beilstein[1]

Tom Withee[2]

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CHRONIC TEACHER SHORTAGES
PART 1: CONTENT AREAS WITH HIGH NEED

Shereen Oca Beilstein[1], Tom Withee[2]

ABSTRACT

Teacher shortages are broadly distributed across Illinois for all content areas and grade bands—from elementary to high school. Yet specific content areas and geographic regions differ in severity of shortages. This white paper, the first of a two-part series, investigates (1) which content areas are in the highest need of qualified teachers; (2) which populations are most impacted by staffing difficulties; and (3) the long-term magnitude of the problem.

CONTEXT

In late January 2022, as the Omicron variant surged across Illinois and the nation, a lack of available teachers—likely due to long-standing shortages and staff quarantines—forced many public schools to cancel multiple, consecutive days of classes and temporarily shift to remote instruction. From its start, the COVID-19 pandemic has challenged the day-to-day health and stability of districts and school communities. Now, two years in, the adverse effects of teacher shortages—further exacerbated by the prolonged and ever-changing pandemic—have become widespread.

A teacher shortage occurs when districts and schools cannot find educators who hold the license or certificate required for open positions.[3] While many schools have been encumbered by teacher shortages during the pandemic in the short term, even more communities have been grappling with teacher shortages in the long term. What is quickly becoming a broadscale problem at present, teacher shortages have been shown to disproportionately affect specific teacher and student populations historically. Previous reports have found that teacher shortages in Illinois have been concentrated in certain *content areas,* such as bilingual education, English as a second language (ESL), and special education, as well as *geographic regions,* including rural and urban counties and districts.[4, 5, 6]

This report identifies the specific areas that have a large amount of *unfilled* and *underfilled* teacher positions. An unfilled position is a job opening that remains vacant, whereas an underfilled position is a job opening that is occupied by an under-qualified, substitute, or outsourced hire. A consideration of both aspects—as opposed to only unfilled positions—can provide a more detailed picture of how the size and specialization of the existing teacher workforce may not meet the specific demands of districts and schools. This analysis is based on recent and longitudinal data from the Illinois Association of Regional Superintendents of Schools' (IARSS) Educator Shortage Survey which dates back to the 2017-18 academic year (AY).[5]

This report leads off a two-part series that presents an intersectional analysis of content- and geographic-specific shortages. These papers aim to provide aspiring educators, stakeholders, policymakers, and leadership with information that can support decisions about which specializations and regions to prioritize and how to allocate resources.

OUR APPROACH: TOTAL VERSUS PERCENTAGE

In Fall 2021, 663 of 853 district superintendents completed the Educator Shortage Survey.[7] As part of the survey, district superintendents identified the (1) number and type of open teacher positions they posted for the 2021-22 AY as well as (2) how those positions were filled, either by a qualified hire, an under-qualified hire, a substitute teacher, an outsourced teacher, or if they were left vacant (i.e., an unfilled position).[8] The survey defined an under-qualified hire as a licensed educator who is not endorsed for that content area, such as a math teacher teaching science. A substitute teacher was defined as a long-term hire who is not a licensed educator, such as a substitute filling in for a maternity leave.[9] An outsourced teacher was defined as a long-term hire who is provided by a third-party contractor, such as a district utilizing a private company's employees as educators. For purposes of comparison, under-qualified, substitute, and outsourced hires (i.e., underfilled positions) were combined with unfilled positions as **un/underfilled positions** (See Appendix).

To understand how the existing teacher workforce may not meet the specific hiring demands of districts and schools in Fall 2021 (for the 2021-22 AY), open teacher position data—at the district level—was analyzed in two ways:[10]

1. For the open positions posted, the total number of un/underfilled teacher positions in a specific area.
2. For the open positions posted, the percentage of un/underfilled teacher positions in a specific area out of the total number of posted positions for this area.[11,12]

Examining the total number of un/underfilled positions captures differences in the relative volume of content- and geographic-specific shortages. This measure is often driven by areas where a high number of open positions are available (e.g., elementary education) or geographic regions with high population densities.[4, 6] For instance, a large district may have a need for elementary educators, even though there are many educators with that certification, simply due to the volume of open positions. The utility of total number as a measure provides insight into the overall demand in a specific content area or geographic region. However, as Goldhaber and Gratz (2022) note, total number as a measure may "mask districts' relative needs".[13]

Examining the percentage of un/underfilled teacher positions captures differences in the relative proportion of content- and geographic-specific shortages with respect to the overall demand in these areas. This additional measure has the potential to detect shortages in areas that are not driven by high volume. Shortages may occur in content areas with a smaller pool of qualified candidates (e.g., bilingual education and computer science) or geographic regions with low population densities.[4, 6, 14] For instance, a small district may only have a need for one computer science teacher but may have trouble filling that need with a qualified candidate due to the overall small numbers of educators with that certification and where such educators live.

> "We desperately need substitute teachers, bilingual teachers, and licensed special education teachers."
> - Northwest Illinois superintendent

Content areas were ranked by total number and percentage of un/underfilled positions and then the content areas that comprise the top quintiles (top 20%) of un/underfilled positions for both measures were identified.[15] Pulling data from prior Educator Shortage Surveys for AYs 2017-18,

2018-19, 2019-20, and 2020-21 allowed comparisons of these content areas over the past five years.[16]

RESULTS

Overview of Teacher Shortages by Geographic Regions

Figure 1. Total number of posted teacher positions reported un/underfilled.

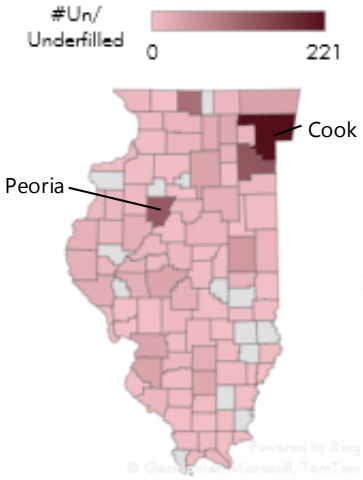
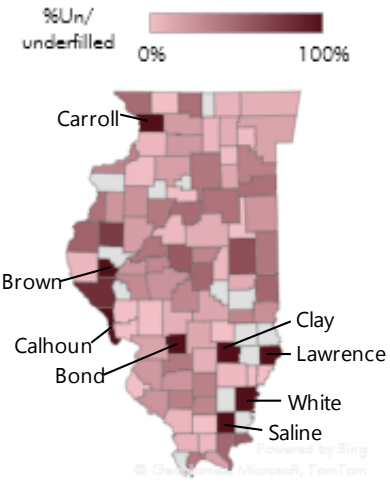


Figure 2. Percentage of posted teacher positions reported un/underfilled.



Results from the 2021 Educator Shortage Survey indicate that approximately 15% of reported open teacher positions were un/underfilled. More specifically, for the 2021-22 AY, responding districts posted 8,926 new teacher positions, and among them, 1,376 were reported un/underfilled.[17,18] In this report, results account for the sample of open teacher positions that reporting districts and schools were attempting to hire. For context, according to the Illinois State Board of Education's recent Illinois Report Card, the number of full-time equivalent teachers in responding districts for the 2020-21 AY was roughly 76,000, whereas the number of full-time equivalent teachers across the state was 132,354.[19] The maps above display the severity of teacher shortages by county, accounting for posted teacher positions reported un/underfilled across content areas as well as grade bands—from elementary to high school.[20] Findings indicate that the severity of teacher shortages varies substantially across counties when measured both by total number and by percentage of un/underfilled positions.

Using total number as a measure shows higher need for qualified teachers in more populated areas, mainly Cook (221 – number un/underfilled, 16% - percentage un/underfilled within that county), Will (134, 35%) and Peoria (129, 40%) counties (Figure 1). Using percentage as a measure shows higher need for qualified teachers in rural areas, particularly along the western border—such as Carroll (5, 100%), Brown (8, 100%), and Calhoun (2, 100%) counties—and in the south—such as Bond (1, 100%), Lawrence (4, 100%), Saline (2, 100%), Clay (4, 100%), and White (1, 100%) counties (Figure 2).[21]

> "There are approximately 6-8 staff members retiring each year in the next 5 years. This is a retiring turnover of about 25% of all staff members. There will not be qualified staff to replenish the retiring staff. Not only that, the incoming staff will not have the same skills or credentials."
>
> - Northwest Illinois Superintendent

Teacher Shortages by Content Areas and Geographic Regions

WHAT CONTENT AREAS ARE THE MOST DIFFICULT TO FILL?

It is imperative to recognize that teacher shortages are widespread, affecting many content areas (see Appendix).[22] Analyzing the content areas that fall within the top quintile (top 20%) for total number and percentage of un/underfilled positions reveals that teacher shortages vary across different content areas for all grade bands. [23]

Similar to regional findings from the previous section, each measure—total number and percentage—reveals a different, detailed picture of content-specific shortages. The content areas most impacted by teacher shortages are displayed by total number of un/underfilled positions in Table 1 and by percentage of un/underfilled positions, relative to total posted positions in Table 2.

Table 1: Top quintile of content areas by number of un/underfilled teacher positions.

Content Area	Number Un/ Underfilled Positions	Percentage Un/ Underfilled Positions	Number Posted Positions
Special Education	322	20%	1,618
Elementary Education	142	8%	1,871
Bilingual/ESL	113	20%	555
Mathematics	113	15%	731

Table 2: Top quintile of content areas by percentage of un/underfilled teacher positions.

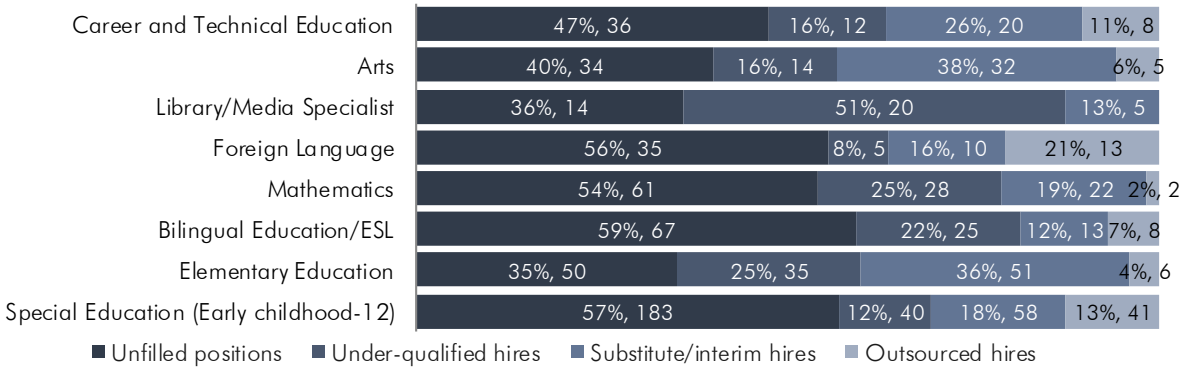
Content Area	Number Un/ Underfilled Positions	Percentage Un/ Underfilled Positions	Number Posted Positions
Foreign Language	63	36%	174
Library/Media Specialists	39	30%	129
Arts	85	26%	324
Bilingual /English as a Second Language (ESL)	113	20%	555
Career Technical Education (CTE)	76	20%	376
Special Education	322	20%	1,618

The juxtaposition between total number and percentage of un/underfilled positions in Tables 1 and 2 helps illustrate how different teacher and student populations are impacted by teacher shortages. Special education and bilingual education/ESL are content areas for which the two measures overlap. Both content areas have a high number and a high percentage of un/underfilled positions. Elementary education, on the other hand, is a content area for which the two measures contradict. Elementary education has the second highest total number of un/underfilled positions, but ranks the lowest in percentage, at 8%.

Further investigation of the content-specific shortages shows that bilingual education/ESL and special education are among the top content areas with the largest proportions of unfilled positions. Figure 3 delves deeper into how districts and schools addressed un/underfilled teacher positions. As part of the Educator Shortage Survey, districts were asked to report whether they hired an under-qualified teacher, found a substitute teacher, outsourced a teacher, or left the position vacant.[8] Findings indicate that, of the un/underfilled positions, nearly 60% of bilingual/ESL and special

education teacher positions went unfilled. In fact, for many of the top content areas, including mathematics, foreign language, CTE, and the arts, the proportion of unfilled positions, when compared to the underfilled options, is the largest.

Figure 3. Content area shortages by proportion of un/underfilled hiring method.



The problem of staffing unfilled teacher positions places district and school administrators in a difficult situation. These findings show that in some content areas, such as elementary education and library/media-specialist positions, districts and schools may be more readily able to hire under-qualified, substitute, or outsourced teachers. However, in other content areas, such as bilingual education/ESL and special education, a majority of teacher positions go unfilled, which can result in increased class sizes, modified class formats, or canceled classes, among other suboptimal outcomes.

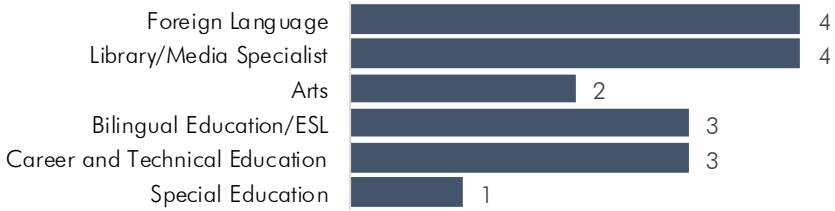
TO WHAT EXTENT ARE THESE TOP CONTENT AREA SHORTAGES CHRONIC?

Comparing Educator Shortage Survey data from the 2021-22 AY to historical data beginning in the 2017-18 AY, findings illustrate that many of the content areas identified above have faced persistent staffing challenges based on total number (Figure 4) and percentage (Figure 5) of un/underfilled positions. Using total number of un/underfilled positions as a measure, both special education and bilingual education/ESL have

> "Many of the positions that are unfilled this year were unfilled last year. Last year, we were able to manage because we followed a hybrid model. This year with students in full time we have had to use uncertified staff as long-term subs to fill open classroom positions."
>
> - West Central Illinois Superintendent

Figure 4. Number of years ranked in top quintile by number of un/underfilled and by content area.

Figure 5. Number of years ranked in top quintile by percentage of un/underfilled and by content area.



ranked among the top quintile of impacted content areas for all 5 AYs from 2017-18 to 2021-22. Using percentage of un/underfilled positions as a measure, foreign language and library/media specialists have ranked among the top quintile of impacted content areas for 4 of 5 AYs, and bilingual education/ESL and CTE for 3 of 5 AYs.

WHERE ARE THE MOST DIFFICULT-TO-FILL CONTENT AREA SHORTAGES LOCATED?

Focusing on the top quintile of most impacted content areas (special education, bilingual education/ESL, elementary education, mathematics, foreign language, CTE, library/media specialists, and the arts), findings suggest that regional variations exist in where different content area shortages are concentrated. Once again, the picture of the teacher shortage landscape changes based on whether total number or percentage of un/underfilled positions are considered.

Figure 6. Number of un/ underfilled teacher positions for bilingual/ESL.

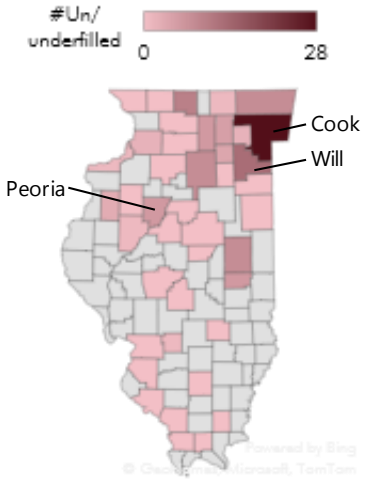
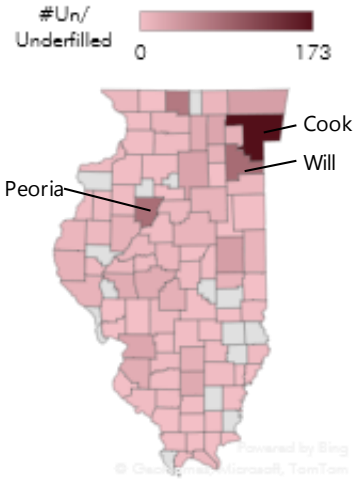


Figure 7. Number of un/ underfilled teacher positions for top quintile except bilingual/ESL.



A geographic analysis of teacher shortages by total number of un/underfilled positions indicates that more heavily populated areas, particularly Cook, Will, and Peoria counties, require more teachers than other counties to fill un/underfilled positions in special education, bilingual education/ESL, elementary education, mathematics, foreign language, CTE, library/media specialists, and the arts (Figures 6 and 7). Two patterns emerged from the data according to total number of un/underfilled positions. Bilingual education/ESL had a unique pattern that is denser in northern Illinois and thins out moving south (Figure 6), with Cook County reporting 28 and Will County reporting 13 un/underfilled positions. The remaining seven content areas had similar patterns that are spread throughout the state (Figure 7) with Cook County reporting 145 un/underfilled positions, Peoria County 74 un/underfilled positions, and Will County 69 un/underfilled positions.

> "Very few, if any, quality candidates in positions other than elementary classrooms. In traditionally hard-to-fill jobs (e.g., bilingual, science), we had no candidates for a long period of time."
>
> - Suburban Cook County Superintendent

However, a geographic analysis of teacher shortages by percentage of un/underfilled positions, out of the total number of open positions posted for an area (or across areas), resulted in three distinct patterns (Figures 8, 9, and 10). First, bilingual education/ESL shortages appear to be concentrated in specific pockets located in

> "We are a small rural school that pays extremely low. Lack of exposure, size, and salary will greatly impact our recruiting."
>
> - Northeast Illinois Superintendent

Figure 8. Percentage of un/underfilled Bilingual/ ESL teacher positions.

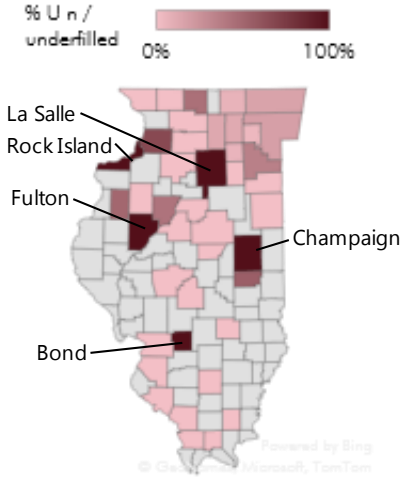


Figure 9. Percentage of un/underfilled elementary teacher positions.

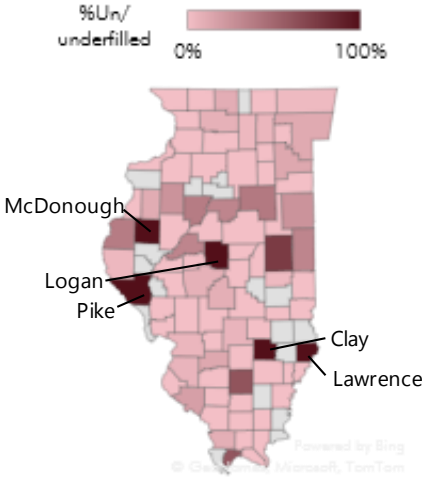
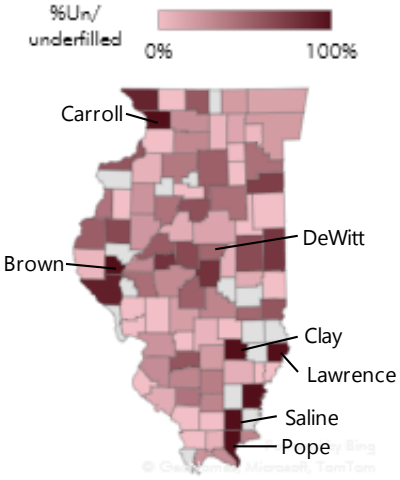


Figure 10. Percentage of un/underfilled positions for remaining content areas.



northern, central, and southwestern Illinois and are most severe in Rock Island, La Salle, Fulton, Champaign, and Bond counties (Figure 8). Second, elementary education shortages are much more widespread throughout the state and are most severe in central counties, including McDonough, Pike, and Logan, as well as southeastern counties, including Lawrence and Clay (Figure 9). And third, for the remaining content areas (special education, mathematics, foreign language, CTE, library/media specialists, and the arts), shortages are also widespread, with a higher need for qualified teachers in rural counties such as Carroll, Brown, DeWitt, Clay, Lawrence, Pope and Saline counties (Figure 10).

CONCLUSION

Results from the 2021-22 AY Educator Shortage Survey indicate that teacher shortages spread throughout the state and span many content areas across all grade bands from elementary to high school. Findings also show, however, that some content areas and geographic regions are more affected by teacher shortages than others.

The content areas that currently have the greatest need for qualified teachers include special education, bilingual education/ESL, mathematics, CTE, foreign language, the arts, library/media specialists, and elementary education. Furthermore, a 5-year longitudinal analysis revealed that all of these content areas have been historically affected, to varying degrees, by teacher shortages. In short, **the teacher shortages in these content areas are chronic**.

In the process of determining which communities may be more susceptible to teacher shortages, we found that the answer varies based on how un/underfilled positions are measured. Using the total number of un/underfilled positions can, at times, present a different picture of the teacher shortage in a specific area, as compared to using the percentage of un/underfilled positions. Accounting for both the total number and percentage of un/underfilled teacher positions is critical to understanding how this complex, systemic issue affects districts, schools, and student populations differently.

Measuring teacher shortages by content area using total number of un/underfilled positions highlighted greater need for qualified teachers in more heavily populated areas, such as Cook, Will,

and Peoria counties. Measuring teacher shortages by content area using percentage of un/underfilled positions highlighted greater need in more rural areas. Our analysis yielded different patterns of severity for bilingual education/ESL, elementary education, and the remaining high-need content areas (special education, mathematics, foreign language, CTE, library/media specialists, and the arts).

Without the adoption of targeted strategies to boost the supply of teachers where shortages are pronounced, specific groups of students, many of whom represent vulnerable populations and marginalized communities, will continue to be disproportionately affected by teacher shortages. For specific short- and long-term policy recommendations developed by IARSS, please refer to the 2021 Educator Shortage Report. [24]

In addition, for those reading this paper who are interested in teaching careers, opportunities in Illinois include the following:

1) Golden Apple Accelerator Program
2) Golden Apple Scholars of Illinois
3) Minority Teachers of Illinois Scholarship Program
4) Special Education Tuition Waiver
5) Early Childhood Access Consortium for Equity
6) Teacher Loan Repayment Plan

APPENDIX

This table displays content area teacher shortages for the 2021-22 AY, which were collected as part of the IARSS Educator Shortage Survey in Fall 2021.

Content Area	Number Un/Under-filled	Percentage Un/Under-filled	Number Posted Positions	Number Qualified Hires	Number Unfilled Positions	Number Under-qualified Hires	Number Substitute/ Interim Hires	Number Outsourced Hires
Arts	85	26%	324	239	34	14	32	5
Bilingual Education/ ESL	113	20%	555	442	67	25	13	8
CTE: Combined	76	20%	376	300	36	12	20	8
Driver Education	9	19%	47	38	6	0	2	1
Early Childhood	27	17%	162	135	9	12	5	1
Elementary Education	142	8%	1871	1729	50	35	51	6
English/ Language Arts	67	12%	573	506	38	14	14	1
Foreign Language	63	36%	174	111	35	5	10	13
Health	26	19%	139	113	12	9	5	0
Library/ Media Specialist	39	30%	129	90	14	20	5	0
Mathe-matics	113	15%	731	618	61	28	22	2
Music	48	14%	350	302	25	6	11	6
Physical Education	76	11%	718	642	31	14	30	1
Reading	48	16%	309	261	29	10	9	0
Science	90	18%	514	424	48	15	23	4

Content Area	Number Un/Under-filled	Percentage Un/Under-filled	Number Posted Positions	Number Qualified Hires	Number Unfilled Positions	Number Under-qualified Hires	Number Substitute/ Interim Hires	Number Outsourced Hires
Social Science	32	10%	336	304	15	12	5	0
Special Education	322	20%	1618	1296	183	40	58	41

For this report, we aggregated several related teacher positions from the Educator Shortage Survey into the following three overarching categories. Below we provide our rationale for combining these categories. In addition, the table below displays data for the original, disaggregated positions and the overarching categories.

Bilingual Education/ESL

Data for teacher positions in bilingual education and ESL were combined because both content areas serve English language learners. In addition, both content areas have been impacted by teacher shortages historically in Illinois and across the country. [4, 25] Finally, ISBE has enacted a policy that temporarily grants a 3-year endorsement to educators in the process of pursuing an endorsement in either of these fields[26].

Career and Technical Education

The Educator Shortage Survey gathers data for each of the following CTE specializations: Agricultural Education, Business and Computer Applications, Family and Consumer Sciences, Industrial Arts, Computer Science, and Other. Because these endorsements are all classified as CTE courses, they were combined into one overarching CTE category.[27]

Special Education

The Educator Shortage Survey also gathers data for early childhood special education, special education, and teachers of blind or deaf students. According to ISBE's Educator Licensure, Deaf-Blind specialist is a higher level of endorsement, Learning Behavior Specialist II, which also includes other specializations (e.g., multiple disabilities specialist, behavior intervention specialist, etc.) that were not explicitly asked about in the survey. Survey respondents thus may have included information about these additional specializations under the general category of special education. For the sake of parsimony, deaf-blind and early childhood special education teacher positions were subsumed under Special Education for this paper.

Open Teacher Position Data for Disaggregated and Aggregated (Overarching) Content Areas

*Aggregated content areas are in bold.

Content Area	Number Un/ Under-filled	Percentage Un/Under-filled	Number Posted Positions	Number Qualified Hires	Number Unfilled Positions	Number Under-qualified Hires	Number Substitute/ Interim Hires	Number Outsourced Hires
Bilingual Education	70	21%	335	265	41	13	8	8
English as a Second Language	43	20%	220	177	26	12	5	0
Bilingual Education/ ESL	**113**	**20%**	**555**	**442**	**67**	**25**	**13**	**8**
CTE: Agriculture	4	10%	40	36	1	1	1	1
CTE: Business/ Computer Applications	31	28%	109	78	16	9	6	0
CTE: Family & Consumer Sciences	14	22%	64	50	7	1	6	0
CTE: Industrial Arts	5	7%	67	62	3	0	1	1
CTE: Other	7	21%	33	26	0	0	1	6
Computer Science	15	24%	63	48	9	1	5	0
CTE: Combined	**76**	**20%**	**376**	**300**	**36**	**12**	**20**	**8**
Early Childhood Special Education	29	19%	149	120	12	5	9	3
Special Education	280	19%	1439	1159	170	33	48	29
Blind or Deaf	13	43%	30	17	1	2	1	9
Special Education	**322**	**20%**	**1618**	**1296**	**183**	**40**	**58**	**41**

ENDNOTES

[1] Shereen Oca Beilstein, Senior Research Associate, IWERC. Dr. Beilstein is an educational psychology researcher, whose interests span STEM education, developmental psychology, and the learning sciences. At Illinois Workforce and Education Research Collaborative (IWERC), Shereen researches the factors that support recruitment and retention of a diverse, high-quality teacher workforce in Illinois.

[2] Tom Withee, Senior Researcher, Goshen Education Consulting, Inc. Tom Withee is an educational researcher and program evaluator with expertise in STEM education and data visualization.

[3] Sutcher, L., Darling-Hammond, L., & Carver-Thomas, D. (2016). *A coming crisis in teaching? Teacher supply, demand, and shortages in the U.S. Learning Policy Institute*. Retrieved from https://learningpolicyinstitute.org/product/coming-crisis-teaching.

[4] Advance Illinois. (2020). *Illinois' educator pipeline: Fall 2019 data analysis, challenges, and opportunities*. Retrieved from https://www.advanceillinois.org/research-hub/strong-diverse-educator-pipeline.

[5] Illinois Association of Regional Superintendents of Schools. (2021). *2021 Illinois educator shortage survey*. Retrieved from https://iarss.org/2020-educator-shortage/.

The Illinois Educator Shortage Survey, now in its fifth consecutive year, was designed to capture school district superintendents' perceptions of the educator workforce across the state. Conducted by IARSS in collaboration with the Illinois State University Center for the Study of Education Policy and Goshen Education Consulting, the annual survey assesses the impact of the educator supply—focusing specifically on teachers, substitutes, and administration—on day-to-day, district operations such as open positions and class offerings. The IARSS study for the 2021-22 AY had a 78% response rate from districts all across the state of Illinois.

[6] Illinois State Board of Education (2020). *Educator Supply and Demand*. Retrieved from https://www.isbe.net/edsupplydemand.

[7] Responding districts were located across Illinois, but Chicago Public Schools were among those districts that did not participate. The results are aggregated at the district-level into counties to protect the confidentiality of survey respondents. While several special education districts/cooperatives and vocational districts/schools responded to the survey, their responses are not included as part of the full report or in this paper.

[8] The survey defined an under-qualified hire as a licensed educator who is not endorsed for that content area; a substitute teacher as a long-term hire who is not a licensed educator; and an outsourced teacher as a long-term hire who is provided by a third-party contractor.

[9] We note that this definition of a substitute teacher comes directly from the IARSS Educator Shortage Survey instrument. In this context, a licensed educator refers to someone who has a valid Illinois Professional Educator License. According to ISBE regulations, substitute teachers in Illinois must obtain—at minimum—a substitute license. Please see https://www.isbe.net/Pages/Short-Term-Sub-Teach.aspx for more information about licensure requirements for substitutes.

[10] Goldhaber, D., Strunk, K. O., Brown, N., Naito, N., & Wolff, M. (2020). Teacher staffing challenges in California: Examining the uniqueness of rural school districts. *AERA Open*, 6(3), 2332858420951833.

[11] Previous research has used vacancy rates as one measure to examine teacher shortages. For example, Goldhaber et al. (2020) defines vacancy rate as "the total number of teacher job postings listed by a district per 100 teachers (based on full-time equivalent [FTE]) in different subject areas" (p. 2). We view the percentage of un/underfilled teacher positions in a specific area, relative to the number of open positions posted for that specific area, as a variation on this definition of vacancy rate.

[12] Wilson, A., & Pearson, R. (1993). The problem of teacher shortages. *Education Economics*, 1(1), 69-75.

[13] Goldhaber, D. & Gratz, T. (2022). *School district staffing challenges in a rapidly recovering economy* (CALDER *Flash* Brief No. 29-0122). Arlington, VA: National Center for Analysis of Longitudinal Data in Education Research. Retrieved from https://caldercenter.org/sites/default/files/CALDER%20Policy%20Brief%2029-0122.pdf.

[14] Hegeman-Davis, R., & Sewell, M. (2021). Landscape report of K-12 computer science education in Illinois. Champaign, IL: University of Illinois at Urbana-Champaign College of Education. Retrieved from https://cs.education.illinois.edu/docs/librariesprovider22/default-document-library/illinois-k-12-computer-science-landscape-report-2021.pdf?Status=Master&sfvrsn=88060518_3.

[15] The Educator Shortage Survey gave district superintendents the opportunity to provide open teacher position data for 25 content areas plus the category of Other. To calculate content area quintiles, the category of Other was excluded.

[16] We would like to extend our gratitude to Paul Bruno, Nicole Pieranunzi, Erika Hunt, Lisa Hood, John Meixner, Mark Klaisner, Matt Feldmann, Meg Bates, Mariana Barragan Torres, Sarah Cashdollar, Yi Wang, and Stephanie Werner for their thoughtful feedback during the review process.

[17] The Educator Shortage Survey gave district superintendents the opportunity to provide open teacher position data for 25 content areas plus the category of Other. Including the Other category, these totals are 10,154 new teacher positions and 1,576 un/underfilled positions.

[18] Because the focus of this white paper is on teacher shortages, the analyses exclude un/underfilled support-staff positions such as school social workers, psychologists, counselors, nurses, and speech and language pathologists. When included in the analysis, however, many emerge as areas with dire staffing difficulties. These positions not only play a critical role within a school's ecosystem, but also—and more importantly—contribute to students' cognitive and socioemotional development, physical and mental health, and overall well-being. Therefore, a forthcoming white paper will examine support personnel shortages. When including both Other and support-staff, the total number of reported open positions was 11,703 and the number of un/underfilled positions was 2,040 or 17%.

[19] Illinois State Board of Education. (2021). *2021 Report Card Public Data Set*. Retrieved from https://www.isbe.net/Pages/Illinois-State-Report-Card-Data.aspx.

[20] Figures 1 and 2 as well as the county-specific data reported in this section, Overview of Teacher Shortages by Geographic Regions, account for posted teacher positions reported un/underfilled and exclude the content area category of Other.

[21] Not all districts from all counties responded to this survey. Some measurement error exists in the number and percentage of un/underfilled teacher positions reported in this white paper. See the full Educator Shortage report and interactive dashboard for more details.

[22] U.S. Department of Education. (2021). *Teacher shortage areas*. Washington D.C. Retrieved from https://tsa.ed.gov/#/reports.

[23] It is imperative to recognize that teacher shortages in Illinois are currently widespread, affecting many content areas (U.S. Department of Education Teacher Shortage Areas, 2021). Although our focus here is on the content areas with the largest amount of shortages, addressing shortages in other areas is also necessary to ensure that all students receive high-quality educational experiences.

[24] For IARSS policy recommendations, see the 2021 Educator Shortage Survey report here: https://iarss.org/2021-educator-shortage/.

[25] Jacobs, S., & Olson, L. (2021). *In demand: The real teacher shortages and how to solve them.* Washington, D.C.: FutureEd. Retrieved from https://www.future-ed.org/wp-content/uploads/2021/10/FutureEd_EdCounsel_Teacher_Shortages.pdf.

[26] https://www.isbe.net/Pages/Multilingual-Teacher-Resources.aspx.

[27] see PEL CTE 5-12 https://www.isbe.net/Pages/Subsequent-Teaching-Endorsements.aspx.