



Teacher Shortages And Supports For New Teachers

Presentation To The
Education Assessment And Accountability Review Subcommittee
Kentucky Legislative Research Commission
Office Of Education Accountability
October 17th, 2019

Data Used For The Report

- Kentucky Department of Education (KDE)
 - Teacher certification
 - Class information by teacher
 - Unfilled positions from the Kentucky Educator Placement Service (KEPS)
 - Critical shortage area information
 - Teaching, Empowering, Leading, and Learning (TELL) Survey
- Kentucky Center for Statistics (KYSTATS)
 - Workforce and industry information
- Council for Postsecondary Education (CPE)
 - Teacher preparation program completers
- OEA Survey

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Major Conclusions

- The percentage of teachers with emergency certificates was about the same in school year 2019 as in 2010, while the percentage of teachers with alternative certificates has increased by approximately 8 percent.
- Teachers with alternative certificates and teachers with emergency certificates were a small percentage of teachers in Kentucky and may underestimate shortages.
- Based on principals' reports of the supply and quality of teacher applicants and teacher preparation program completers, current and future shortages are more pronounced in
 - Physics,
 - Chemistry,
 - Transportation,
 - Engineering,
 - Math,
 - World languages, and
 - Family and consumer sciences.

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Major Conclusions

- Teacher turnover has increased over the past ten years.
- Principals generally report that turnover has negative effects on students, other teachers, and school culture and organizational goals, although some principals said turnover was beneficial for their school.

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Teaching Certificates

- Emergency Certificates
 - Issued only when district is unable to find a qualified candidate
 - Issued for one year, with potential renewal
 - Direct indicator of teacher shortage
 - Approx. 97 percent of emergency certificates issued for first time (2019)
- Alternative Certificates
 - Issued while teacher pursues full professional certification
 - Districts do not have to prove that an otherwise qualified teacher was not found
 - Indirect indicator of teacher shortage
 - Generally teach for as long as traditionally certified teachers

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Critical Shortage Calculations

- KDE critical shortage calculations
 - Teachers with alternative certificates
 - Teachers with emergency certificates
 - Out-of-field teachers
 - Unfilled positions

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Recommendation 2.1

In publishing critical shortage areas and regions approved by the United States Department of Education, the Kentucky Department of Education should also consider publishing the methodology and associated data used to determine critical shortage areas.

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Recommendation 2.2

The Kentucky Department of Education should consider a method to differentiate between positions that are open and those that have been unfilled for a long period of time in the Kentucky Educator Placement System.

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National Comparison

Teacher Shortage Areas Identified In Kentucky And Other States
School Year 2020

Subject	States
Mathematics	48
Exceptional children	47
Science	46
Language arts	38
World languages	37
English as a second language	35
Career and technical education	34
Social studies	23
Health and physical education	19
Early childhood	11

Source: Staff analysis of data from the U.S. Department of Education Teacher Shortage Area data.

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Teacher Shortages

- Teachers with alternative and emergency certificates were 3.5% of all Kentucky teachers in 2019.
- Principals report shortages in supply and quality of teachers.
- Shortages may not appear in certification data for several reasons.
 - Principals hiring fully certified but lower quality teachers
 - Principals addressing shortages in ways that do not appear in certification data
 - Example: eliminating classes, larger class sizes, renewing non-effective teachers

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Major Conclusion – Teaching Certificates

- **Emergency certificates have not increased**
 - 0.9 percent in 2019
- **Alternative certificates increased 7.9 percent**
 - 2.6 percent in 2019
- **Change from 2010 to 2019**
 - Decrease of 1,600 teachers
 - Increase of 74 teachers with alternative certificate or emergency certificate
 - Increase of approx. 1,800 more students
- **Students per teacher increase**
 - 14.8 students per teacher in 2010
 - 15.4 students per teacher in 2019
- **Proportionately more teachers with alternative or emergency certificates**
 - 9.2% in 2010
 - 3.5% in 2019

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Survey Question

In your experience, which best describes the supply of teacher applicants in the following program areas in your school?

- No applicants
- Applicants available but not satisfactory
- Few satisfactory applicants
- Generally enough satisfactory applicants
- Abundance of satisfactory applicants

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Survey Question

Which best describes the supply of teacher applicants for the 2018-2019 school year with the supply of teacher applicants in the past five years?

- Considerably fewer applicants
- Fewer applicants
- About the same
- More applicants
- Considerably more applicants

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Supply and Quality of Teachers as Reported by Principals

High School Subject	No applicants or no satisfactory applicants	High School Subject	No applicants or no satisfactory applicants
Physics	68.1%	Information technology	38.7%
Chemistry	63.0	Biology	36.0
Transportation	62.5	Media arts	33.4
Engineering technology	56.4	Health sciences	28.5
Manufacturing technology	55.6	Business and marketing	27.8
Math	55.0	Agriculture	20.4
Construction technology	45.4	English	17.3
Earth science	39.1	Social Studies	9.4
Family and consumer sciences (CTE)	52.0		
Any Grade		Any Grade	No applicants or no satisfactory applicants
World languages	52.9%	Art	22.3%
English as a second language	42.9	Music	18.1
Exceptional children	29.0	Physical education	10.4

Source: OEA survey.

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Supply and Quality of Teachers as Reported by Principals

Subject	No applicants or no satisfactory applicants	Fewer or considerably fewer compared to the past five years	Alternative certificates	Emergency certificates
Physics	68.1%	81.1%	5.4%	2.0%
Chemistry	63.0	83.1	6.9	2.2
Transportation	62.5	72.2		
Engineering technology	56.3	74.0	3.4	0.3
Manufacturing technology	55.7	77.3	n/a	n/a
High school math	54.9	82.1	4.4	1.0
World languages	52.9	67.3	4.1	1.6
Family and consumer sciences (CTE)	52.0	70.8	3.9	1.1

Source: Staff analysis of data from the Kentucky Department of Education and OEA survey, 2019.

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Addressing Teacher Shortages

- Eliminated a class or classes
 - World languages
- Combining classes
- Increasing class sizes
- Switching to online courses
- Renewing non-effective teachers
- Teachers teaching during planning period
- Unable to add new class
- Hiring emergency certified, alternative certified, out-of-field, or substitute teachers

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Teacher Turnover

Teacher turnover – the percent of teachers who did not return to a location to teach in the following year.

School Year	School (%)	Region (%)	District (%)	State (%)
2010	14.0	9.0	11.0	7.5
2011	15.0	9.5	11.5	8.0
2012	15.0	10.0	12.0	9.0
2013	16.0	10.5	13.0	10.0
2014	18.0	11.0	13.5	10.0
2015	17.5	10.5	13.5	9.5
2016	17.5	11.0	14.0	9.5
2017	16.5	10.0	13.0	8.5
2018	17.0	10.5	13.0	8.5
2019	17.5	11.0	14.0	9.0

Source: Staff analysis of data from the Kentucky Department of Education.

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Turnover in Kentucky's Schools

Reading Quartiles	Average Proficiency Rate in Quartile	FRPL	Minority	Turnover	Teachers with 4 or fewer years of experience
1 (lowest)	47.1%	73.6%	29.2%	21.1%	30.7%
2	57.6	66.0	13.8	16.2	26.3
3	64.3	62.8	13.0	16.4	24.3
4 (highest)	73.8	53.3	12.1	13.4	22.4

Source: Staff analysis of data from the Kentucky Department of Education.

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Major Conclusions - Effects

Principals' reports of teacher turnover and shortages

- Difficulty carrying out organizational goals
- Difficulty building relationships with students, parents, community
- Requires training new teachers
- Student achievement, disciplinary issues, and school culture negatively affected
- Potentially beneficial; allows for positive culture shift

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Major Conclusions – Recruiting, Retaining, and Supporting Teachers

Barriers to recruiting and retaining teachers

- Insufficient salary and benefits compared to private industry
- Lack of qualified candidates in a particular subject
- Lack of qualified candidates in general

Principals prioritizing recruiting and retaining teachers

- Policies, practices, strategies, advantages

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Supports for New Teachers

Type of Support	School	CTE
Mentor support required	88.2%	94.8%
Learning community or peer network	72.7	70.7
Dedicated meeting times with mentor	65.2	53.5
Mentor selection process	38.0	44.8
Additional mentor stipend	35.5	32.8
Reduced teaching load for beginning teachers	5.5	17.2
Reduced teaching load for mentors	2.0	3.5
Number of responses	440	58

Source: OEA survey.

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Conclusion

- Teachers with alternative certificates and emergency certificates are a small percentage of teachers and may underestimate shortages.
- Principals report current shortages in nearly all subjects.
- Particularly physics, chemistry, transportation, engineering, math, world languages, and family and consumer sciences.
- Teacher preparation program completers and upcoming retirement eligibility of current teachers suggest future shortages.
- Teacher turnover has increased over the past ten years.
- Principals report that turnover has negative effects on students, other teachers, and school culture and organizational goals, although some principals said turnover was beneficial for their school.

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