

STATE BOARD OF EDUCATION
Consent Item
February 12, 2020

SUBJECT: Approval of Critical Teacher Shortage Areas for 2020-21

PROPOSED BOARD ACTION

For Approval

AUTHORITY FOR STATE BOARD ACTION

Section 1012.07, Florida Statutes and Rule 6A-20.0131(2), F.A.C.

EXECUTIVE SUMMARY

Florida Statutes require the State Board of Education to approve areas of critical teacher shortage. State Board Rule requires the Commissioner to recommend specific projected public school teacher shortage areas for the next academic year.

This report identifies which certification areas are facing an unmet need of certified teachers using current data on teacher supply and demand.

Each fall the Department of Education surveys school districts to determine the number of teaching positions filled that fall, the number of vacancies, and the number of courses being taught by inappropriately certified teachers. In addition, teacher preparation programs provide the number of new completers and their certification area. The survey results and information from teacher preparation programs provide three indicators of certification areas currently facing critical shortages. The Department ranks each indicator and then averages them across three types of shortage data to provide a final ranking.

Based on these indicators, the Commissioner recommends that the State Board approve the identification of the following fields as critical shortage areas for 2020-2021:

- English for Speakers of Other Languages (ESOL)
- Science-General
- English
- Exceptional Student Education (ESE)
- Science-Physical
- Mathematics
- Technical Education
- Reading

Supporting Documentation Included: Critical Teacher Shortage Areas for 2020-21 and Rule 6A-20.0131, Critical Teacher Shortages, F.A.C.

Facilitator/Presenter: Juan Copa, Deputy Commissioner, Division of Accountability, Research, and Measurement

Identification of Critical Teacher Shortage Areas for 2020-21

Recommended Critical Teacher Shortage Areas

This report identifies which certification areas represent the greatest need among teachers statewide. Using the information provided below, the recommended critical teacher shortage areas for the 2020-21 school year are as follows:

- English for Speakers of Other Languages (ESOL)
- Science-General
- English
- Exceptional Student Education (ESE)
- Science-Physical
- Mathematics
- Technical Education
- Reading

The shortage areas above represent certification areas where substantial proportions of teachers who are not certified in the appropriate field are being hired to teach such courses, where significant vacancies exist and where postsecondary institutions do not produce enough graduates to meet the needs of Florida's K-12 student population. This information can be used to determine the current and projected needs of classroom teachers for specific subject areas in the upcoming school year. The process used to determine these critical teacher shortage areas is presented below.

Background

Section 1012.07, Florida Statutes (F.S.), requires the State Board of Education (SBE) to annually identify critical teacher shortage areas based on the recommendations of the Commissioner of Education. This statute is accompanied by SBE Rule 6A-20.0131, Florida Administrative Code, which specifies that the list of shortage areas identify high-need content areas and high-priority location areas using the following information:

1. The number and percentage of positions in each discipline filled by teachers not certified in the appropriate field;
2. The annual supply of graduates of state-approved Florida teacher education programs for each discipline;
3. The number and percentage of vacant positions in each teaching discipline; and
4. Critical teacher shortage areas which may be identified pursuant to rules adopted by district school boards. These areas shall be identified based on consideration of at least the information specified in items one through three above and submitted to the Department of Education no later than June 1st of each year.

Additionally, sections 1012.22(1)(c)4.b., F.S., and 1012.22(1)(c)5.c.(III), F.S., include provisions requiring local school districts to incorporate critical teacher shortage areas into both their grandfathered and performance salary schedules.

Determining Shortage Areas

The critical teacher shortage areas for 2020-21 were determined using information provided in Exhibits 3 through 5. The department used the information in each of the exhibits to create rankings for each measure in Exhibit 1.¹ Rankings were then averaged across all measures to produce the final rankings.

In Exhibit 1 below, the shaded and bolded subject fields indicate the recommended 2020-21 Critical Teacher Shortage Areas. The final column in Exhibit 1, “Final Rank,” shows that ESOL and Science-General were tied for first place with an average rank of nine. English was ranked third and followed by ESE, Science-Physical, Math, Technical Education and Reading as critical teacher shortage areas.

Exhibit 1 – Summary of Critical Teacher Shortage Rankings for 2020-21

Certification Areas	Rank Based on % of Courses Taught by Teachers Not Certified in the Appropriate Field for the Course (as reported by school districts)	Rank Based on Projected Vacancies (as reported by school districts)	Rank Based on % of Completers (as reported by teacher preparation programs)	Average Rank	Rank	Final Rank
ESOL*	4	5	18	9	2	2
Science-General*	8	7	12	9	2	2
English	2	3	23	9.33	3	3
ESE*	1	2	26	9.67	4	4
Science-Physical*	5	12	13	10	5	5
Math	9	4	20	11	6	6
Technical Education	10	19	5	11.33	7	7
Reading*	3	8	24	11.67	8	8
Science-Earth & Space	6	23	9	12.67	9	
Educational Media Specialist	13	24	5	14	10	
Business Education	15	25	5	15	11	
Physical Education	23	15	11	16.33	13	
Science-Biology	21	13	15	16.33	13	
Foreign Languages-Other	11	32	9	17.33	15	
Foreign Languages-Spanish	25	18	9	17.33	15	
Drama	22	27	5	18	19	
Early Childhood/Preschool	16	22	16	18	19	
Foreign Languages-French	18	30	6	18	19	
Social Sciences	27	6	21	18	19	
Computer Science	24	26	5	18.33	21	
Pre-K/Primary Education	20	10	25	18.33	21	
Elementary Education	29	1	27	19	22	

¹ The rankings order the data with 1 being the subject area that shows the most need for additional teachers. For example, when looking at Exhibit 5, the subject area with the fewest program completers would be ranked as number 1, but for Exhibit 4 the subject area with the most vacancies would be ranked as number 1. In the case of a tie, all subject areas in the tie are assigned the rank indicating a lesser need for additional teachers. For example, if three subject areas tie for third place (i.e. there is no way to distinguish between third, fourth and fifth place), they would all be assigned fifth place.

Certification Areas	Rank Based on % of Courses Taught by Teachers Not Certified in the Appropriate Field for the Course (as reported by school districts)	Rank Based on Projected Vacancies (as reported by school districts)	Rank Based on % of Completers (as reported by teacher preparation programs)	Average Rank	Rank	Final Rank
Art	26	20	14	20	23	
Agriculture	20	31	10	20.33	24	
Music	28	17	22	22.33	25	

Notes: Certification areas that were missing data in one or more of the measures examined were not ranked and excluded from the exhibit. Bolded subject fields indicate 2020-21 Critical Teacher Shortages.

* Science-General includes Science and General Science; Science-Physical includes Chemistry and Physics; ESE includes Exceptional Student Education, Speech Correction, Emotionally Handicapped, Hearing Impaired, Mentally Handicapped, Physically Impaired, Specific Learning Disabilities, Speech-Language Impaired, Varying Exceptionalities, Visually Impaired, Autism Spectrum Disorders endorsement, Adaptive Physical Education and Orientation and Mobility endorsement; and Reading and ESOL include both the certification and the endorsement.

Information on Critical Teacher Shortage Areas

Data on teachers currently in the workforce and their areas of certification are presented below to provide context for the recommended critical teacher shortage areas. This information covers the following: certification areas in which the majority of teachers are currently certified; the number of courses taught by teachers who were not appropriately certified for the courses they were teaching; the projected number of teacher vacancies as reported by school districts; and the number of recent completers of state-approved teacher preparation programs in Florida. Additional information is provided on the number of courses being taught by teachers who were not certified in the appropriate field for the courses they were teaching in high-priority locations.² The following exhibits provide information on teacher supply and demand:

- Exhibit 2 – Number of Teacher Certifications Held by Certification Area During 2019-20
- Exhibit 3 – Number of Courses Taught by Teachers Not Certified in the Appropriate Field by Certification Area During 2018-19
- Exhibit 4 – Number of Current and Projected Vacancies by Certification Area for 2019-20
- Exhibit 5 – Number of Students Completing Teacher Education Programs During 2017-18
- Exhibit 6 – High-Priority School Locations and Courses Taught by Appropriately Certified Teachers in 2018-19

It is important to note and emphasize that all data are as reported by school districts or teacher preparation programs.

² Section 1012.07, F.S., defines high-priority locations as high-density, low-economic urban schools; low-density, low-economic urban schools; low-density, low-economic rural schools; and schools that earned a grade of “F” or three consecutive grades of “D” pursuant to section 1008.34, F.S.

Exhibit 2 provides the total number of certifications held by teachers in 2019-20 by certification area. If a teacher held a certification in multiple subject areas, the certification is counted once for each subject area. The most common teacher certification area for the 2019-20 school year was Elementary Education, making up 20.97% of all certifications. This was closely followed by ESOL at 19.76%. Shortage areas for 2020-21 are shaded and bolded in the exhibit below. Following Elementary Education and ESOL, the numbers drop off with ESE making up 10.27% of certifications and Reading making up 6.70% of certifications. The eight recommended critical teacher shortage areas account for about 47.30% of all certifications (n=211,289). The complete crosswalk of “Certification Subject Codes to Certification Areas” can be found in Appendix C.

Exhibit 2 – Number of Teacher Certifications Held by Certification Area - Top Areas for 2019-20

Certification Areas	Total Number of Certifications	Percentage of Certifications
Elementary Education	93,664	20.97%
ESOL*	88,260	19.76%
ESE*	45,860	10.27%
Reading*	29,933	6.70%
Pre-K/Primary Education	21,117	4.73%
English	19,452	4.36%
Social Sciences	18,939	4.24%
Math	17,542	3.93%
Gifted	14,085	3.15%
Physical Education	10,414	2.33%
Guidance	6,523	1.46%
Science-Biology	6,455	1.45%
Science-General*	6,223	1.39%
Foreign Languages-Spanish	5,406	1.21%
Music	4,675	1.05%
Business Education	4,623	1.04%
Art	4,347	0.97%
Educational Media Specialist	3,560	0.80%
Early Childhood/Preschool	3,180	0.71%
Health	3,120	0.70%
Science-Physical*	3,037	0.68%
Science-Earth & Space	1,746	0.39%
School Social Worker	1,616	0.36%
School Psychologist	1,476	0.33%
Family And Consumer Sciences	1,185	0.27%
Technical Education	982	0.22%
Drama	875	0.20%
Driver Education	861	0.19%
Foreign Languages-French	817	0.18%
Agriculture	650	0.15%
Computer Science	592	0.13%
Foreign Languages-Other	568	0.13%
Statewide Total	421,783	100.00%

Note: Bolded subject fields indicate 2020-21 Critical Teacher Shortages.

* Science-General includes Science and General Science; Science-Physical includes Chemistry and Physics; ESE includes Exceptional Student Education, Speech Correction, Emotionally Handicapped, Hearing Impaired, Mentally Handicapped, Physically Impaired, Specific Learning Disabilities, Speech-Language Impaired, Varying Exceptionalities, Visually Impaired, Autism Spectrum Disorders endorsement, Adaptive Physical Education, and Orientation and Mobility endorsement; and Reading and ESOL include both the certification and the endorsement.

Districts prefer to hire teachers certified in the appropriate field(s) for the courses they teach when possible to ensure students are taught the Florida Standards at the level of rigor required. Exhibit 3 provides the total number and percentage of courses taught in each certification area statewide, as well as the total number and percentage of courses taught in each certification area by teachers who were not certified in the appropriate field, as reported by school districts for fall of the 2018-19 school year. This information provides detail on the certification areas that are currently in demand across all school districts based on how frequently courses are being taught by teachers without the required certification relative to those courses' prevalence among course offerings in Florida. ESE had the highest percentage of courses taught by teachers without the required certification relative to its prevalence among course offerings in Florida.

Exhibit 3 – Number of Courses Taught by Teachers Not Certified in the Appropriate Field, by Certification Area During 2018-19

Certification Areas	Total Number of Courses Reported Statewide	Percentage of Total Courses Reported Statewide	Total Number of Courses Taught by Teachers Not Certified in Appropriate Field Reported Statewide	Percentage of Total Courses Taught by Teachers Not Certified in Appropriate Field Reported Statewide	Difference	Rank Based on Difference
ESE*	73,759	12.72%	11,227	23.53%	-10.81%	1
English	33,546	5.79%	4,481	9.39%	-3.60%	2
Reading*	8,028	1.38%	1,481	3.10%	-1.72%	3
ESOL*	3,358	0.58%	531	1.11%	-0.53%	4
Science-Physical*	3,806	0.66%	496	1.04%	-0.38%	5
Science-Earth & Space	3,471	0.60%	426	0.89%	-0.29%	6
Gifted	952	0.16%	205	0.43%	-0.27%	7
Science-General*	12,239	2.11%	1,122	2.35%	-0.24%	8
Math	33,767	5.82%	2,884	6.04%	-0.22%	9
Technical Education	4,115	0.71%	419	0.88%	-0.17%	10
Foreign Languages-Other	1,399	0.24%	165	0.35%	-0.11%	11
Health	647	0.11%	89	0.19%	-0.08%	13
Educational Media Specialist	1,757	0.30%	180	0.38%	-0.08%	13
Business Education	2,515	0.43%	203	0.43%	0.00%	15
Driver Education	242	0.04%	19	0.04%	0.00%	15
Early Childhood/Preschool	504	0.09%	24	0.05%	0.04%	16
Family And Consumer Sciences	1,854	0.32%	115	0.24%	0.08%	17
Foreign Languages-French	1,386	0.24%	59	0.12%	0.12%	18
Pre-K/Primary Education	1,733	0.30%	76	0.16%	0.14%	20
Agriculture	1,662	0.29%	73	0.15%	0.14%	20
Science-Biology	7,259	1.25%	516	1.08%	0.17%	21
Drama	3,516	0.61%	187	0.39%	0.22%	22
Physical Education	6,663	1.15%	441	0.92%	0.23%	23
Computer Science	6,225	1.07%	328	0.69%	0.38%	24
Foreign Languages-Spanish	7,604	1.31%	305	0.64%	0.67%	25

Certification Areas	Total Number of Courses Reported Statewide	Percentage of Total Courses Reported Statewide	Total Number of Courses Taught by Teachers Not Certified in Appropriate Field Reported Statewide	Percentage of Total Courses Taught by Teachers Not Certified in Appropriate Field Reported Statewide	Difference	Rank Based on Difference
Art	17,519	3.02%	896	1.88%	1.14%	26
Social Sciences	27,279	4.71%	1,682	3.53%	1.18%	27
Music	25,998	4.48%	873	1.83%	2.65%	28
Elementary Education	286,905	49.49%	18,206	38.16%	11.33%	29
Statewide Total	579,708	100.00%	47,709	100.00%		

Note: Certification areas that were missing data in one or more of the measures examined were not ranked and excluded from final critical teacher shortage rankings in Exhibit 1. Bolded subject fields indicate 2020-21 Critical Teacher Shortages.

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Most of the recommended critical teacher shortage areas for 2020-21 are among those with the highest projected vacancies and the highest number of current vacancies for 2019-20. Exhibit 4 provides the total number of current vacancies for the 2019-20 school year and the total number of projected vacancies by certification area. This information is collected from each district and is typically used to plan recruitment efforts, including “The Great Florida Teach-In” held annually. This highlights the anticipated subject areas of teacher demand seen across all school districts.

Exhibit 4 – Number of Current and Projected Vacancies by Certification Area

Certification Area	Current Number of Vacancies for 2019-20	Percentage of Current Vacancies for 2019-20	Projected Number of Vacancies for 2019-20	Percentage of Projected Vacancies for 2019-20	Rank Based on Projected Vacancies
Elementary Education	631	19.59%	3,061	28.16%	1
ESE*	982	30.49%	2,050	18.86%	2
English	161	5.00%	703	6.47%	3
Math	200	6.21%	698	6.42%	4
ESOL*	132	4.10%	579	5.33%	5
Social Sciences	65	2.02%	390	3.59%	6
Science-General*	126	3.91%	370	3.40%	7
Reading*	91	2.83%	359	3.30%	8
Speech Language Pathologist	202	6.27%	328	3.02%	9
Pre-K/Primary Education	114	3.54%	322	2.96%	10
Guidance	115	3.57%	207	1.90%	11
Science-Physical*	10	0.31%	195	1.79%	12
Science-Biology	13	0.40%	182	1.67%	13
School Psychologist	30	0.93%	145	1.33%	14
Physical Education	48	1.49%	138	1.27%	15
Gifted	27	0.84%	134	1.23%	16

Certification Area	Current Number of Vacancies for 2019-20	Percentage of Current Vacancies for 2019-20	Projected Number of Vacancies for 2019-20	Percentage of Projected Vacancies for 2019-20	Rank Based on Projected Vacancies
Music	46	1.43%	127	1.17%	17
Foreign Languages-Spanish	22	0.68%	99	0.91%	18
Technical Education	23	0.71%	98	0.90%	19
Art	48	1.49%	96	0.88%	20
School Social Worker	37	1.15%	89	0.82%	21
Early Childhood/Preschool	11	0.34%	88	0.81%	22
Science-Earth & Space	3	0.09%	80	0.74%	23
Educational Media Specialist	15	0.47%	64	0.59%	24
Business Education	19	0.59%	60	0.55%	25
Computer Science	7	0.22%	45	0.41%	26
Drama	4	0.12%	33	0.30%	27
Health	15	0.47%	32	0.29%	28
Family and Consumer Sciences	6	0.19%	30	0.28%	29
Foreign Languages-French	3	0.09%	26	0.24%	30
Agriculture	7	0.22%	25	0.23%	31
Foreign Languages-Other	5	0.16%	10	0.09%	32
Driver Education	3	0.09%	8	0.07%	33
Statewide Total	3,221	100.00%	10,871	100.00%	

Note: Certification areas that were missing data in one or more of the measures examined were not ranked and excluded from final critical teacher shortage rankings in Exhibit 1. Bolded subject fields indicate 2020-21 Critical Teacher Shortages.

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The number of students earning a certification in a particular content area in Florida gives an estimate of the number of new teachers available to fill vacancies in the state. Exhibit 5 presents the most recent information on new completers reported by teacher education programs across Florida. Certification areas with zero completers reported in 2017-18 represent teacher preparation program areas that either were not offered in a Florida college or university in 2017-18 or where there were no program completers that year.

Exhibit 5 – Number of Students Completing Teacher Education Programs in 2017-18

Certification Areas	Number and Percentage of Completers Reported		Rank Based on Percentage of Completers Reported
Business Education	0	0.00%	5
Computer Science	0	0.00%	5
Drama	0	0.00%	5
Educational Media Specialist	0	0.00%	5
Technical Education	0	0.00%	5
Foreign Languages-French	2	0.06%	6
Foreign Languages-Other	4	0.11%	9
Foreign Languages-Spanish	4	0.11%	9
Science-Earth & Space	4	0.11%	9

Certification Areas	Number and Percentage of Completers Reported		Rank Based on Percentage of Completers Reported
	Number	Percentage	
Agriculture	7	0.20%	10
Physical Education	15	0.42%	11
Science-General*	17	0.48%	12
Science-Physical*	23	0.64%	13
Art	32	0.90%	14
Science-Biology	53	1.49%	15
Early Childhood/Preschool	59	1.65%	16
School Psychologist	65	1.82%	17
ESOL*	85	2.38%	18
Guidance	110	3.08%	19
Math	120	3.36%	20
Social Sciences	142	3.98%	21
Music	152	4.26%	22
English	159	4.46%	23
Reading*	170	4.76%	24
Pre-K/Primary Education	235	6.59%	25
ESE*	514	14.41%	26
Elementary Education	1,596	44.73%	27
Statewide Total	3,568	100.0%	

Note: Certification areas that were missing data in one or more of the measures examined were not ranked and excluded from final critical teacher shortage rankings in Exhibit 1. Bolded subject fields indicate 2020-21 Critical Teacher Shortages.

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Consistent with s. 1012.07, F.S., high-priority locations are identified as high-density, low-economic urban schools, low-density, low-economic rural schools, and schools that earned a school grade of “F” or three consecutive grades of “D” or below, pursuant to s. 1008.34, F.S. Low-economic schools are those that have 75 percent or more students who qualify for free or reduced-price lunch. Urban and rural school distinctions are based on the National Center for Education Statistics (NCES) locale codes which are a measure of geographic status on an urban continuum that ranges from “large city” to “rural” based on the standards used by the Census. The complete list of high-priority school locations can be found in Appendix A and Appendix B.

Exhibit 6 provides information on the number of high-priority school locations and the proportion of courses at those locations being taught by teachers who were not certified in the appropriate field for the courses they teach (out-of-field) and teachers who were certified in the appropriate field for the courses they teach (in-field). The statewide percentage of courses taught by out-of-field teachers for all schools that received a school grade in 2018-19 is 7.18%. Schools that received consecutive grades of “D” in the past three years had the largest percentage of courses being taught out-of-field at 9.51%. Schools that had received a grade of “F” had 9.34% of courses being taught out-of-field, while 8.78% of courses at urban/low-economic schools and 5.43% of courses at rural/low-economic schools are being taught out-of-field.

Exhibit 6 – High-Priority School Locations and Courses Taught by Appropriately Certified Teachers Among Schools that Received a School Grade

High-Priority School Locations*	Number of Schools	Total Number of Courses	Number and Percentage of Courses In-Field		Number and Percentage of Courses Out-of-Field	
			Number	Percentage	Number	Percentage
D	22	3,186	2,883	90.49%	303	9.51%
F	14	1,296	1,175	90.66%	121	9.34%
Urban	493	78,863	71,937	91.22%	6,926	8.78%
Rural	207	34,357	32,493	94.57%	1,864	5.43%
Statewide Totals - All Schools	3,324	625,898	580,946	92.82%	44,952	7.18%

6A-20.0131 Critical Teacher Shortages.

(1) On or before January 31 of each year, the Commissioner shall recommend to the State Board for approval the specific teaching areas and high priority locations in which critical teacher shortages are projected for the public schools during the year following the academic year in which approval is made.

(2) In accordance with procedures approved by the Commissioner, a list of critical teacher shortage areas shall be prepared based on consideration of current supply and demand information, vacancy information in each teaching discipline, and emerging educational requirements. In addition, data related to Florida public school instructional personnel shall include but not be limited to:

(a) The number and percentage of positions in each discipline filled by teachers not certified in the appropriate field;

(b) The annual supply of graduates of state approved Florida teacher education programs for each discipline; and,

(c) Critical teacher shortage areas which may be identified pursuant to rules adopted by district school boards. Such areas shall be identified based on consideration of at least the information specified in paragraphs (2)(a) and (b) of this rule and shall be submitted to the Department no later than June 1 of each year.

(3) Based on data submitted annually by each school district, the Commissioner shall rank all public schools in accordance with the criteria provided in section 1012.07, F.S., and shall select from this ranked list those schools to be identified as high priority locations.

(4) Based on the recommendations of the Commissioner, the State Board shall adopt a list of approved critical teacher shortage areas and high priority locations.

Rulemaking Authority 1001.02(1), 1012.07 FS. Law Implemented 1012.07 FS. History--New 5-24-84, Formerly 6A-7.16, 6A-7.016, Amended 10-18-94, 5-3-01, 4-8-12.