

ANDREA PRADO TUMA, SY DOAN, REBECCA ANN LAWRENCE

Do Teachers Perceive That Their Main Instructional Materials Meet English Learners' Needs?

Key Findings from the 2020 American Instructional Resources Survey

English learners (ELs) are 10 percent of the country's students; in some states, they comprise as much as 20 percent of the student body (U.S. Department of Education, 2016). Forty states and the District of Columbia have experienced increases in their EL population during the past ten years; as of 2017, Massachusetts had experienced the largest increase, 4.3 percent (National Center for Education Statistics, 2020). Despite continued growth in the EL population, schools nationwide have struggled to support ELs, and researchers consistently find wide, persistent academic achievement disparities between ELs and non-ELs (Batalova, Fix, and Murray, 2007; Fry, 2007). Although classroom instruction for ELs varies widely depending on state laws and the proportion of ELs in a district, researchers have found that ELs are more likely than their non-EL peers to attend lower-performing schools and lower-track classes,¹ and they are more likely to be excluded from such content-area classes as English language arts (ELA) and algebra. ELs are also more likely to be exposed to curriculum materials that are less academically rigorous (Callahan, 2005; Callahan and Shifrer, 2016; Fry, 2008; Johnson, 2019; Umansky, 2016).

Equitable access to academic content is critical in addressing persistent achievement gaps between ELs and native English speakers, but schools and teachers face several challenges in enabling this access (Dabach and Callahan, 2011; Thompson, 2017). A central challenge is that, both nationwide and in such states as California, teachers report feeling inadequately prepared to work effectively with ELs (Christian, 2006; Gándara, Maxwell-Jolly, and Driscoll, 2005; Lee et al., 2009). A less studied, but still important, challenge is a lack of core subject-area materials and tools that are accessible to ELs or provide language scaffolding (Alamillo and

¹ Researchers who examine the track placement of ELs have defined *lower-track classes* in several ways. Umansky (2016) defines lower-track classes in middle school as remedial (not grade-level or honors) classes. Callahan (2005), Callahan and Shifrer (2016), and Johnson (2019) define lower-track classes as those courses that met basic high school graduation requirements as opposed to college preparatory courses or courses commonly required for college enrollment.

Definitions of Key Terms Used in This Report

ELs, as defined by the Elementary and Secondary Education Act, are students “not born in the United States or whose native language is a language other than English” and “whose difficulties in speaking, reading, writing, or understanding the English language might be sufficient to deny the individual . . . the ability to successfully achieve in classrooms where the language of instruction is English” (U.S. Department of Education, 2016).

ELs are treated as a singular subgroup in federal education policy, but they come from diverse racial, ethnic, cultural and socioeconomic backgrounds, and they speak a variety of languages.

Instructional materials are any materials that are intended to provide learning opportunities for students. Instructional materials include curricula and supplemental materials; materials required, recommended, and provided by districts or schools; materials that teachers locate themselves; and materials that teachers create themselves.

Main materials refer to the instructional materials that teachers indicated that they used the most on our survey.

Language scaffolding refers to providing supports for students’ language development by tapping into students’ own backgrounds and dominant languages or by allowing students multiple opportunities to engage with academic content at increasingly difficult levels of complexity. Examples of scaffolds or supports include visual organizers, sentence frames and starters, hands-on materials, and role plays.

Viramontes, 2000; Gándara, Maxwell-Jolly, and Driscoll, 2005).

In this Data Note, we investigate these challenges by drawing on data from the spring 2020 American Instructional Resources Survey (AIRS) to examine teachers’ perceptions of whether their main ELA, mathematics, and science materials meet the needs of ELs, as well as the modifications they make to make those materials more appropriate for this population.

We fielded the AIRS in May and June 2020 to a nationally representative sample of teachers and school leaders who are part of the RAND Corporation American Educator Panels and to state-representative samples of teachers in 12 states (Doan et al., 2020). As part of the AIRS, we asked ELA, mathematics, and science teachers to identify the main instructional materials that they used during the 2019–2020 school year and asked them to indicate the extent to which they agreed or disagreed with the following three EL-specific statements about their main materials:

1. whether those materials met the needs of ELs
2. whether those materials provided digital instructional materials for use by ELs
3. whether those materials provided texts that were linguistically appropriate for ELs.

We also examine the extent to which teachers modified their main materials to make them more appropriate for ELs. Because our survey items focused on teachers’ perceptions of their main materials, their responses do not reflect whether their materials were accessible or appropriate for ELs as judged by students, best practices, or research (for more details, see the “Limitations” section). Nevertheless, our findings provide useful insight into teacher perceptions that can inform how school districts, developers of instructional materials, and policymakers support teacher access to and use of instructional materials that are accessible for ELs.

We analyzed teachers’ survey responses by subject (i.e., ELA, mathematics, and science) and by the percentage of ELs that a teacher reported serving in

their classroom. We also examined whether identified associations were robust to controlling for several school-level variables, including school urbanicity, school racial/ethnic composition, and school poverty level (based on student eligibility for free or reduced-price lunch [FRPL]). (For definitions of the subgroups used in our analyses, see the “How This Analysis Was Conducted” section.)

This Data Note presents a small, focused set of key findings from the teacher responses; it omits some potentially valuable findings from the full set of survey questions and any subgroup differences detected.² We also note that the AIRS was fielded two months after the coronavirus disease 2019 (COVID-19) pandemic disrupted schooling and forced instruction to move online. Therefore, teachers’ recollections of how they had used instructional materials while they were in the classroom might

² The focus of this Data Note is teacher perceptions of whether their main materials met the needs of ELs and related modifications. A full set of survey results and technical documentation, including school leader responses to similar questions about ELs, is provided in Doan et al., 2020; the data are available to download from the AEP data portal to enable others to conduct analyses (RAND Corporation, undated). Although state education policies could play a role in guiding teacher perceptions and behaviors regarding EL materials, our analysis showed that our results were not driven by differences between states; therefore, we focus our reporting on national trends.

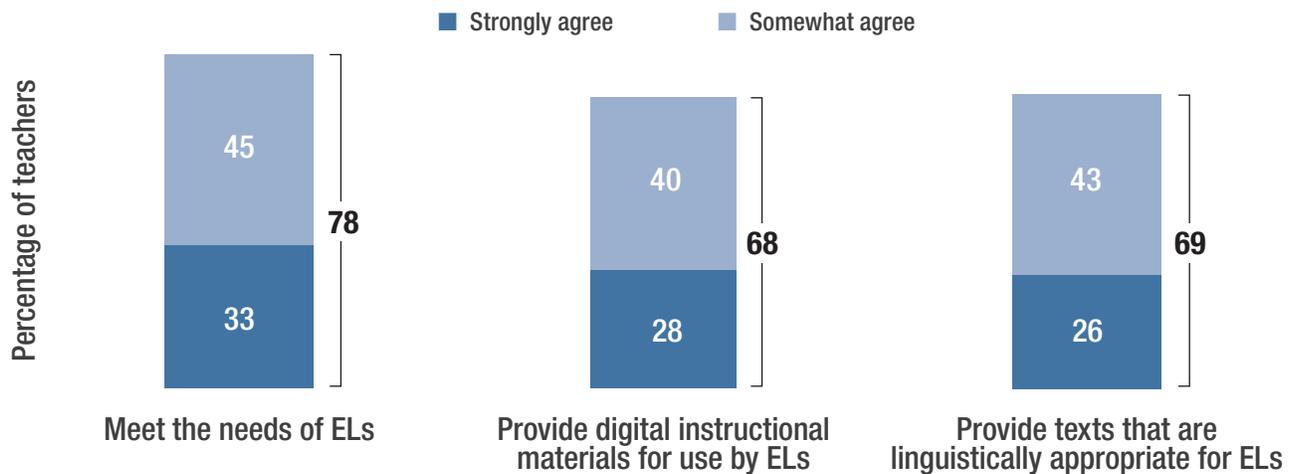
have been inaccurate, or their responses might have been influenced by their experiences with remote learning during the pandemic. For example, teachers could have reported a greater lack of access to digital materials for ELs because of a greater need for these resources in a remote learning environment.

Most Teachers Agreed That Their Materials Adequately Served the Needs of ELs, but Few Strongly Agreed; Math Teachers Least Likely to Strongly Agree

Between 68 and 78 percent of teachers somewhat or strongly agreed with the statements that their main materials met the needs of ELs, that the materials provided digital instructional material for use by ELs, and that their materials provided individual texts that were linguistically appropriate for ELs. However, as shown in Figure 1, a third or less of teachers strongly agreed with any of the three EL-specific material perception items. In particular, math teachers (21 percent) were less likely than ELA (28 percent)

FIGURE 1

Percentage of Teachers Somewhat and Strongly Agreeing with Statements About Their Main Materials



NOTES: Figure 1 shows the survey-weighted percentage of teachers indicating that they “strongly agree” or “somewhat agree” that their main materials “meet the needs of EL students,” “provide digital instructional materials for use by English learners,” and “provide texts that are linguistically appropriate for English learners.” n = 4,795.

and science (29 percent) teachers to strongly agree that their main materials provided linguistically appropriate texts for ELs.

Teachers Serving Fewer ELs Were Less Likely to Strongly Agree that Their Main Materials Met the Needs of ELs

As Figure 2 shows, teachers reporting that fewer than half of students in their classroom were ELs were less likely to strongly agree with each of the EL-specific material perception items. Specifically, among teachers reporting 25 to 49 percent of their students were ELs, only 28 percent strongly agreed that their main materials met the needs of ELs. In contrast, nearly half (48 percent) of teachers who reported serving 75 to 100 percent of ELs in their classroom strongly agreed with the same statement. We found similar patterns when examining whether teachers strongly agreed that their materials provided digital

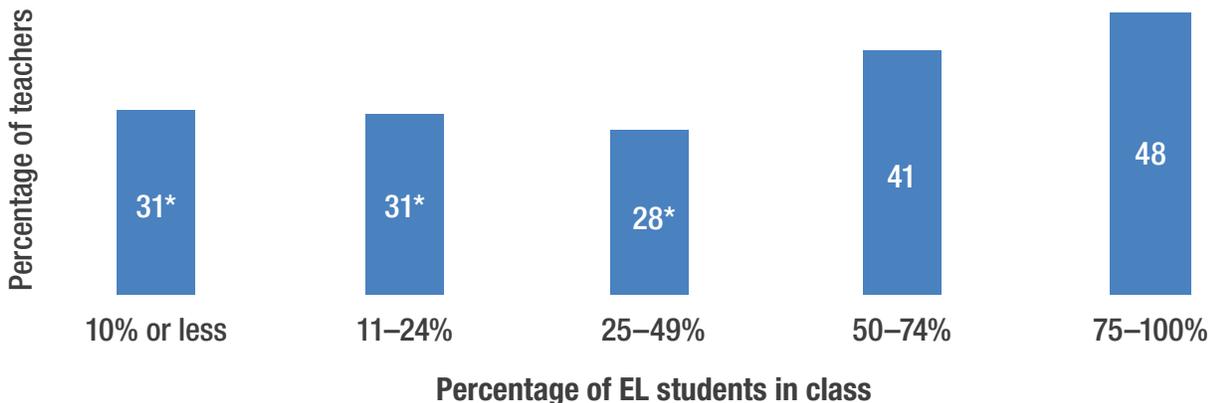
instructional materials and linguistically appropriate texts for ELs.

We hypothesize that teachers with heterogenous classrooms might not have access to materials that meet the needs of *both* EL and non-EL students.³ One reason why teachers with a majority of ELs might have more positive opinions about their main materials' suitability for ELs is because the teachers, their schools, or their school districts are able to explicitly select or create instructional materials designed to serve ELs (Wang et al., 2021). Although our data does not allow us to test this hypothesis directly, we also examine whether teachers with heterogenous

³ An alternative hypothesis is that teachers serving more ELs modified their main materials for their EL population and they took those modifications into account when assessing whether their materials met the needs of ELs. As a result, they would have more favorable perceptions of their materials. As noted earlier, however, we found the same relationship between the percentage of ELs in a teacher's classroom and teachers' responses to the items about whether their main materials provided digital instructional materials and linguistically appropriate texts for ELs. Both of these items refer to characteristics or components of the materials themselves. Therefore, we assume that teachers' responses to all three EL-specific items are based on teachers' assessments of their main materials *prior to modifications*.

FIGURE 2

Percentage of Teachers Strongly Agreeing That Their Main Materials Meet the Needs of EL Students, by Reported Percentage of EL Students in Class



NOTES: Figure 2 shows the survey-weighted percentage of teachers indicating that they “strongly agree” that their main materials “meet the needs of EL students,” conditional on the teacher-reported percentage of ELs in the classroom. Teachers were asked to estimate the proportion of EL students in their classrooms using the categories presented along the x-axis. *n* = 4,725.

* Indicates that there were statistically significant differences at the *p* < 0.05 level relative to teachers reporting that 75 to 100 percent of their students are EL students.

classrooms make more modifications to their main materials to make them more appropriate for ELs and whether teachers' EL certifications explain differences in their perceptions.

Teachers Serving Classrooms with More Than 10 Percent of ELs Reported Modifying Their Materials the Most to Meet EL Needs

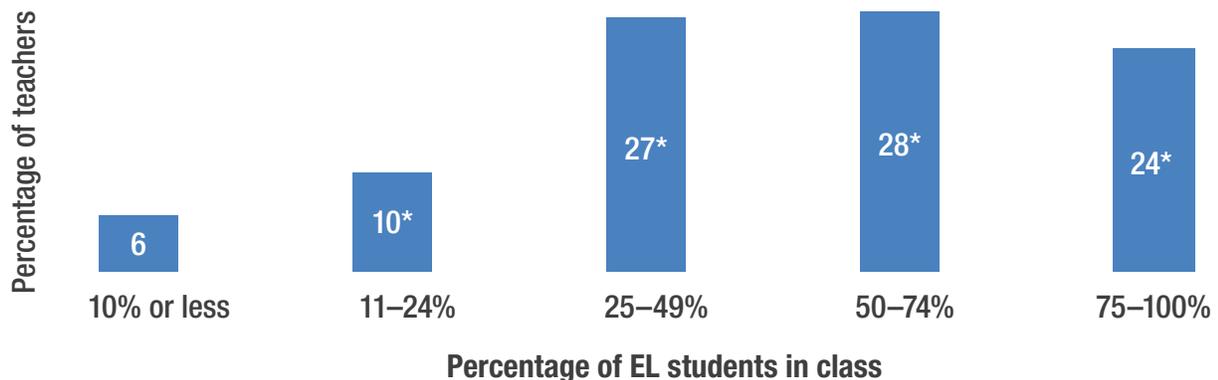
In other AIRS research, we found that secondary school ELA and math teachers serving classrooms with more than 10 percent of ELs reported modifying materials more to make them more appropriate for ELs than teachers with 10 percent or less ELs in their classes (Wang et al., 2021). We find the same pattern in the full AIRS sample, which includes elementary school and science teachers, as shown in Figure 3. Interestingly, those with 75 percent or more ELs in their classroom were slightly less likely to report

making extensive modifications—modifications to more than half of their typical lessons—than those in classrooms with 25 to 74 percent ELs. This pattern aligns with our main hypothesis that teachers with heterogenous classrooms might not have access to instructional materials that are suited to both EL and non-EL students and that these teachers find themselves making extensive modifications to meet ELs' needs. Teachers with predominantly ELs might be more able to explicitly select or create instructional materials designed to serve ELs, limiting the need for subsequent modifications. They also might have more experience adjusting instruction for ELs without having to substantially modify materials.

Teachers who reported making modifications to materials to make them more appropriate for ELs were most likely to report altering or adapting main materials (58 percent), bringing in additional materials (48 percent), and creating materials from scratch (29 percent).

FIGURE 3

Percentage of Teachers Who Reported Making Extensive Modifications to Their Main Materials to Make Them More Appropriate for English Learners, by Percentage of ELs in Class



NOTES: Figure 3 shows the survey-weighted percentage of teachers indicating that they modify “more than half” of their typical lesson to “make them more appropriate for English language learners,” conditional on the teacher-reported percentage of ELs in the classroom. Teachers were asked to estimate the proportion of ELs in their classrooms using the categories presented along the x-axis. $n = 4,677$.

* Indicates that there were statistically significant differences at the $p < 0.05$ level relative to teachers with 10 percent or less EL students in class.

Teachers Who Perceived That Their Materials Did Not Meet ELs' Needs Were More Likely to Make Extensive Modifications

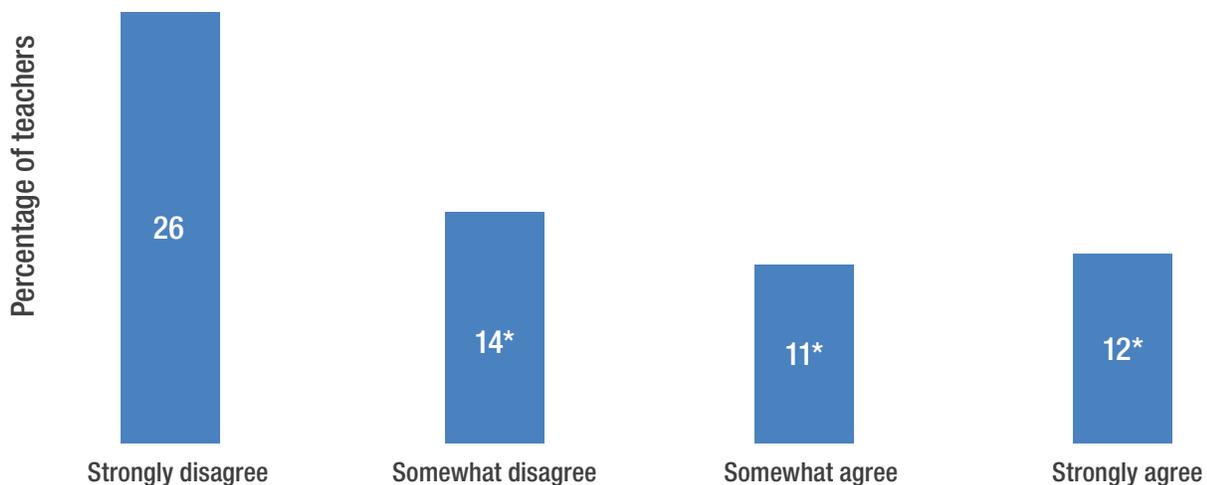
We also consider whether teachers' perceptions of how well their materials serve ELs are related to the extent to which they modify their lessons to make them more appropriate for ELs. Figure 4 shows the likelihood that a teacher reported making extensive modifications to make their typical lessons more appropriate for ELs, based on whether they agreed that their materials met the needs of ELs. Teachers who strongly disagreed that their materials met ELs' needs were 14 percentage points more likely to make extensive modifications than teachers who strongly agreed. We also found that teachers who strongly disagreed that their main materials provided texts that were linguistically appropriate for ELs were more

likely to make extensive modifications than teachers who strongly agreed; we do not find this relationship with teachers' reports of whether their main materials provided digital instructional materials for ELs.

Our findings suggest that teachers are more likely to substantially modify instructional materials to better serve EL needs if they do not believe that these materials are well-suited for ELs. Although this pattern is robust to controls for various teacher and school characteristics (see the "How This Analysis Was Conducted" section), it is important to note that this observed relationship could be confounded by unobserved or uncontrolled characteristics. For example, other school policies (e.g., the type of EL program in the school) and not the actual suitability of a material for ELs could explain why teachers perceived their main materials favorably in relation to EL needs and did not make extensive modifications.

FIGURE 4

Percentage of Teachers Reporting Making Extensive Modifications to Their Main Materials to Make Them More Appropriate for English Learners, by Agreement with Whether Their Materials Meet the Needs of ELs



NOTES: Figure 4 shows the relationship between the extent to which teachers modify "more than half of their typical lessons" to "make them more appropriate to English language learners" (y-axis) and the extent to which they agree that their main materials "meet the needs of English language learners." $n = 3,967$.

* Indicates that there were statistically significant differences at the $p < 0.05$ level relative to teachers who indicated they "strongly disagree" on each item of teacher perceptions.

EL Certification Was Not Significantly Associated with Teachers' Perceptions or with Modifications of Their Main Materials After Accounting for the Proportion of ELs in Classrooms

Another explanation for why teachers who serve more ELs had more positive perceptions of their main materials could be teacher preparation. More specifically, teachers might have more-positive perceptions of their main materials, not because of the quality of their materials themselves but because teachers are already better prepared to use and modify instructional materials for this population. We explored this hypothesis by examining how teachers' perceptions and modifications of their main materials differed according to whether they reported possessing certification in their state to teach ELs.⁴ Overall, 15 percent of teachers reported possessing EL certification; percentages were higher among ELA teachers (19 percent) and elementary school teachers (17 percent). We found no significant relationship between EL certification and teachers' responses to the EL-related perception items about their main materials. EL-certified teachers were 17 percentage points—a statistically significant margin—more likely to make extensive modifications to their main materials to make them more appropriate for ELs than were teachers without certification. However, this difference was largely explained by the fact that EL-certified teachers were more likely to teach classrooms with greater proportions of ELs. After accounting for the proportion of ELs in a teacher's classroom, the difference between EL-certified and non-EL-certified teachers was no longer statistically significant.

⁴ It is up to individual states and districts to ensure that they have highly qualified teachers in all classrooms, including classrooms with ELs. This is usually done through EL certifications or endorsements. Certification types include English as a Second Language (ESL), Bilingual Education, Teaching English to Speakers of Other Languages (ESOL), and Structured English Immersion certifications. Specific training requirements for EL certification vary by state (Education Commission of the States, 2014).

This suggests that EL certification in and of itself is not a substantial predictor of teachers' perceptions and modifications of materials. This finding could also suggest that EL certification is not a good proxy for teachers' preparation to use and modify curriculum materials in core content areas to support ELs. Another measure of preparation could be the number of hours of professional development (PD) that a teacher reported receiving. We do not know whether any or how many of teachers' reported PD hours focused specifically on supporting ELs or modifying materials for ELs, and we did not find that PD hours were a significant predictor of teacher responses to the EL-related survey items (after controlling for the proportion of ELs in a teacher's classroom).

Implications

Our results provide some implications for educators, developers of instructional materials, and policymakers interested in improving teacher access to and use of instructional materials that meet the needs of ELs.

Teachers serving classrooms where fewer than half of their students are ELs likely need better instructional materials to meet the needs of those ELs, particularly in mathematics. Our findings suggest that teachers serving high proportions of ELs (half or more of a classroom) might be using instructional materials that better meet the needs of ELs and provide linguistically appropriate texts and digital materials for ELs. We hypothesize that these teachers might be using instructional materials developed or modified to specifically serve those populations. However, for teachers with smaller proportions of ELs, instructional materials—which likely are aimed at a broad population of students—might not include adequate EL-accessible content. Given the growing number of ELs across the United States, developers of ELA, science, and mathematics instructional materials should carefully consider how to design culturally and linguistically appropriate materials that are supportive of students and educative for teachers, particularly those teachers who might have fewer ELs and less experience modifying materials

to meet their needs (for guidance on how to improve ELA, math and science instructional materials for ELs, see English Learners Success Forum, undated-a, undated-b; Lee et al., 2019).

Relatedly, we recommend that curriculum developers engage with EL experts to request feedback on their instructional materials, training for their writers and staff, and support in describing EL features to their customers (districts and educators). School districts and school leaders can also seek out guidance from EL specialists about curricular materials that include EL-inclusive features. When instructional materials with EL-specific supports are not available, school leaders might also want to seek out guidance to recommend quality supplemental materials that could be used to make main materials more accessible for ELs.

Teachers serving heterogenous classrooms likely need guidance and PD on how to modify instructional materials to make them more appropriate for ELs. Teachers with classrooms composed of 50 to 74 percent ELs were most likely to modify materials to make them more appropriate for ELs. This suggests that teachers serving many, but not exclusively, ELs are in need of guidance on how to make those modifications. In addition to trying to select instructional materials that will not require extensive modifications for ELs, school district and school leaders can support these teachers by providing curriculum-specific guidelines and PD on how to provide culturally and linguistically responsive instruction that is inclusive of ELs. This could help teachers spend less time trying to figure out how to modify for ELs and ensure that modifications make materials accessible without being less academically rigorous.

School districts and state education agencies should ensure that they consider ELs when making decisions about curriculum selection and adoption. State education agencies can create state frameworks for each content area that provide clear guidance for quality curriculum and instruction that clearly address the implications for ELs. Subsequently, criteria for curriculum selection and adoption in core subjects can be developed that reflect those frameworks

and that include ELs more robustly. Relatedly, state education agencies and school districts can compile lists of recommended EL-accessible instructional materials to help schools and teachers make curricular decisions.

Especially during the COVID-19 pandemic, it is important to develop libraries of EL-inclusive digital materials and provide supports and PD for teachers who might be struggling to differentiate instruction in a virtual environment. Even under normal circumstances, teachers with a mix of EL and non-EL students might need support finding EL-inclusive materials and PD on modifying their main materials to better support ELs. The difficulty of providing differentiated and inclusive instruction for ELs is likely exacerbated in virtual and hybrid classroom settings as teachers adjust to new technology and digital materials. State education agencies and school districts could support teachers by developing libraries of digital materials in core subjects—not just English language development—that are EL-inclusive, and these agencies and districts could provide teacher training on the use of those materials.

Limitations

This Data Note provides a nationwide perspective on teachers' perceptions of their main instructional materials' suitability for ELs. However, it is important to note a number of limitations.

First, our descriptive analysis relied on teachers' self-reports of whether instructional materials met the needs of ELs and the extent to which teachers modified these materials. Therefore, our survey items are open to teacher interpretation about what is accessible and appropriate for ELs, and their responses could be based on misconceptions about EL instruction. For example, educators might believe that ELs should not be given access to the same rigorous texts as non-ELs, thus shortchanging them of the opportunity to grapple with more-rigorous grade-level texts (with the appropriate supports). Although understanding teachers' perceptions is critical for

understanding how instructional materials are implemented in practice, educators and policymakers should not base curriculum adoption decisions solely on educator perceptions but should also review research on the effectiveness of different curriculum products.

Second, although we found that the descriptive patterns we presented in the data note were robust to the inclusion of statistical controls for school characteristics, teachers' grades and subjects taught, teachers' experience, and state fixed effects, we cannot account for other unobserved school or classroom-level differences. Therefore, our findings are

strictly descriptive, and any relationships presented should not be interpreted as causal.

Third, the AIRS was fielded after the COVID-19 pandemic disrupted schooling. Experiences with remote instruction might have influenced teachers' responses and, therefore, our findings. In particular, teachers might have struggled to differentiate instruction for ELs, particularly if ELs comprised small proportions of their classes. If this were the case, our findings about this group of teachers could reflect these difficulties, not strictly their perceptions of the materials themselves.

Bibliography

- Alamillo, Laura and Celia Viramontes, “Reflections from the Classroom: Teacher Perspectives on the Implementation of Proposition 227,” *Bilingual Research Journal*, Vol. 24, No. 1–2, 2000, pp. 155–167.
- Batalova, Jeanne, Michael Fix, and Julie Murray, *Measures of Change: The Demography and Literacy of Adolescent English Learners*, Washington, D.C.: Migration Policy Institute, 2007.
- Callahan, Rebecca M., “Tracking and High School English Learners: Limiting Opportunity to Learn,” *American Educational Research Journal*, Vol. 42, No. 2, Summer 2005, pp. 305–328.
- Callahan, Rebecca M., and Dana Shifrer, “Equitable Access for Secondary English Learner Students: Course Taking as Evidence of EL Program Effectiveness,” *Educational Administration Quarterly*, Vol. 52, No. 3, 2016, pp. 463–496.
- Christian, Donna, “Foreword,” in Kip Téllez and Hersh C. Waxman, eds., *Preparing Quality Educators for English Language Learners: Research, Policy, and Practice*, Mahwah, N.J.: Lawrence Erlbaum Associates, 2006, pp. vii–ix.
- Dabach, Dafney Blanca, and Rebecca M. Callahan, “Rights Versus Reality: The Gap Between Civil Rights and English Learners’ High School Educational Opportunities,” *Teachers College Record*, 2011.
- Doan, Sy, David Grant, Daniella Henry, Julia H. Kaufman, Rebecca Ann Lawrence, Andrea Prado Tuma, Claude Messan Setodji, Laura Stelitano, Ashley Woo, and Christopher J. Young, *American Instructional Resources Surveys: 2020 Technical Documentation and Survey Results*, Santa Monica, Calif.: RAND Corporation, RR-A134-4, 2020. As of December 22, 2020: https://www.rand.org/pubs/research_reports/RR-A134-4.html
- Education Commission of the States, “Are ELL-Only Instructors Required to Hold a Specialist Certification or Endorsement? 50-State Comparison,” webpage, November 2014. As of December 16, 2020: <http://ecs.force.com/mbdata/mbquestNB2?rep=E11416>
- English Learners Success Forum, *Guidelines for Improving English Language Arts Materials for English Learners*, New York, undated-a. As of December 16, 2020: https://assets-global.website-files.com/5b43fc97fcf4773f14ee92f3/5e73a4231ef80672d63be713_ELSF%20ELA%20Guidelines.pdf
- , *Guidelines for Improving Math Materials for English Learners*, New York, undated-b. As of December 16, 2020: https://uploads-ssl.webflow.com/5a5e93221338fa00010fc521/5b895eabfac9977d07bd3b57_ELSF_Math_Guidelines_03.pdf
- Fry, Richard, *How Far Behind in Math and Reading are English Language Learners?* Washington, D.C.: Pew Research Center, June 6, 2007. As of December 16, 2020: <https://www.pewresearch.org/hispanic/2007/06/06/how-far-behind-in-math-and-reading-are-english-language-learners>
- , *The Role of Schools in the English Language Learner Achievement Gap*, Washington, D.C.: Pew Research Center, June 26, 2008. As of December 16, 2020: <https://www.pewresearch.org/hispanic/2008/06/26/the-role-of-schools-in-the-english-language-learner-achievement-gap/>
- Gándara, Patricia, Julie Maxwell-Jolly, and Anne Driscoll, *Listening to Teachers of English Language Learners: A Survey of California Teachers’ Challenges, Experiences, and Professional Development Needs*, Policy Analysis for California Education, Center for the Future of Teaching and Learning, and University of California Linguistic Minority Research Institute, 2005. As of December 16, 2020: <https://files.eric.ed.gov/fulltext/ED491701.pdf>
- Johnson, Angela, “A Matter of Time: Variations in High School Course-Taking by Years-as-EL Subgroup,” *Educational Evaluation and Policy Analysis*, Vol. 41, No. 4, December 2019, pp. 461–482.
- Lee, Okhee, Lorena Llosa, Scott Grapin, Alison Haas, and Marcelle Goggins, “Science and Language Integration with English Learners: A Conceptual Framework Guiding Instructional Materials Development,” *Science Education*, Vol. 103, No. 2, March 2019, pp. 317–337.
- Lee, Okhee, Jaime Maerten-Rivera, Cory Buxton, Randall Penfield, and Walter G. Secada, “Urban Elementary Teachers’ Perspectives on Teaching Science to English Language Learners,” *Journal of Science Teacher Education*, Vol. 20, 2009, pp. 263–286.
- National Center for Education Statistics, “English Language Learners in Public Schools,” webpage, last updated May 2020. As of December 22, 2020: https://nces.ed.gov/programs/coe/indicator_cgf.asp
- RAND Corporation, “AEP Data Portal,” webpage, undated. As of December 18, 2020: <https://www.rand.org/education-and-labor/projects/aep/data-portal.html>
- Téllez, Kip, and Hersh C. Waxman, *Quality Teachers for English Language Learners*, Philadelphia, Pa.: Laboratory for Student Success at Temple University Center for Research in Human Development and Education, 2005. As of December 16, 2020: <https://files.eric.ed.gov/fulltext/ED508447.pdf>
- Thompson, Karen D., “What Blocks the Gate? Exploring Current and Former English Learners’ Math Course-Taking in Secondary School,” *American Educational Research Journal*, Vol. 54, No. 4, August 2017, pp. 757–798.
- Umansky, Ilana M., “Leveled and Exclusionary Tracking: English Learners’ Access to Core Content in Middle School,” *American Educational Research Journal*, Vol. 53, No. 6, December 2016, pp. 1792–1833.
- U.S. Department of Education, *Non-Regulatory Guidance: English Learners and Title III of the Elementary and Secondary Education Act (ESEA), as Amended by the Every Student Succeeds Act (ESSA)*, Washington, D.C., September 23, 2016. As of December 22, 2020: <https://www2.ed.gov/policy/elsec/leg/essa/essatitleiiiinguidenglishlearners92016.pdf>
- Wang, Elaine Lin, Andrea Prado Tuma, Sy Doan, Daniella Henry, Rebecca Ann Lawrence, Ashley Woo, and Julia H. Kaufman, *Teachers’ Perceptions of What Makes Instructional Materials Engaging, Appropriately Challenging, and Usable: A Survey and Interview Study of Teachers*, Santa Monica, Calif.: RAND Corporation, RR-A134-2, 2021. As of January 14, 2021: https://www.rand.org/pubs/research_reports/RR-A134-2.html

How This Analysis Was Conducted

We used responses from 5,978 teachers to the 2020 AIRS to examine teachers' perceptions and modifications of their main instructional materials as they relate to educating ELs and how perceptions and modifications differ across classroom and school characteristics; sample sizes for figures are smaller because of nonresponse to specific items.

In the 2020 AIRS, teachers were asked to select one to three instructional materials that they considered to be their main instructional materials—those which they used the most. They then were asked to indicate the extent to which they agreed, using a four-point scale ranging from (1) strongly disagree to (4) strongly agree, with several statements regarding their perceptions of these materials. In this Data Note, we focus on teacher responses to whether their main materials “meet the needs of English language learners,” “provide digital instructional materials for use by English language learners,” and “provide texts that are linguistically appropriate for English language learners.” We focus specifically on whether teachers strongly agree with each of these items.

We analyze the extent to which teachers reported modifying their typical lessons to make them more appropriate for English learners using the following response options: “I do not make this type of modification or N/A [not applicable],” “for less than half of a typical lesson,” “for about half of a typical lesson,” and “for half or more of a typical lesson.” Similar to our treatment of the perception items, we operationalize the modification item as a binary indicator for whether teachers indicated modifying their lesson for “for half or more” of a typical lesson.

We compare teachers' responses on the perception and modification items across different school characteristics—including school enrollment of FRPL-eligible students, school enrollment of non-White students, and school urbanicity (city, suburban, town, rural)—and by subject (ELA, mathematics, science) and classroom-level percentage of ELs taught. School characteristics were obtained from the 2018–2019 National Center for Education Statistics Common Core of Data, and classroom-level percentages of ELs were obtained from teacher responses to the 2020 AIRS. School characteristics were operationalized as quartiles.

Teachers were asked to estimate the percentage of ELs in their classroom by choosing one of the following categories: (1) 10 percent or less, (2) 11 to 24 percent, (3) 25 to 49 percent, (4) 50 to 74 percent, and (5) 75 to 100 percent. We conducted *t*-tests to test for significant pairwise differences among quartiles/categories on each school or classroom characteristic.

All comparisons mentioned are unadjusted for statistical controls and are significant at the $p < .05$ level unless otherwise specified. We tested the robustness of these patterns using (1) statistical controls for state fixed effects, school characteristics (e.g., urbanicity, FRPL eligibility rate, racial composition) and teachers' grades and subjects taught and years of total teaching experience and (2) clustered standard errors at the school and district levels. Because these results are substantively similar, we present only unadjusted descriptive results in the Data Note.

About the AEP Data Note Series

The AEP Data Note series is intended to provide brief analyses of survey results of immediate interest to policymakers, practitioners, and researchers. If you would like to know more about the dataset, please see the *American Instructional Resources Survey (AIRS) Technical Documentation* (RR-A134-4, www.rand.org/t/RR-A134-4) for more information on survey recruitment, administration, and sample weighting. If you are interested in using AEP data for your own surveys or analysis or reading other AEP-related publications, please email aep@rand.org or visit www.rand.org/aep.

About This Report

The American Educator Panels (AEP) are nationally representative sample of teachers and school leaders across the country. We are extremely grateful to the U.S. public school teachers and leaders who have agreed to participate in the panels. Their time and willingness to share their experiences are invaluable for this effort and for helping us to understand more about how to better support their hard work in schools. We also thank our reviewers, Fatih Unlu, Louay Constant, and Renae Skarin, for helpful feedback that improved this report.

This study was undertaken by RAND Education and Labor, a division of the RAND Corporation that conducts research on early childhood through postsecondary education programs, workforce development, and programs and policies affecting workers, entrepreneurship, and financial literacy and decisionmaking. This report is based on research funded by the Bill & Melinda Gates Foundation, the Charles and Lynn Schusterman Family Foundation, and the Overdeck Family Foundation. The findings and conclusions contained within are those of the authors and do not necessarily reflect the positions or policies of the foundations that supported this research.

More information about RAND can be found at www.rand.org. Questions about this report should be directed to apradotu@rand.org, and questions about RAND Education and Labor should be directed to educationandlabor@rand.org.

The RAND Corporation is a research organization that develops solutions to public policy challenges to help make communities throughout the world safer and more secure, healthier and more prosperous. RAND is nonprofit, nonpartisan, and committed to the public interest.

RAND's publications do not necessarily reflect the opinions of its research clients and sponsors. **RAND**[®] is a registered trademark.

Print and Electronic Distribution Rights

This work is licensed under a Creative Commons Attribution 4.0 International License. All users of the publication are permitted to copy and redistribute the material in any medium or format and transform and build upon the material, including for any purpose (including commercial) without further permission or fees being required.

For more information on this publication, visit www.rand.org/t/rrA134-5.

Published 2021 by the RAND Corporation

www.rand.org

