

What California teachers are saying about their instructional materials for English learner students

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This knowledge brief is part of a continuing series designed to inform California education leaders about new research findings on key state policy topics. It summarizes California information from a nationwide teacher survey on teachers' beliefs about and practices with their instructional materials for English learner students.

California public schools enroll some 1.2 million students who are classified as English learner (EL) students. This group accounts for a little more than 19 percent of the statewide student population (California Department of Education, 2019). Given the size of this population and given the state's efforts over the last decade to recommend to districts materials lists for high-quality, standards-aligned materials for all students, education leaders need to understand teachers' perceptions of the quality and suitability of materials available for use with EL students. This information can help inform the provision of differentiated supports that meet the needs of schools, teachers, and learners across the Golden State.

This brief summarizes data about California teachers' views of and experience with school- and district-provided classroom materials in relation to their EL students.¹ The data summarized herein

¹ The authors recognize that the EL student population is both heterogeneous and fluid, with individual students varying both in background, needs, proficiency level, and the time it takes them to progress to the point that they can be reclassified as proficient in English.

were collected from teachers in spring 2019 through the American Instructional Resources Survey (AIRS), part of the RAND Corporation's American Teacher Panel (ATP).² This survey focused on materials used and supported in K–12 English language arts (ELA), mathematics, and science classrooms across the United States, with materials defined as textbooks, lesson plans and units, and other instructional materials provided by a school or district. The survey included items about subject-matter materials in general, along with items about the cultural relevance and linguistic appropriateness of the materials, digital materials, and teachers' modification of materials for EL students. This brief compares the responses of California teachers across the three core subjects: ELA, mathematics, and science.³ To place California's results

² The ATP surveys were originally launched in 2014 and are administered several times a year in all U.S. states and the District of Columbia, with educators in California, Florida, New York, and Texas over-sampled to afford state-level representativeness. Educators who change schools remain on the panel, and new members are added periodically so the panel remains representative over time. For the spring 2019 AIRS administration discussed here, 390 of 648 California teachers (60 percent) responded, and the margins of error for the results presented in this brief generally range from 5 to 10 percentage points. Among the 390 respondents, 152 were identified as ELA teachers, 132 as mathematics teachers, and 106 as science teachers. Not all respondents responded to every item, so the per-item sample varied. There were no respondents from New Hampshire in the spring 2019 AIRS administration.

³ Survey respondents who taught more than one subject, including many who were K–6 teachers, were randomly assigned to one subject, and all the questions on their survey referred to that subject only. Throughout this report, the authors use "ELA teachers," "math teachers," and "science teachers" to refer to the teachers who were assigned in the survey to that subject.

in a national context, the authors also compared California's subject-specific teacher responses to those of teachers in other states who responded to the same survey.

The analysis identified two main themes:

- » Compared to their mathematics and science colleagues, California's ELA teachers were more likely to agree that their materials met the needs of their EL students.
- » Compared to their mathematics and science colleagues, California ELA teachers more frequently modified or supplemented their materials to make them more culturally relevant and appropriate for EL students; ELA teachers had also engaged in comparatively more hours of professional learning on how to modify materials for this purpose.

Background: California's New Standards, Curriculum Frameworks, and Instructional Materials Lists

Over the past decade, in its efforts to support teachers to better prepare students for postsecondary success, California has adopted new subject-specific K–12 academic standards and rolled out related curriculum frameworks and approved instructional materials lists. The timelines for providing this guidance in the core subjects of ELA, mathematics, and science, as well as for English language development (ELD), have differed by subject (fig. 1, p. 7).⁴

ELA and math standards were both adopted in 2010, followed by the ELD standards in 2012 and the science standards in 2013. The first curriculum framework developed was for math and was adopted in late 2013, followed by its instructional materials list in early 2014. Then, in mid-2014, came

⁴ During this same general period, California also adopted new K–12 standards for history, but they are not discussed here because the spring 2019 AIRS did not ask about history materials.

a ground-breaking curriculum framework that, for the first time, integrated ELA and ELD; the related instructional materials list followed in late 2015. A year later, in late 2016, the curriculum framework for science was adopted, with its instructional materials list issued two years later, in late 2018.

One of the more noteworthy aspects of this overall effort has been the focus on supporting EL students through the integrated ELA/ELD framework — the only such integrated framework in the nation even now, six years later. That framework explicitly emphasizes culturally responsive teaching, access and equity for all students, and the use of an assets-based approach to providing a robust and comprehensive instructional program for EL students (California Department of Education, 2014; Yopp, Spycher, & Brynson, 2016). Although its title refers specifically to the subject area of English language arts, the framework addresses English literacy and language, including reading, writing, speaking, and listening, as well as English language development, across the disciplines. Vignettes of instructional practice, by grade level, illustrate how the ELA standards, the ELD standards, and content area instruction can be integrated so that EL students can successfully engage with, and achieve success in, grade-level academic content (California Department of Education, 2014). The ELA/ELD materials list reflects the contents of the framework.

In contrast, the math framework and instructional materials list, both adopted prior to the integrated ELA/ELD framework, make no mention of EL students or of culturally relevant instruction (California Department of Education, 2013). The science curriculum framework was released after the ELA/ELD framework but had already been well underway by the time that integrated framework came out. While it includes a chapter on access and equity, it offers little explicit guidance for teaching EL students; instead, it encourages all teachers to consult the ELD standards in order to fully include EL students in science instruction (California Department of Education, 2016a). While math and science teachers can consult the ELA/ELD framework for guidance in their

content area, their respective materials lists do not include the same degree of focus on EL students as does the ELA/ELD materials list.

In 2020, the California State Board of Education approved guidelines for the math framework revision that is intended to reflect the most up-to-date theory and practices related to EL students (California Department of Education, 2020). The revision will provide guidance for implementing culturally and linguistically relevant pedagogy that supports the instructional needs of each student; it will also include new strategies that have been described in more recent EL-related policy initiatives undertaken by the California Department of Education.⁵ The revised math framework is scheduled to be adopted in 2021, with its instructional materials list following in early 2022.

The differing degrees of focus on EL students across the subject frameworks mean that, compared to their science and math colleagues, ELA teachers have had more explicit guidance for teaching EL students, along with materials aligned to that guidance.

The research findings that follow shed light on teachers' beliefs and practices related to their materials for EL students, as of 2019.⁶

California-Specific Findings

The first four findings in this section relate to questions that asked teachers specifically about their instructional materials. The fifth finding relates to

⁵ For example, the state's *English Learner (EL) Roadmap (2017)* and *Educating for Global Competency: Findings and Recommendations from the 2016 California Global Education Summit* (2016b).

⁶ The authors also examined response patterns across the study sample by grade span. Among the 374 respondents that indicated the grade level in which they teach and taught exclusively within one grade span, 173 (46 percent) were elementary teachers and 192 (54 percent) were secondary teachers. There were few statistically significant differences between respondents by grade span. These findings will be described in detail in an upcoming brief.

several questions that touched on modification of those materials.

Subject matter materials

When asked whether they agree that their (subject-specific) materials “meet the needs of English language learners,” ELA teachers were more likely than their science and math colleagues to agree or strongly agree, with 83 percent, 68 percent, and 53 percent, respectively, choosing these most positive answers. The 30-point difference between the views of the ELA and math teachers and the 15-point difference between ELA and science teachers are both statistically significant.

Culturally relevant materials

Here, too, teachers' responses differed across the three subject areas in their agreement with the statement that their materials are culturally relevant for their students in general (versus explicitly for EL students). More than four in five ELA teachers (85 percent) and just over three quarters (76 percent) of science teachers agreed or strongly agreed that their main materials are culturally relevant for their students. This compares to slightly more than two thirds (68 percent) of math teachers. Only the 17-point difference between the views of the ELA and math teachers is statistically significant.

Linguistically appropriate materials

When asked whether their main materials provide texts and topics that are linguistically appropriate for EL students, ELA teachers responded most positively, with 79 percent agreeing or strongly agreeing on the linguistic appropriateness of their materials, compared to 57 percent of science teachers and 49 percent of math teachers.⁷ The 30-point difference between the views of the ELA and math teachers and the 22-point difference between ELA and science teachers are both statistically significant.

⁷ The authors encourage caution when interpreting responses to this question. Because the terms “texts and topics” might be seen as more closely related to ELA than to math or science, the question might be expected to elicit a higher rate of agreement from ELA teachers.

Digital instructional materials

Teachers' agreement that their materials provide digital instructional materials⁸ for use by EL students⁹ follows a similar pattern. ELA teachers were more likely than science and math teachers to agree or strongly agree (71 percent, 52 percent, and 52 percent, respectively). The 19-point differences between both the views of the ELA and math teachers and the ELA and science teachers are statistically significant. Figure 2 (p. 7) summarizes the first four findings.

Modification of materials

The survey asked teachers about the number of hours in school year 2018/19 that they had spent in professional learning on modifying their main materials so as to provide culturally relevant instruction (fig. 3, p. 8). Here, too, the response patterns differed by subject area, with 30 percent of ELA teachers reporting having spent more than 20 hours in this type of professional learning as compared to 20 percent of science teachers and 11 percent of math teachers. At the other end of the spectrum, science and math teachers were more than twice as likely (44 percent and 42 percent, respectively) than ELA teachers (19 percent) to report having spent no time in professional learning on this topic. The response patterns across subject areas were more similar among those who reported having spent 1–20 hours in this type of professional learning: 51 percent for ELA teachers, 36 percent for science teachers, and 47 percent for math teachers.

Teachers were also asked two questions about the frequency with which they skip activities suggested in their materials, modify materials, or supplement their materials. (Note that in neither case did the survey probe what specific adjustments they make.) One of the questions asked how often they make such changes with the intent of making the

materials *more culturally relevant for students* in general. In response to this question, 38 percent of ELA teachers, compared to 19 percent of science teachers and 20 percent of math teachers, reported that they skip activities, or modify or supplement materials for this purpose at least two to three times a week or for nearly every lesson. The differences in overall response patterns between the ELA teachers and the math teachers and between the ELA and the science teachers are both statistically significant (fig. 4, p. 8).¹⁰

The other question asked how often they skip activities or modify or supplement materials with the intent of making them *more appropriate for EL students*. More than half of ELA teachers (nearly 55 percent) reported that they make these types of changes at least two to three times per week, compared to 39 percent of science teachers and 36 percent of math teachers (fig. 5, p. 9). Once again, the differences in overall response patterns for ELA versus math teachers and ELA versus science teachers are both statistically significant.

Comparisons with Other States

To explore the hypothesis that California's unique integrated ELA/ELD framework and related materials list is related to differences in teacher responses by subject matter, the authors compared responses between teachers in California and teachers from the rest of the U.S. in aggregate.¹¹ For additional perspective, the authors also made comparisons of California results to those of each other state that had at least 50 ELA teachers and 50 math teachers responding to the survey; the intent of this state-to-state analysis was to see whether any individual states are comparable to California but were being masked by the aggregation of results from all

8 Because the survey did not define "digital instructional materials," it is difficult to interpret the response data.

9 Note that the sample for this question includes only those teachers who have access to digital materials. It does not include teachers who replied "N/A" when asked about access to digital materials.

10 Statistical significance was determined using chi-squared testing on response patterns.

11 All states other than New Hampshire are included in this comparison. There were no respondents from New Hampshire in the 2019 AIRS.

surveyed states.¹² In this exploratory analysis, they looked only at responses and response patterns for teachers of ELA and math because, in California, the largest differences were between teachers in these two subject areas. Because this cross-state analysis was intended to be exploratory, the authors did not compare response data for all questions described in the previous section, but selected two questions that most directly address instructional materials for the population of interest: teachers' agreement that their materials meet the needs of EL students and teachers' agreement that they modify their materials to make them more appropriate for EL students. The comparison of California response data to those from other states revealed that the subject matter differences between California's ELA and math teachers were, indeed, more pronounced than in all other states taken together and also more pronounced in California than in each of 12 other comparison states.

Subject matter materials — Comparison between California and other states

As noted in the prior section, when asked whether they agree that their main materials meet the needs of EL students, California ELA teachers were significantly more likely to agree or strongly agree compared to their math colleagues (83 percent compared to 53 percent, respectively). The combined responses of ELA teachers versus math teachers from all other states differed as well: 68 percent for ELA teachers versus 63 percent for math (fig. 6, p. 9). But that 5-point difference averaged across all other states is markedly smaller than the 30-point difference between these same two teacher groups in California.

The gap between California ELA and math teachers in their reports that their materials meet the needs

¹² There were 12 comparison states: Delaware, Florida, Louisiana, Nebraska, New Mexico, New York, Rhode Island, Massachusetts, Mississippi, Tennessee, Texas, and Wisconsin. These states varied in the percentage of teachers indicating that EL students make up at least a quarter of their students, from a low of 8 percent in Mississippi to a high of 40 percent in Texas (all less than the 42 percent of responding teachers in California).

of EL students was larger in California compared to any other individual state (fig. 7, p. 10). This difference between California teachers, by subject taught, is not just larger than the difference in the rest of the states surveyed as a whole, but also larger than in individual comparison states.

Modifications of materials — Comparison between California and other states

Compared to California teachers in these two subject areas, their peers in all other states combined were more likely to *never* skip activities or modify or supplement their main materials to make them more appropriate for EL students. For example, 25 percent of ELA teachers in other states combined (compared to 8 percent in California) and 34 percent of math teachers in all other states (compared to 23 percent in California) reported never modifying their materials for EL students (fig. 8, p. 10).

California teachers were more likely than teachers in other states to modify their materials for the purpose of making them more appropriate for EL students two to three times a week or for nearly every lesson: 55 percent of ELA teachers in California (as compared to 43 percent in other states combined) and 36 percent of math teachers in California (as compared to 32 percent in other states combined) chose one of these two response options.

Discussion

California's subject-matter area curriculum frameworks and related materials lists may be responsible, at least in part, for differences in California teachers' reports about the suitability of their instructional materials and their comfort in modifying those materials to make them more culturally relevant for all students or more appropriate for EL students. Specifically, it's likely that teachers' responses about instructional materials are influenced by the degree to which the curriculum framework for their subject area includes a significant focus on EL students and on culturally responsive teaching in general; this is because

instructional materials lists would naturally reflect the framework on which they are based. The same would seem to be true for professional learning opportunities in a given subject area.

If this is the case, California ELA teachers, for example, might well feel positive about their materials for EL students because the ELA/ELD framework and, thus, its related materials list, were specifically designed with support for this student group in mind. Neither science nor math teachers have yet had curriculum frameworks (and related materials lists) that place the same degree of focus on EL students. Similarly, it might help explain why, compared to their science and math colleagues, the state's ELA teachers also report having had more professional learning opportunities related to modifying materials and why they report more frequently modifying materials to tailor them to be more culturally responsive in general and to be more appropriate for EL students. No other state has a curriculum framework that integrates ELA and ELD and, in doing so, maintains a persistent focus on giving EL students equitable access to learning. This might explain why California survey results show bigger differences between ELA teachers and other content teachers compared to the differences in other states.

Importantly, California leaders are aware of the need to provide explicit guidance for teaching EL students in all content areas and they have been responsive. It will be telling to learn whether math teachers in particular report differently in future AIRS surveys as they begin using the forthcoming framework revision and related materials list that will reportedly include an emphasis on teaching EL students, and whether their future professional learning opportunities related to materials modification have that same focus. In the meantime, the current findings suggest that there is work to be done in making math and science materials more culturally and linguistically relevant, as well as in providing professional learning to improve the capacity of math and science teachers to modify materials for EL students.

It also is worth learning more about the kinds of digital materials to which teachers have access and how they are used with EL students, as well as asking teachers *how and why* they do or do not modify their materials for their EL students. A related area that needs more study, particularly in light of the coronavirus-related school building closures, is the effect of greater use of distance learning strategies in teaching, particularly for EL students. It will be important to monitor whether the differences across subjects described in this brief become exacerbated, or perhaps mitigated, at a time when teachers are increasingly employing distance learning strategies.

Figure 1. Timeline for California’s standards, curriculum frameworks, and instructional materials lists

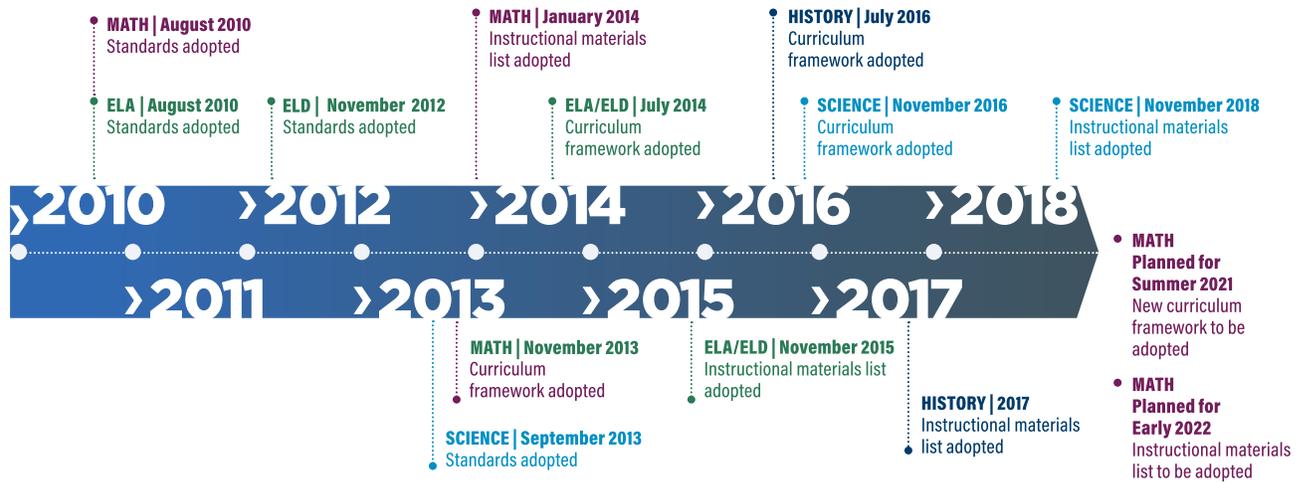
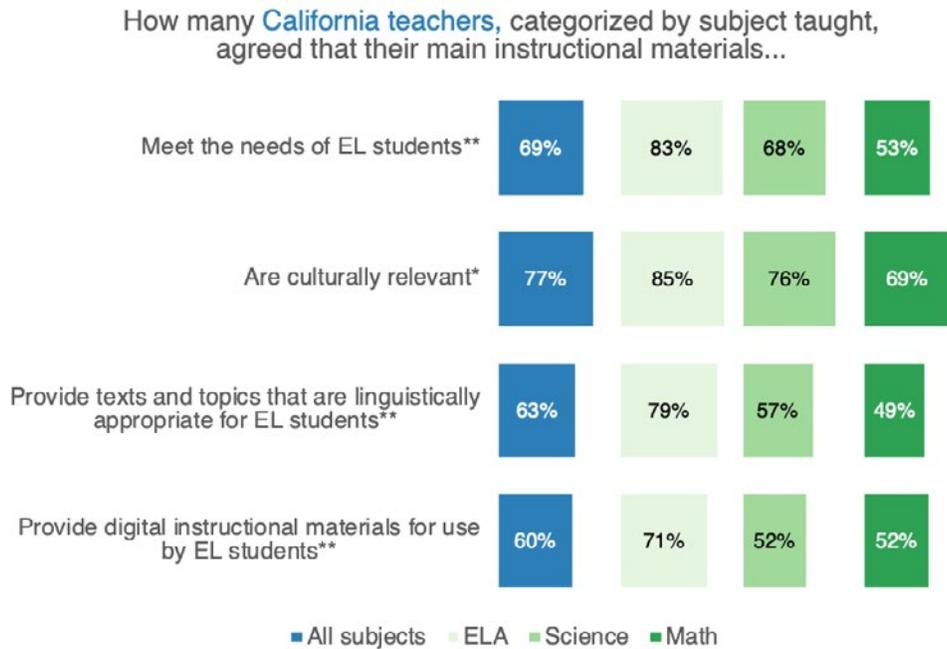


Figure 2. California teachers differ, by subject taught, on views about their instructional materials for EL students



Notes: (*) indicates that the difference between percentages of ELA and math teachers who agreed with this statement is statistically significant (p<.05). (**) indicates that the difference between percentages of ELA and math teachers and the difference between percentages of ELA and science teachers who agreed with this statement are both statistically significant (p<.05).

Figure 3. California teachers differ, by subject taught, in hours of professional learning in school year 2018/19 focused on modifying their materials to make them more culturally relevant

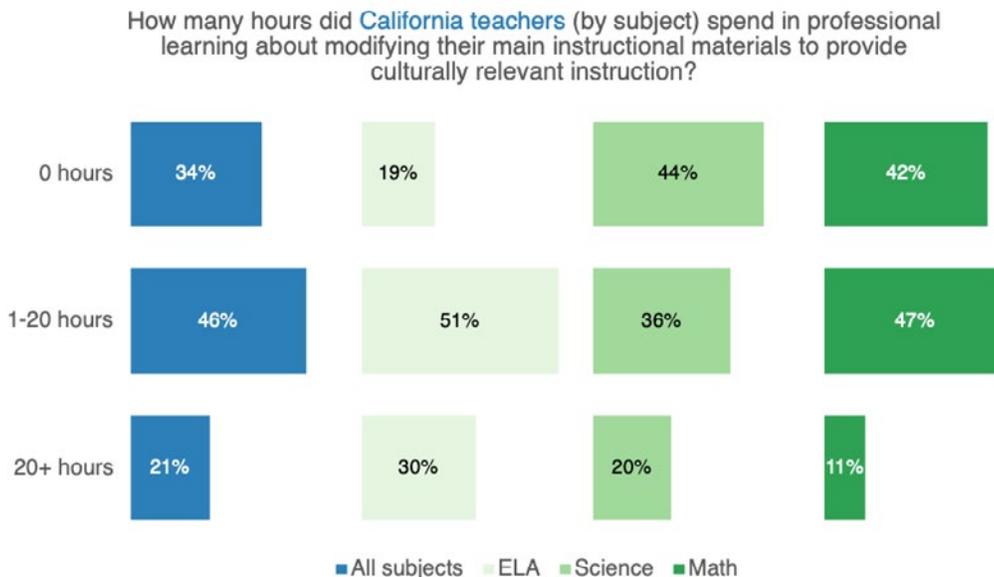
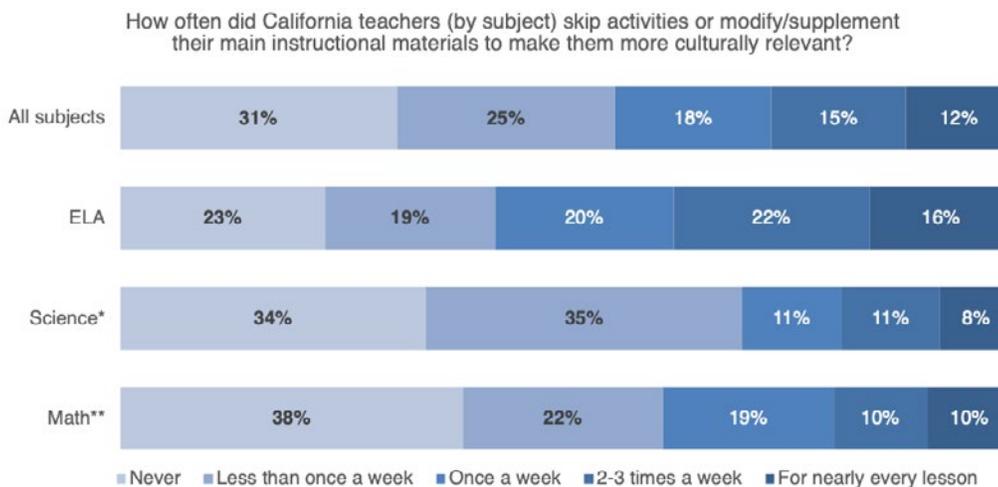
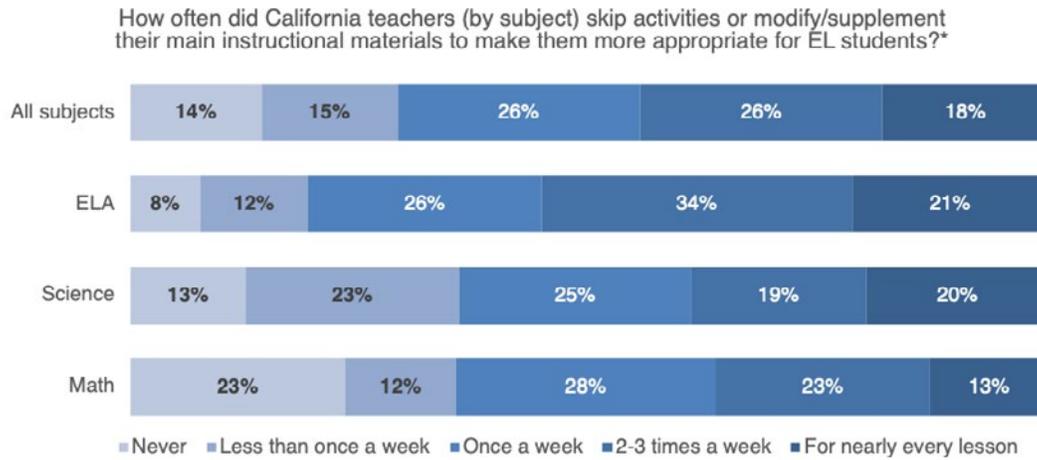


Figure 4. California teachers differ, by subject taught, in the frequency with which they use modifications to increase the cultural relevance of their instructional materials



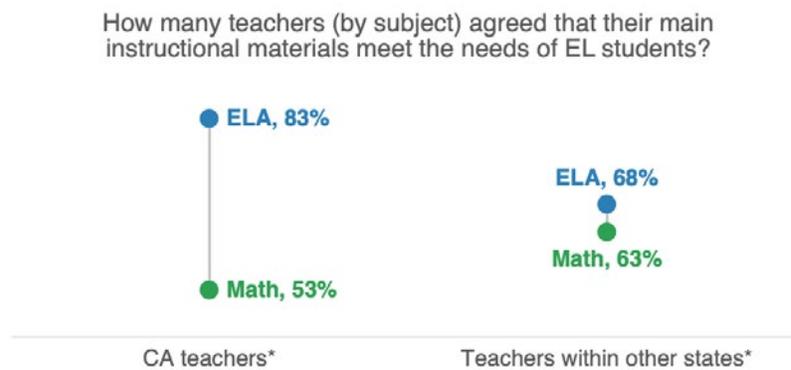
Notes: (*) indicates that the difference in response patterns between science and ELA teachers for this question is statistically significant (p<.05). (**) indicates that the difference in response patterns between math and ELA teachers for this question is statistically significant (p<.05).

Figure 5. California teachers differ, by subject taught, in the frequency with which they use modifications to make their instructional materials more appropriate for EL students



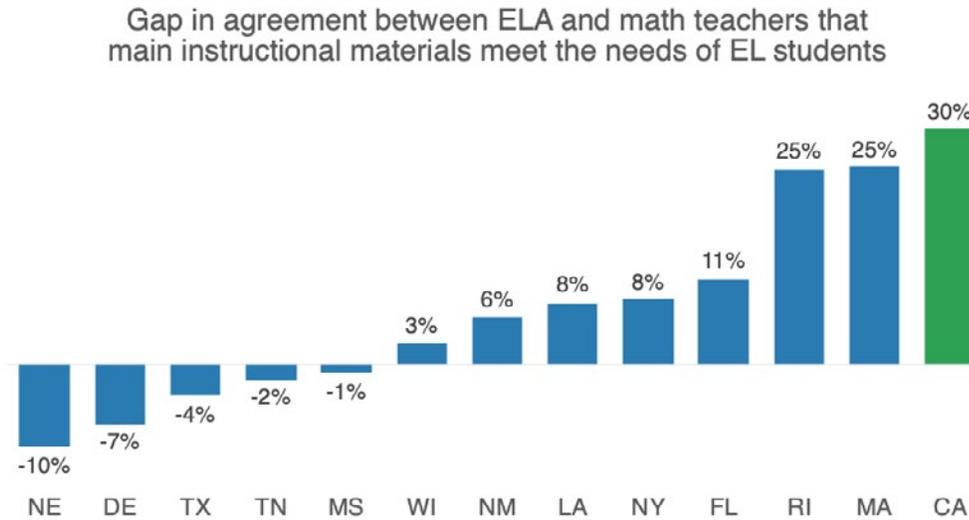
Note: (*) indicates that the difference in response patterns between ELA and math teachers for this question is statistically significant ($p < .05$).

Figure 6. The gap between ELA and math teachers' agreement that their materials meet the needs of EL students is higher within California than in other states



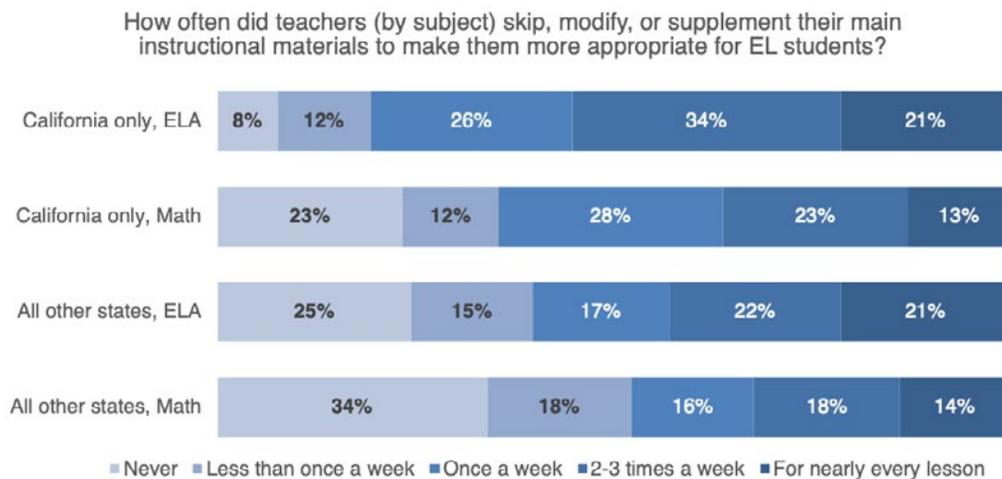
Note: (*) indicates that the difference between percentages of ELA and math teachers agreeing with this statement within this population is statistically significant ($p < .05$).

Figure 7. The gap between ELA and math teachers' agreement that their instructional materials meet the needs of EL students is higher within California than other individual states



Note: Gap value is calculated by subtracting percentage of math teachers who agreed from percentage of ELA teachers who agreed.

Figure 8. There are differences in using modifications to instructional materials to support EL students, by subject taught, in all states. California ELA teachers are especially likely to regularly make these modifications.



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