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# What K–12 English Language Arts and Mathematics Instructional Materials Were Newly Purchased and Used for the 2021–2022 School Year?

## Findings from the 2022 American Instructional Resources Survey

**T**he introduction of new instructional materials places considerable time and learning demands on teachers. When teachers are asked to adopt a new curriculum material by their school or district, they need to spend time learning how to use that material and thinking about how it aligns with all the materials they had been using previously. Apart from what materials a district or school may adopt and ask teachers to use, teachers also spend time searching for new instructional materials to use in their classroom for a variety of reasons, such as filling gaps in their existing curriculum or finding supplemental materials that are more engaging for students (Marple et al., 2017; Remillard, 2005; Wang, Prado Tuma, Doan, et al., 2021). In addition to teacher time and effort, investments from schools or districts are needed to ensure that teachers can effectively use newly purchased or adopted instructional materials. Specifically, research suggests that the adoption of high-quality instructional materials is more likely to positively affect student learning if it is accompanied by aligned professional development (e.g., Hill et al., 2020; Jackson and Makarin, 2018). Hence, investigating the extent to which teachers use new instructional materials

## KEY FINDINGS

- Roughly half of teachers reported regular use (once a week or more) of at least one new instructional material during each of the past three school years, although teachers typically did not report using those new materials for the bulk of their instructional time.
- A higher proportion of teachers reported regularly using new, standards-aligned curriculum materials in the 2021–2022 school year than during the previous two school years.
- In 2021–2022, most of teachers’ new instructional materials were purchased by their school or district, but teachers also reported accessing materials that were available at no cost or purchasing materials themselves.
- More than half of English language arts and mathematics teachers reported out-of-pocket spending of \$100 or more on instructional materials in 2021–2022; roughly one-fourth of teachers spent \$300 or more on instructional materials.
- About one in five teachers reported not using materials that their school or district purchased in 2021–2022. Explanations included that those materials did not meet their students’ needs, the teachers did not have time to use them, or the materials were difficult to use.
- At least half of teachers cited moderate or major unmet needs for curriculum materials that engage students and for materials that better meet the needs of students on both ends of the achievement spectrum.
- Per-pupil Elementary and Secondary School Emergency Relief funding was uncorrelated with regular use of new materials and teacher out-of-pocket spending on instructional materials.

has important implications for understanding how to best support teachers in selecting and using them effectively.

Past research suggests that it is common for teachers to draw on multiple instructional materials even when their school or district recommends, requires, or provides them with a specific curriculum (Kaufman and Berglund, 2018; Kaufman et al., 2020). While teachers likely draw on a variety of resources to address changing and diverse student needs, studies show that teacher-selected materials can be less rigorous and cognitively demanding than materials that would be considered to meet grade-level standards (Stein, Grover, and Henningsen, 1996; Stein and Kaufman, 2010; TNTP, 2018). Although prior research on use of instructional resources, such as the American Instructional Resources Survey (AIRS), documents which materials teachers use, we know relatively little about the extent to which districts, schools, and teachers are specifically adopting and using *new* materials in a given school year, what those materials are, and who purchases those materi-

als. There also is little information on how school systems’ efforts to address missed learning because of the coronavirus disease 2019 (COVID-19) pandemic might be related to changes in the instructional materials that schools and districts purchase and that teachers use in their classroom.

During the 2021–2022 school year, districts and teachers were struggling to help students address missed learning as a result of the COVID-19 pandemic. Relatedly, districts are required to spend at least 20 percent of their American Rescue Plan (ARP) Elementary and Secondary School Emergency Relief (ESSER) allocation on addressing the impact of lost instructional time. Although recent research finds that district leaders have prioritized addressing pandemic-related missed learning through the offer or expansion of summer programming, mental health services for students, tutoring, social and emotional learning (SEL) instruction, and virtual schooling (Diliberti and Schwartz, 2022), it is possible that schools or districts have purchased new instructional materials to tackle this challenge. In the past few

## Definitions of Key Terms Used in this Report

- **Instructional materials** are any materials that are intended to provide learning opportunities for students. These include both comprehensive *curriculum materials* and *supplemental materials* that do not constitute a full course of study.
- **Curriculum materials** are instructional materials that are intended to constitute a full, comprehensive course of study for a particular subject and grade level. Comprehensive curriculum materials are available in print, online, or both.
- **Supplemental materials** are additional materials beyond curriculum materials that teachers reported using regularly but that do not constitute a full course of study. These can include digital materials that provide additional resources and enrichment for students (e.g., Kahoot!, Quizlet) or intervention materials that are specifically designed to help students who are performing below grade level.
- A **standards-aligned curriculum** has met the expectations of college- and career-ready standards according to reviews by EdReports, an independent organization that reviews widely used curricula. For the purposes of this report, we used EdReports ratings to code curriculum materials as *standards-aligned* if EdReports determined that the material is *fully aligned* for that teachers' subject and grade level. We coded material as *not standards-aligned* if EdReports determined that the material is only *partially aligned* or *not standards-aligned*. Materials that are *unrated* by EdReports, including curriculum materials developed by teachers themselves or their school system, are also coded as *not standards-aligned*. Although some states and school systems incorporate EdReports reviews into their definitions of standards alignment, EdReports and state definitions of standards alignment are not synonymous. Hence, our measures of the use of standards-aligned curriculum materials might not fully capture all the specific materials that states might define as standards-aligned. We coded teachers as using *no curriculum* if they reported not using any curriculum materials for their instruction. Supplemental materials are not reviewed by EdReports. For more information about how we analyzed the AIRS data, see the "How This Analysis Was Conducted" section.

years, many states have been pushing for adoption of rigorous, standards-aligned instructional materials (e.g., Doan et al, 2022) and some states, such as Texas, Massachusetts, and Nebraska, have encouraged or incentivized the use of federal relief funds for the purchase of high-quality instructional materials (Council of Chief State School Officers [CCSSO], 2022).

In this report—the first to share findings from the spring 2022 AIRS—we build on past research to better understand teachers' use of new instructional materials. This report draws on nationally representative survey data from 3,719 English language arts (ELA) teachers and 2,680 mathematics teachers to answer the following research questions:

- What proportion of educators reported using new ELA or mathematics instructional materials, what are those materials, and how often do educators use them?
- What proportion of teachers' new ELA or mathematics instructional materials were

purchased by the school or district during the 2021–2022 school year? How much money do teachers spend out of pocket on new instructional materials?

- What proportion of teachers reported not using ELA or mathematics materials newly purchased by their school or district and why?
- What are teachers' needs for better or more ELA or mathematics curriculum materials?
- Is the availability of federal relief funds associated with use of new instructional materials by teachers and lower teacher out-of-pocket spending on instructional materials?

While this report focuses mostly on data from the 2021–2022 school year, we also draw on data from the spring 2020 and 2021 administration of the AIRS to compare teachers' reported use of new instructional materials in the 2021–2022 school year with use in the prior two school years.<sup>1</sup>

## Findings

### What Proportion of Educators Reported Using New ELA or Mathematics Instructional Materials, What Are Those Materials, and How Often Do Educators Use Them?

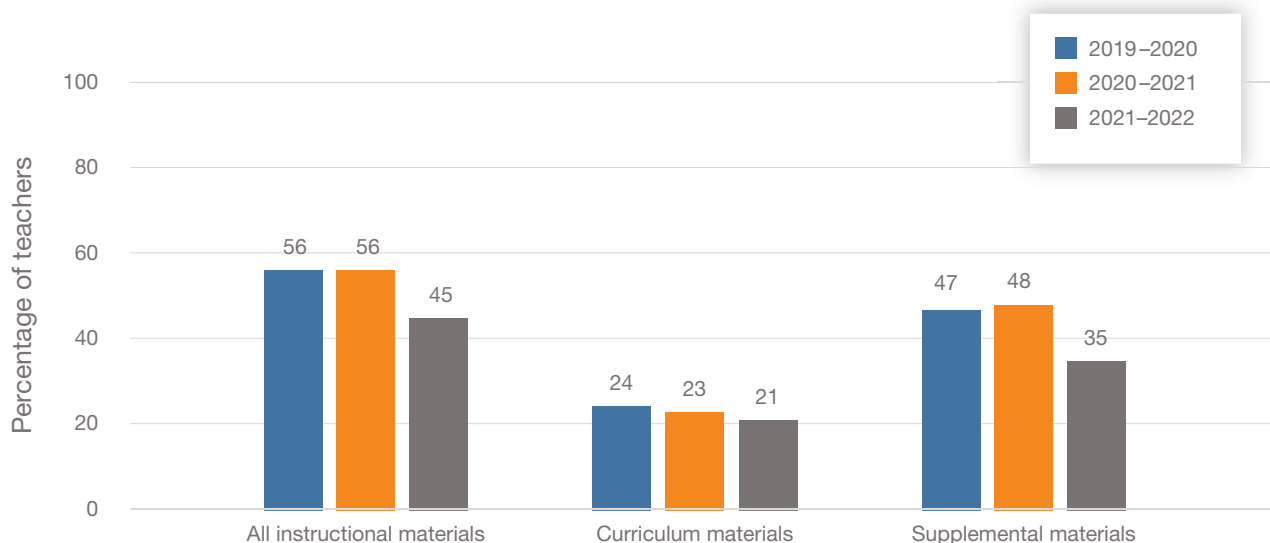
In the 2021–2022 school year, teachers reported using a wide variety of new supplemental and curriculum materials. In this section, we investigate who was using new materials and what they were using. As we note in this section, we found that roughly half of teachers reported regular use of at least one new instructional material (i.e., one used for the first time that year)<sup>2</sup> during each of the past three school years, although teachers typically did not report using those new materials for the bulk of their instructional time. Notably, a higher proportion of teachers reported regularly using new, standards-aligned curriculum

materials in the 2021–2022 school year than in the previous two school years.

### Almost Half of ELA and Mathematics Teachers Reported Regularly Using at Least One New Material for Their Instruction in 2021–2022; More Teachers Reported the Use of New Supplemental Materials Than the Use of New Curriculum Materials

Nationwide, 45 percent of teachers reported regularly using at least one new ELA or mathematics instructional material for their instruction during the 2021–2022 school year (see Figure 1). These new materials were more likely to be supplemental resources than curriculum materials. Specifically, 35 percent of ELA and mathematics teachers reported the use of new supplemental materials and 21 percent reported the use of new comprehensive curriculum materials. We did not find significant differences in the proportion of mathematics and ELA teachers that reported regu-

FIGURE 1  
Percentage of ELA and Mathematics Teachers That Reported Regular Use of at Least One New Instructional Material, by School Year (2019–2020, 2020–2021, and 2021–2022)



NOTES: This figure depicts response data from the survey question: “For each ELA/mathematics instructional material you use, please indicate how long you have been using the material.” ( $n = 6,399$  for 2022,  $n = 5,425$  for 2021, and  $n = 4,494$  for 2020) Response options were: just this school year, for the past two to three school years, for the past four to five school years, and for more than five school years. Specifically, the figure shows national percentages of ELA and mathematics teachers that reported regularly using (based on a previous question on the survey) at least one of their instructional materials for the first time in 2019–2020, 2020–2021, and 2021–2022. Data for 2019–2020, 2020–2021, and 2021–2022 reports of curriculum usage are from the AIRS 2019, 2020, 2021, respectively.

larly using a new material, nor did we find significant differences by grade level (elementary, middle, and high school).

Fewer teachers across the United States reported using a new material in the 2021–2022 school year compared with prior years. Specifically, while 45 percent of teachers indicated using at least one new material during the 2021–2022 school year, 56 percent of teachers indicated doing so during both the 2019–2020 and 2020–2021 school years. This decrease in use of new materials appears to be driven by a decrease in the percentage of teachers that reported using a new supplemental material (35 percent in 2021–2022 compared with 48 and 47 percent in the previous two school years). On the other hand, the percentage of ELA and mathematics teachers that reported first-time use of a new curriculum material was similar during the past three school years, as shown in Figure 1 (ranging between

21 and 24 percent). Teachers’ higher reported use of new supplemental materials in the 2020–2021 school year could speak to an increased need for new digital resources during virtual instruction. However, this would not explain the similarly high rate of use of supplemental materials in our 2019–2020 school year data, when we asked teachers about their use of materials *prior* to the pandemic. Specifically, although our survey administration during the 2019–2020 school year occurred in spring 2020 after the pandemic had been declared a national emergency, the survey asked teachers to respond to our questions based on their use of instructional materials *prior* to school closures and the move to remote instruction.

The most popular supplemental materials used for the first time in the 2021–2022 school by ELA and mathematics teachers were Blooket (ELA), i-Ready (ELA and mathematics), Zearn (mathematics), and Teachers Pay Teachers (ELA). As shown in Table 1,

TABLE 1  
Most-Popular New ELA or Mathematics Instructional Materials Among Teachers Reporting the Use of at Least One New Instructional Material for the 2021–2022 School Year

Type	Product/Material	Percentage of Teachers Reporting First Time Use
ELA or mathematics supplemental materials	Blooket	5
	i-Ready (Curriculum Associates)	4
	Zearn	3
	Teachers Pay Teachers	3
	i-Ready	3
ELA curriculum materials	CommonLit (CommonLit)	9
	Benchmark Advance or Literacy (Benchmark Education)	7
	Curriculum materials my school or district created	7
	MyPerspectives—2017 (Savvas Learning Company, formerly Pearson)	6
	Core Knowledge Language Arts (CKLA) (Amplify)	5
Mathematics curriculum materials	Ready or iReady Classroom Mathematics (Curriculum Associates)	16
	Zearn (Zearn, Inc.)	11
	enVision Mathematics—2020 (Savvas Learning Company, formerly Pearson)	9
	Eureka Mathematics (Great Minds)	9
	Bridges in Mathematics (Mathematics Learning Center)	8

NOTE: The list does not include teachers who responded with “materials I created myself.”

between 3 and 5 percent of ELA and mathematics teachers that reported using a new supplemental material indicated that they used one of these four products. The relatively small percentages reporting the use of any one specific supplemental material shows that there is a wide variety of new supplemental materials that teachers might be drawing on in their daily instruction. These findings align with past work showing that most teachers report using supplemental materials for a variety of reasons, including differentiating instruction, filling gaps in their existing curriculum, and improving student engagement (Wang, Prado Tuma, Doan, et al., 2021). Our findings build on this work and show that teachers are continually using *new* supplemental materials.

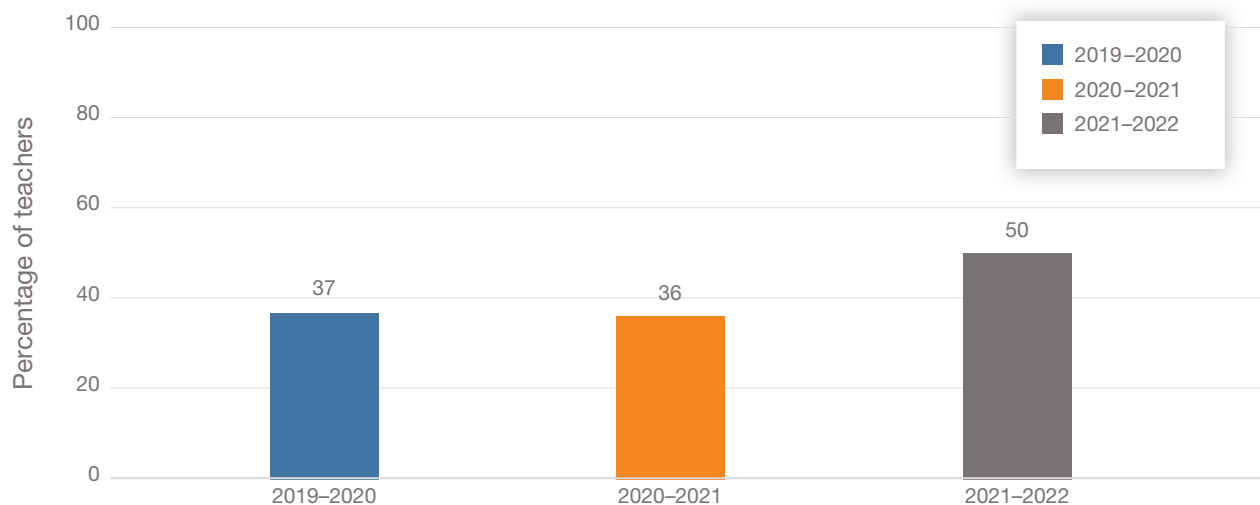
Among teachers who reported using at least one new curriculum material, the five most popular materials are listed in Table 1. The most popular new ELA curriculum materials were used by 5 to 9 percent of ELA teachers, and the most popular mathematics curriculum materials were used by 8

to 16 percent of mathematics teachers. The findings suggest that more mathematics teachers were drawing on the same products for the first time in the 2021–2022 school year, while there was a broader range of new curriculum materials being used for the first time in ELA.

### Compared with Previous School Years, a Greater Proportion of Teachers Reported Using a New ELA or Mathematics Curriculum Material That Is Standards-Aligned in 2021–2022

While the overall percentage of teachers that reported regularly using a new curriculum material changed little over the past three years, we did see an increase in the proportion of teachers that reported using a new curriculum material that is standards-aligned in the 2021–2022 school year. As Figure 2 shows, among teachers who reported using a new curriculum, 50 percent of them indicated using a standards-aligned curriculum in 2021–2022, compared with

FIGURE 2  
Percentage of ELA and Mathematics Teachers That Indicated Regularly Using a New, Standards-Aligned Curriculum Material



NOTES: This figure depicts response data from the survey question: “For each ELA/mathematics instructional material you use, please indicate how long you have been using the material.” ( $n = 6,399$  for 2022,  $n = 5,425$  for 2021, and  $n = 4,494$  for 2020) Specifically, among the teachers that reported using at least one new curriculum material during that school year, we report the percentage that indicated using a curriculum material that is standards-aligned. See “Definitions of Key Terms Used in This Report” for an explanation of how we determined whether instructional materials are standards-aligned. Percentages were produced using separate cross-sectional weights that were specific to each survey. To ensure comparability across years, we matched the same set of EdReports ratings, pulled in July 2022, to teachers’ reported usage of materials in all years (EdReports, undated).

37 and 36 percent of teachers in the 2019–2020 and 2020–2021 school years, respectively.<sup>3</sup> This finding corroborates previous RAND Corporation work that documents increases in the use of standards-aligned curriculum materials across the United States (Kaufman, Doan, and Fernandez, 2021) and suggests that this growth trend could continue into the future.

### Majorities of ELA and Mathematics Teachers Used New Instructional Materials (Both Curriculum and Supplemental Materials) for Less Than 50 Percent of Their Instructional Time

Although about half of teachers reported using new materials once a week or more, many did not use those new materials for the bulk of their instructional time. Among teachers who reported using new curriculum materials at least once a week, 61 percent reported using a new curriculum material for less than half of their instructional time. This percentage was higher among high school teachers (73 percent) than elementary and middle school teachers (57 and 61 percent, respectively). We did not find statistically significant differences in the extent of use of new materials between ELA and mathematics teachers. Our findings suggest that most teachers who report using a new curriculum material do not focus on that material for most of their lesson time and, thus, might continue to draw on their older materials. Relatedly, among teachers who reported using at least one new supplemental material during the 2021–2022 school year, a large majority (86 percent) reported using it for less than half of their instructional time. These findings align with past research, which shows that teachers are more likely to combine a variety of different comprehensive curriculum and supplemental materials in their instruction than use a single curriculum for the majority of their instructional time (e.g., Kaufman et al., 2020).

## What Proportion of Teachers' New ELA or Mathematics Instructional Materials Were Purchased by Their Schools or Districts During the 2021–2022 School Year? And How Much Money Do Teachers Spend Out-of-Pocket on New Instructional Materials?

In this section, we summarize who purchased the various new materials that teachers reported using for their instruction. We found that, on average, most of teachers' new instructional materials were purchased by their school or district but that teachers also reported accessing materials that were available at no cost or purchasing materials themselves. Notably, a large majority of teachers reported at least some out-of-pocket spending on new instructional materials.

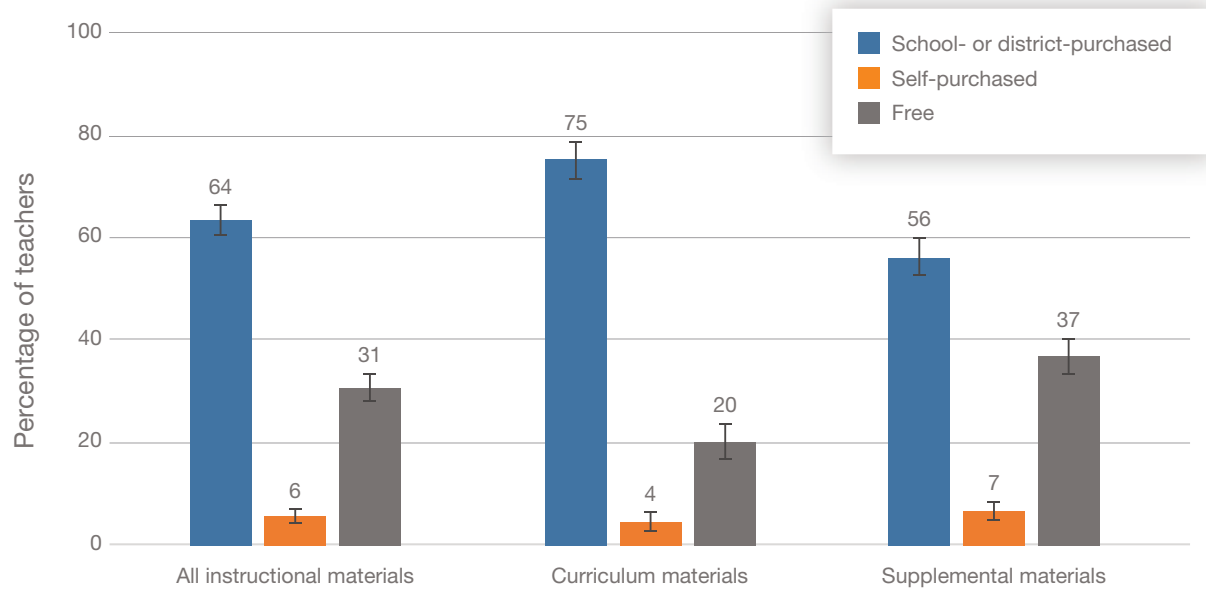
### On Average, ELA and Mathematics Teachers Reported That About Two-Thirds of Their New Instructional Materials Were Purchased by Their School or District, Roughly One-Third of New Materials Were Free to Use, and Less Than 10 Percent of New Materials Were Purchased as Out-of-Pocket Expenses

On average, teachers reported that the majority of new instructional materials that they used in the 2021–2022 school year either were (1) paid for by their school or district (64 percent) or (2) free (31 percent), as shown in Figure 3. Six percent of new materials used in the 2021–2022 school year were purchased out of pocket by teachers. Among curriculum materials, the share of district-purchased materials was greater at 75 percent; free materials represented 20 percent and out-of-pocket materials 4 percent. Less experienced teachers were more likely to report regularly using a new, no-cost material than a new material purchased by their school or district; it might be that less experienced teachers were more likely to use online materials in general, as well as ones that they were using for the first time.

Perhaps expectedly, given the availability of a large range of free online supplemental instructional materials, supplemental materials were significantly less likely to be school- or district-purchased (56 percent) and more likely to be free (37 percent) or

FIGURE 3

Proportion of Teachers’ New Instructional Materials Purchased by School or District or Themselves Versus Free Materials in 2021–2022



NOTES: This figure depicts response data from the survey question: “For each ELA/mathematics instructional material that you began using just this school year (2021-2022), who purchased that material?” ( $n = 2,611$ ) Teachers who could not recollect who purchased the material that they used were excluded from the analysis. The vertical black bars represent the 95-percent confidence interval for each estimate. Bars might not sum to total because of rounding.

purchased out of pocket (7 percent). That said, ELA teachers were significantly more likely to purchase materials out of pocket (7 percent versus 4 percent of mathematics teachers), particularly for comprehensive curriculum materials. There were no notable differences by grade level or the percentage of enrolled students on free or reduced-price lunch (FRPL).

**More Than Half of ELA and Mathematics Teachers Reported Spending at Least \$100 Out of Pocket on Instructional Materials (Both New and Existing) for 2021–2022 with Roughly One in Four Teachers Spending \$300 or More**

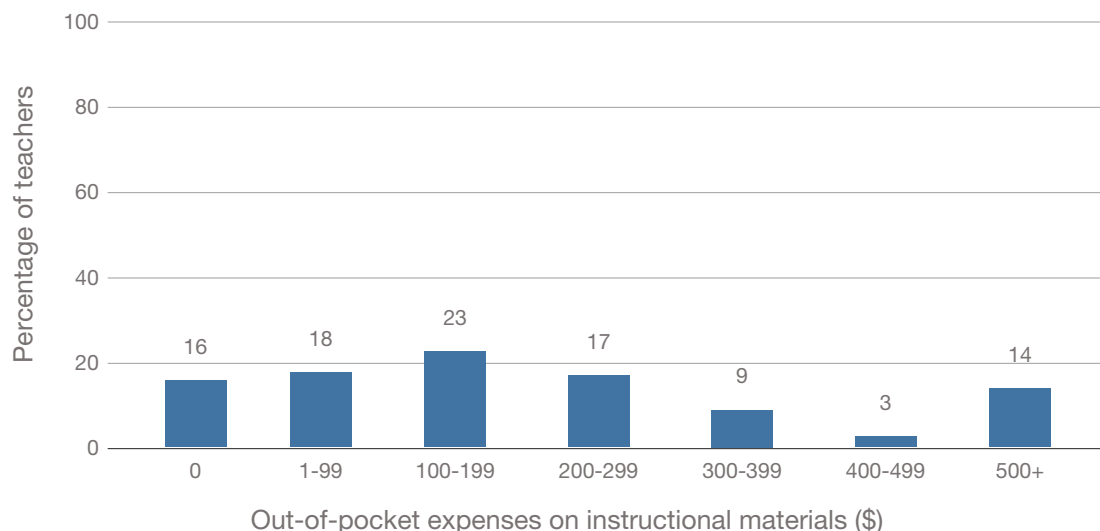
While most instructional materials were not paid for with out-of-pocket spending by teachers, 84 percent of teachers reported at least some out-of-pocket spending on *all* instructional materials that they used in the 2021–2022 school year. As Figure 4 shows, 66 percent of teachers spent at least \$100 out

of pocket, 43 percent of teachers spent \$200 or more, and 26 percent of teachers spent \$300 or more. While there were no statistically significant differences by teacher grade level, ELA teachers spent more, on average, than mathematics teachers by nearly \$80. Teachers in schools where the majority of students receive FRPL also spent significantly more than their counterparts in schools where fewer students receive FRPL (\$40 more on average). These findings indicate that teachers are spending non-trivial out-of-pocket amounts on materials to meet their students’ instructional needs, particularly in ELA and in higher-poverty schools. One reason these teachers might purchase instructional materials out of pocket is to address gaps or supplement the materials that are provided to them by their school or district, as we explore in the next section.



FIGURE 4

### ELA and Mathematics Teacher Out-of-Pocket Spending on Instructional Materials in the 2021–2022 School Year



NOTES: This figure depicts response data from the survey question: “Thus far this school year (2021–2022), please estimate how much of your own money you have spent on ELA teaching or learning materials that will not be reimbursed by your school or district.” ( $n = 6,399$ ) Bars may not sum to total because of rounding.

### What Proportion of Teachers Reported Not Using ELA or Mathematics Materials Newly Purchased by Their School or District and Why?

In addition to asking teachers who purchased the new instructional materials that they were using regularly, we also asked them whether their school or district had purchased instructional materials during the 2021–2022 school year that they were *not* using. In this section, we report on the extent to which teachers indicated not using school- or district-purchased materials and describe why teachers reported not using them.

About One in Five ELA and Mathematics Teachers Reported Not Using the New Instructional Materials Purchased by Their School or District; Major Reasons Teachers Noted for Not Using These Materials Included That the Materials Did Not Meet Their Students’ Needs, They Did Not Have Time to Use Them, or the Materials Were Difficult to Use

Twenty percent of ELA and mathematics teachers reported not using a new instructional material purchased by their school or district. Middle and high school teachers were more likely than elementary school teachers to indicate not using new school- or district-purchased instructional materials. Teachers who indicated not using a newly purchased instructional material were asked to explain why they do not use such material in an open-response question item. Among the approximately 850 teachers who provided an explanation, the two most common reasons for not using a new material purchased by the school or district were (1) because materials did not meet students’ needs and (2) a lack of time to learn how to use the material or to incorporate new materials during

### Reasons Teachers Gave for Not Using School- or District-Purchased Instructional Materials

“Our school purchased reading materials [that] do not adequately address the writing needs of [my] students. The lessons are haphazard and do not have enough practice for the students.”

—ELA teacher

“The school has many math programs and materials that I have not used because I have not had time to explore the resources or been trained on the program if there is necessary training.”

—Mathematics teacher

“The process for using [the school- or district-purchased materials] is too cumbersome—too many log-ins. It is easier for me to create my own and develop lessons that are relevant and engaging for my students.”

—ELA teacher

class; both reasons were mentioned by 18 percent of respondents. Teachers had a variety of explanations for why the new instructional materials did not meet their students’ needs, including that the materials were too challenging for their students or that the materials were not effective in helping all or some of their students learn.

The third most common reason for not using new school- or district-purchased instructional materials, mentioned by 13 percent of respondents, was that the teachers found the materials difficult to use because they were hard to understand or did not align well with their teaching style. Between 10 and 11 percent of respondents also mentioned not using materials because:

- they simply preferred to use other instructional materials
- the purchased instructional materials were not related to or relevant for their specific class (e.g., the new material focuses on remediation, but the respondent teaches advanced students) or were no longer relevant for the context in which they were teaching (e.g., material is useful during virtual instruction but is not as helpful in person)

- they had instructional material or technology constraints (e.g., not enough materials bought for their class, materials are difficult to access, or technology is difficult to use).

Other, less common reasons for not using instructional materials included (1) not having received training or enough training on the new material, (2) the materials were not engaging or were difficult to use for students, and (3) a desire to reduce students’ screentime.

### What Are Teachers’ Needs for Better or More ELA or Mathematics Instructional Materials?

We also found that, despite often using new instructional materials, teachers still face major needs with respect to access to instructional materials with particular characteristics. In this section, we provide additional details about the needs that teachers reported having for more or better instructional materials.

#### The Most Common Curriculum Material Needs Noted by Both ELA and Math Teachers Included More or Better Materials to Engage Students, Provision of Scaffolds or Supports to Help Students Master Grade-Level Content, and Having Students Review Content from Prior Grade Levels, Among Others

Teachers reported a moderate or major need for more or better curriculum materials for a variety of purposes (listed in Table 2). The five most common reasons for needing more or better curriculum materials—reported by at least half or more teachers included: (1) engaging students, (2) providing scaffolds or supports to help students master grade-level content, (3) reviewing content from prior grade levels that students have missed or not mastered, (4) providing options for students with individualized education plans (IEPs) or 504 plans, and (5) helping students advance beyond mastery of grade-level content. As shown in Table 2, other reasons why teachers indicated needing more or better curriculum materials include providing options for English learners, activating the diverse cultural background knowledge of students, and promoting social and emotional learning.

TABLE 2  
Reported Need for More or Better ELA and Mathematics Curriculum Materials

Purpose	Percentage of Teachers
Engage students	56
Provide scaffolds or supports to help students master grade-level content	54
Review content from prior grade levels that students have missed or not mastered	51
Provide options for students with IEPs <sup>a</sup> or 504 plans <sup>b</sup>	51
Help students advance beyond mastery of grade-level content	50
Provide options for English learners <sup>c</sup>	46
Activate diverse cultural background knowledge of students	44
Promote social and emotional learning	45
Provide opportunities for students to reflect upon their own identities or identities of others	40
Easily integrated with my school's technology	36
Aligned with my state's academic standards for ELA/mathematics	33
Aligned with my state-mandated ELA/mathematics assessment	32
Are easy to enact in both virtual and physical classroom settings	30
Other	2

NOTE: This table shows ELA and mathematics teachers who indicated that they felt a "moderate" or "major" need for more or better curriculum materials for each of the listed purposes.

<sup>a</sup> An *IEP* is a plan or program developed to ensure that a child who has a disability identified under the law receives specialized instruction and related services.

<sup>b</sup> A *504 plan* is a plan developed to ensure that a child who has a disability identified under the law receives accommodations that will ensure their academic success and access to the learning environment.

<sup>c</sup> English learners are students who come from non-English-speaking homes and who are learning English.

## Is the Availability of Federal Relief Funds Associated with Higher Use of New Instructional Materials by Teachers and Lower Teacher Out-of-Pocket Spending on Instructional Materials?

Given the influx of federal relief funding to address pandemic-related missed learning, this last section of our report explores whether districts' ARP ESSER (or ESSER III) funding allocations from 2021 were related to the use of new materials by teachers and out-of-pocket spending on materials. Specifically, if districts used ESSER III funding during the 2021–2022 school year to purchase new instructional materials, we would expect to see higher use of new instructional materials by teachers and lower teacher out-of-pocket spending on instructional materials (given increased spending by districts). We note that school districts received the same proportional funding allocations from ESSER I, ESSER II, and ESSER III; however, only ESSER III required districts to publicly report their spending.<sup>4</sup> However, our analysis is exploratory because a large portion of allocated ESSER funds have not yet been spent and, thus, the full impact of ESSER funding cannot yet be assessed.<sup>5</sup>

### Per-Pupil ESSER Funding Was Uncorrelated with Regular Use of New Materials and Teacher Out-of-Pocket Spending

Despite high rates of districts, schools, and teachers adopting or using new instructional materials in the 2021–2022 school year, differences in per-pupil ESSER funding allocations across districts were not significantly correlated with teachers' regular use of new instructional materials or teachers' out-of-pocket spending on instructional materials.<sup>6</sup> This could potentially suggest that districts, school leaders, and teachers would have adopted and used new instructional materials at similar rates even in the absence of additional ESSER funding. However, we caveat that the lack of correlation between ESSER allocations and the use of new instructional materials does not rule out the causal effects of ESSER funding; more-rigorous quasi-experimental analyses that account for confounding variables could uncover effects that were not detected in these more basic analyses.<sup>7</sup>

## Summary and Implications

Our data show that the use of new instructional materials was common among K–12 ELA and mathematics teachers across the country; roughly half of teachers report regular use of at least one new instructional material (either comprehensive curriculum materials or supplemental materials) during each of the past three school years. Although high rates of new material use could be attributed to the increased need for digital resources during the pandemic, we also found a similarly high use of new instructional materials during the 2019–2020 school year, when we asked teachers about their instructional material use prior to the COVID-19 pandemic. These findings suggest that teachers are likely spending considerable time, effort, and money (if purchasing materials out of pocket) acquiring new materials, learning how to use them, incorporating them into their instruction alongside their previously used materials, or some combination thereof. The time, effort, and money spent on these activities might be especially important for school leaders and districts to consider in addressing the high rates of reported teacher stress and burnout because of increasing workloads and the growing difficulty of engaging students (Kaufman and Diliberti, 2021).

At the same time, our findings also suggest that using new instructional materials in combination with previously used materials might be a part of normal educator and school practice, particularly the use of new supplemental materials. Thus, while some teachers might be spending more time than they would like using and learning to use new materials, other teachers naturally might seek new materials to bring into their instruction. These findings corroborate past research showing that it is common for teachers to draw on a variety of curriculum and supplemental materials in their instruction (Kaufman et al., 2020; Wang, Prado Tuma, Doan, et al., 2021), and these findings also provide new information about the extent to which teachers are continually renewing and updating the materials that they use.

When it comes to comprehensive curriculum materials only, our data show that a steady percentage of teachers (21–24 percent) reported using curriculum materials for the first time during the past

three school years. Notably, we found that a higher proportion of teachers reported regularly using new, standards-aligned curriculum materials in the 2021–2022 school year than in the previous two school years. This finding aligns well with past research on the increased use of standards-aligned materials across the country (Doan et al., 2022; Kaufman, Doan, and Fernandez, 2021) and suggests that the trend could be even more pronounced in the coming years. However, despite teachers’ greater use of new standards-aligned curriculum materials, they still reported major needs for more or better curriculum materials for a variety of reasons. Specifically, at least half of teachers cited moderate or major unmet needs for curriculum materials that engage students and materials for students on both ends of the achievement spectrum.

Most teachers reported out-of-pocket spending for additional curriculum and supplemental materials and, relatedly, approximately 20 percent of teachers opted not to use materials that their school or district purchased in the 2021–2022 school year. Future research should attempt to better understand why teachers spend out of pocket for instructional materials and whether out-of-pocket spending could be contributing to rates of teacher burnout across the industry as teachers make uncompensated purchases to reach the standard of instruction that they aim to achieve for their students.

Taken together, our results point to several important implications for districts, school systems, and others seeking to support teachers’ effective use of new instructional materials. First, our report has implications for school systems and those advocating high-quality materials at the adoption phase, when school systems are determining what new materials to purchase, resulting in the following recommendations:

1. **School systems should involve teachers in the selection of new instructional materials and—if systems already involve teachers—be clear about how they have integrated teacher input into selection processes.** About one in five teachers did not use school- or district-purchased materials, and most reported out-of-pocket spending for new materials. These

data suggest that new materials purchased by the district or school could better meet teachers’ instructional needs. Relatedly, between one-third and half of teachers indicated having a moderate or major need for more or better curriculum materials for a variety of reasons. We saw a particular need for materials that are engaging for students and appropriate for students both below and above grade level, as well as those for students with IEPs or 504 plans. One way in which schools and districts could improve the alignment between teachers’ and students’ needs and the instructional materials that they purchase or adopt is by involving teachers in the selection of those materials, if schools and districts have not done so already. Our past research suggests that teacher involvement in the material selection process could help improve buy-in for curriculum and material implementation (Wang, Prado Tuma, Lawrence, et al., 2021). Teacher involvement in these decisions also could help reduce their out-of-pocket spending on instructional materials.

We note that many school systems might already engage teachers in the selection of instructional materials. However, teachers might not always be aware of how their input was considered and used in selection processes. In these cases, we suggest that districts work to make clear to teachers how their expressed needs are incorporated into adoption or purchase decisions. The increased awareness of how the newly purchased or adopted materials are meant to address teacher and student needs could also help improve teacher buy-in for their use.

2. **School systems, state departments of education, and professional development providers could help teachers become better evaluators of the quality of different instructional materials.** As our findings suggest, aside from drawing on school- or district-purchased materials, teachers regularly use, search for, and buy new instructional materials, especially supplemental materials. Prior work also shows that teachers exercise a great deal of

autonomy in choosing instructional materials and how they combine such materials in their instruction to meet different students' needs (Kaufman et al., 2020). However, research also finds that teacher-selected materials can be less rigorous and cognitively demanding (Stein, Grover, and Henningsen, 1996; Stein and Kaufman, 2010; TNTP, 2018). Therefore, teachers likely would benefit from professional development to help them assess the quality of materials they choose to use in their classrooms. Both school systems and state departments of education could have roles to play here to provide more information to teachers about which materials are—and are not—aligned with standards. Several states participating in the CCSSO High-Quality Instructional Materials and Professional Development (IMPD) Network already do this, and their experiences can be used as models. For example, Massachusetts developed its own curriculum review process, CURATE, which draws on both EdReports and the findings of teachers who review and rate evidence of curriculum materials' quality and standards alignment (Massachusetts Department of Elementary and Secondary Education, undated). Relatedly, schools or districts can provide rubrics and tools that could help teachers evaluate whether materials meet certain criteria or have certain research-based components of quality (for an example, see the Instructional Materials Evaluation Tool [Achieve the Core, 2021]).

- 3. States and school systems have more work to do to increase adoption of standards-aligned materials.** While our data show an increase in the percentage of teachers that indicated using a standards-aligned curriculum for the first time in the 2021–2022 school year, we also find that about half of teachers indicated using a new curriculum that was not standards-aligned. Hence, as outlined in previous RAND work, states and districts must continue to work on increasing the adoption of standards-aligned materials (see Kaufman et al., 2021, and Doan et al., 2022, for key rec-

ommendations for states and school systems looking to increase the adoption of standards-aligned curricula).

Second, our report has implications for what school systems do to support teachers after particular instructional materials have been adopted, as seen in the following recommendations:

- 4. Teachers need support to incorporate new ELA and mathematics instructional materials into their instructional time.** We found that when teachers adopt new materials (both curriculum and supplemental materials), they are likely to use them for less than half of their instructional time and continue to use their previously used materials. School leaders and districts could provide clear guidance on expectations for the use of new materials. For example, is a new curriculum intended to take up most instructional time? If that is the intention, our data suggest that school and district leaders likely will need to support teachers in the transition from using their existing materials to the new ones. As a first step, it could be important to give teachers advance notice of the adoption or purchase of a new instructional material so that teachers have sufficient time to learn about the material and to modify their instructional plans before the start of a new academic year. As we learned from teachers' open-ended responses, a common reason for not using school- or district-purchased curriculum materials was a lack of time to learn how to use the new materials or to incorporate them into class time. Additional supports that schools and districts can provide include additional planning time or professional development to help teachers understand how the new materials are meant to replace, improve on, or supplement their existing materials, or some combination of the three. Short and Hirsch, 2020, provide a useful guide on the key elements of curriculum-based professional learning, including the transformative learning necessary for teachers to be able to implement their new curriculum materials as intended.

5. **To support equitable implementation of new materials, school systems should consider the needs of educators who teach different grade levels and subjects, those working in schools with higher and lower proportions of students receiving FRPL, and those with different experience levels.** The differences we found among subgroups of teachers have implications for future research and for how to best support their work. We note the following subgroup differences and their implications:

- a. High school teachers were more likely to use new instructional materials for less than half of their instructional time than elementary and middle school teachers. Additional research is needed to further understand how high school teachers integrate new materials into their instruction, and school systems might want to consider the unique needs of high school teachers when providing curriculum-based professional development.
- b. ELA teachers were more likely to spend out of pocket on curriculum and supplemental materials and, relatedly, reported spending more money on instructional materials than mathematics teachers. This finding aligns with prior research showing that ELA teachers are more likely to use a combination of instructional materials than a single curriculum (Kaufman et al., 2020), and suggests that school and district leaders might want to consider how to better support ELA teachers' use of a variety of instructional materials and (if deemed desirable) reduce the time and money that these teachers spend searching for and buying new materials. At the least, school systems might want to ask teachers about the materials that they are using for their ELA instruction and help them curate a set of materials that is standards-aligned and best supports student learning.
- c. Teachers in schools where the majority of students are receiving FRPL also spent more out of pocket on instructional mate-

rials than those in schools with a lower proportion of students receiving FRPL. Past work also shows that teachers in high-poverty schools are less likely to indicate that their materials are appropriately challenging (Wang, Prado Tuma, Doan, et al., 2021) and are more likely to use supplemental materials (Kaufman et al., 2020). This suggests that teachers in these schools might have additional or unmet needs for instructional materials (e.g., supplemental materials to scaffold learning) that school systems need to consider when making adoption or purchasing decisions and when planning how to best support teachers' use of instructional materials.

- d. Future research needs to examine why less experienced teachers reported that they were more likely to use new, no-cost materials than school- or district-purchased ones. School systems also can consider how to provide onboarding that clarifies how teachers are intended to use school- or district-purchased materials and the extent to which they can or should supplement with other materials that have no cost or are purchased out-of-pocket.

### Key Implications in This Report

School systems should involve teachers in the selection of new instructional materials and—if systems already involve teachers—be clear about how they have integrated teacher input into selection processes.

School systems, state departments of education, and professional development providers could help teachers become better evaluators of the quality of different instructional materials.

States and school systems have more work to do to increase adoption of standards-aligned materials.

Teachers need support in incorporating new ELA and mathematics instructional materials into their instructional time.

To support equitable implementation of new materials, school systems should consider the needs of educators who teach different grade levels and subjects, those working in schools with higher and lower proportions of students receiving FRPL, and those with different experience levels.

## Limitations

This report presents numerous new insights on the instructional materials that teachers reported using for the first time in the 2021–2022 school year, providing a first look into the existing views of teachers with respect to the instructional materials that are deployed every day inside classrooms. However, there are several caveats that readers should consider when interpreting the results that we presented in this report. First, this analysis relies on self-reported measures of (1) what materials were used, (2) how long they were used, (3) who required or encouraged their use, (4) who paid for these materials, and (5) how much was spent on these materials. These self-reported measures, while providing information that administrative data often fail to capture, rely on the recollection of the survey respondent. Second, our analysis is driven primarily by interpretations of sample means without controlling for potential confounders. The findings therefore represent purely descriptive characterizations of teacher and

school leader responses and no causal relationships between or among findings should be interpreted. Third, while the rates that we report are nationally representative of ELA and mathematics teachers in their respective years, we did not conduct formal tests of statistical significance to compare rates from the 2019–2020, 2020–2021, and 2021–2022 school years because of a lack of longitudinal survey weights that properly account for changes and similarities in the American Teacher Panels (ATP) samples across survey administrations.<sup>8</sup> Fourth, our findings of teachers' responses to an open-ended question are not nationally representative because they are limited to the teachers who chose to provide a response that was clear enough for us to interpret and code. Finally, our survey data provide a rough picture of the mindset and experiences of teachers with respect to instructional material acquisition and use. Policy-makers should review other sources of data, including qualitative data, and learn from the perspectives of other stakeholders—including district leaders, parents, and students—to get a more comprehensive sense of instructional needs and how curriculum are being used to meet those needs.

## How This Analysis Was Conducted

In this report, we used responses from 6,399 ELA and mathematics teachers from the 2022 AIRS to examine the use of new instructional materials during the 2021–2022 school year. We specifically focus our analysis on the following items from the survey.

**Items relating to teachers' use of new instructional materials.**<sup>9</sup> We drew on several items from the AIRS ATP on teachers' use of new instructional materials. We limited our analysis to ELA and mathematics teachers. The items are as follows:

- Among the ELA/mathematics curriculum materials in this list, select any materials you use regularly (once a week or more, on average) for your ELA/mathematics instruction this school year (2021–2022).
- Indicate which additional instructional materials—beyond curriculum materials—you or your students use regularly (once a



week or more, on average) for ELA/mathematics instruction this school year (2021–2022).

- For each ELA/mathematics instructional material you use, please indicate how long you have been using the material.
- For each ELA/mathematics instructional material you use regularly, please indicate approximately what percent of ELA/mathematics instructional time you dedicate towards using it for a typical class of students over the course of a week.

We use data from these items to calculate the percentage of teachers that reported regularly using at least one new instructional material, at least one new supplemental material, and at least one new curriculum material. We define *new materials* as those that teachers reported using for the first time in the 2021–2022 school year. We used the last item to calculate how much instructional time teachers spend on their most-used new instructional material. We also drew from parallel items in the 2020 and 2021 AIRS to look at trends over time.

**Items relating to the purchase of instructional materials.** We asked teachers three items related to the purchasing of instructional materials. The items that we used in our analysis are as follows:

- For each ELA/mathematics instructional material that you began using just this school year (2021–2022), who purchased that material?
- Thus far this school year (2021–2022), please estimate how much of your own money you have spent on ELA/mathematics teaching or learning materials that will not be reimbursed by your school or district.
- Did your school or district purchase additional ELA/mathematics teaching and learning materials for you or your students to use this year that you do not use?
  - [If respondent indicated not using school/district-purchased materials, they were asked the following open-ended item] Please describe those materials and explain why you do not use them.

**Items relating to teachers’ needs for more or better materials.** Lastly, we drew on data from the

following item: “To what extent do you need more or better ELA/mathematics curriculum materials for the following purposes?” Specifically, we report the percentage of teachers that indicated having a moderate or major need for more or better materials for each of the purposes listed in this item. The other response options were: “no need,” “slight need,” and “N/A [not applicable]—My materials already do this well.” Additional information about each of these items is included in the AIRS Technical Documentation (Doan, Eagan, et al., 2022).

Throughout this report, we describe sample-wide and subgroup-specific means and proportions of variables of interest, weighted using a set of nationally representative weights described in further detail in the AIRS Technical Documentation (Doan, Eagan, et al., 2022). To compare responses for teachers in schools with different demographic profiles, we matched AIRS responses to school-level data from the 2020–2021 Common Core of Data to examine differences across school enrollment of FRPL-eligible students.

All comparisons mentioned in this report are unadjusted for statistical controls, with the statistical significance across subgroups tested using pairwise t-tests with critical values at the  $p = 0.05$  level. As described in the “Limitations” section, we do not provide formal significance testing of the comparisons among the use of new materials in 2019–2020, 2020–2021, and 2021–2022 because of a lack of longitudinal survey weights that properly account for the partial overlap in respondents and changes in representativeness of survey respondents across years. Statistics for each survey are produced using cross-sectional survey weights designed specifically to provide a nationally representative estimate in the year when each survey was administered.

As mentioned previously, we also conducted an analysis of teachers’ responses to an open-ended survey item that asked them to describe any materials that their school or district purchased but that they were not using and explain why they did not use it. Of the teachers who indicated not using a school- or district-purchased material, 850 provided a response that included an interpretable explanation of why they were not using those materials. To analyze their responses, two research assistants read through a

sample of 100 responses to identify common categories of responses (e.g., material does not meet students’ needs). They then met with an experienced qualitative coder to create clear definitions for each of the response categories and used the created categories to code all the responses. Throughout the process, the research assistants double-coded a sample of responses to ensure that they were applying codes reliably and identify whether any new categories had been identified in the data. When new categories emerged, research assistants recoded responses to capture the occurrence of the new categories in all the data.

### Abbreviations

AIRS	American Instructional Resources Survey
ARP	American Rescue Plan
ATP	American Teacher Panels
CCSSO	Council of Chief State School Officers
CKLA	Core Knowledge Language Arts
COVID-19	coronavirus disease 2019
ELA	English language arts
ESSER	Elementary and Secondary School Emergency Relief
FRPL	free or reduced-price lunch
IEP	individualized educational plan
IMPD	High-Quality Instructional Materials and Professional Development
SEL	social and emotional learning

## Notes

<sup>1</sup> We did not examine changes over time in the amount of instructional time that teachers spend using new instructional materials, and the remaining survey items analyzed in this report were not asked in prior years of the AIRS.

<sup>2</sup> AIRS asks teachers to list all the instructional materials (including curriculum or supplemental materials) that they use *regularly*, defined as “once a week or more, on average.”

<sup>3</sup> We note that, in the 2021–2022 school year, 29 percent of all ELA and mathematics teachers reported that at least one of their existing curricula (i.e., curricula they started using prior to the current school year) were standards-aligned.

<sup>4</sup> Federal relief funding for schools was disbursed in three separate federal aid packages, passed in March 2020 (ESSER I), December 2020 (ESSER II), and March 2021 (ARP ESSER or ESSER III), and deadlines for spending the federal money from each package are September 2022, 2023, and 2024, respectively. ESSER III data were obtained from Edumomics Lab, undated.

<sup>5</sup> This analysis uses district reports of the most recent round of ESSER III funding. Districts were not required to publish expenditure data for ESSER I and ESSER II.

<sup>6</sup> In subsequent analyses of ESSER funding, we control for whether half or more of students in a district are eligible for FRPL because ESSER funding allocations are largely based on a district’s concentration of students in poverty.

<sup>7</sup> Our basic regression analysis does not constitute a rigorous, quasi-experimental exploration of the causal relationship between ESSER funding and instructional material use and purchases.

<sup>8</sup> AIRS survey weights are designed to produce cross-sectional estimates that are representative of the population of teachers and school leaders in the year the survey was administered. While comparisons of cross-sectional estimates across different administrations of the AIRS can be useful for identifying descriptive trends across years, it is important to note that the AIRS survey weights are not designed explicitly to examine changes across time. One key issue with cross-sectional comparisons is that there are partially overlapping respondents across multiple administrations of the AIRS. This partial overlap presents challenges to variance estimation, and thus, does not allow for us conduct formal significance tests across years (Duncan and Kalton, 1987).

<sup>9</sup> Because teachers who indicated teaching different subjects were assigned different survey paths in the AIRS, the question text varies slightly by subject.

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## About This Report

In this report—the first to share findings from the spring 2022 American Instructional Resources Survey—the authors build on past research to better understand teachers' use of new instructional materials. The 2022 American Instructional Resources Surveys (AIRS) were administered to principals and teachers in spring 2022 via the RAND Corporation's American Educator Panels (AEP), which provide access to nationally representative samples of K–12 teachers, principals, and district leaders across the country.

### RAND Education and Labor

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