

Principal Purchasing Study

School Leaders' Insights on Choosing and Using
Supplemental Math Materials

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Principal Purchasing Study Background

This study explored how and why principals decide to invest in math-focused supplemental curricular materials, which types of materials they have purchased, and what they like about, dislike about, and want to see in materials in the market.

Data collection methods:

- (1) Pulse Check Poll (n=23)
- (2) In-Depth Interviews (n=4), and
- (3) Survey (n=36).

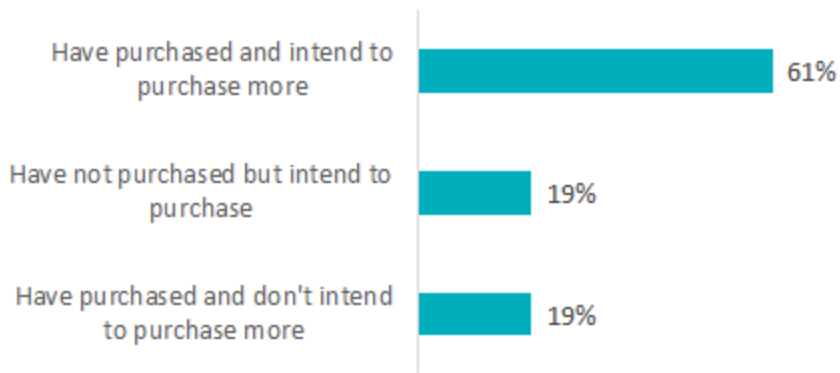
Broadly, we sought to learn the following through this study:

- What, if any, products or programs have principals purchased online for their schools, including both core and supplemental digital instructional resources? For what purpose?
- What drove principals to purchase these products/programs?
- How recently and how frequently were these supplemental curricular materials purchased? How did this change during the pandemic? How do principals anticipate this changing in the future?
- What do principals like about the supplemental instructional resources that they have bought?

SAMPLE CHARACTERISTICS

All pulse check, survey, and interview respondents were principals of schools serving grades 6-12 that primarily serve underserved students. Principals with purchasing experience or intentions were recruited for surveys and interviews:

Survey respondents had either purchased or intended to purchase supplemental instructional materials to support math instruction, or both. (n=36)



Interview respondents have purchased supplemental **English Language Development** materials to support math instruction and intend to purchase more. (n=4)



Source: Principal Purchasing Survey. N=36.

KEY INSIGHTS: Reasons for purchasing supplements

The main reasons principals cite for purchasing supplemental materials are filling content gaps, differentiation, engagement, and accessibility.

- **Filling content gaps:** Many principals purchase supplements to fill content gaps and focus on specific concepts that they believe need more coverage than exists in the standard curriculum, at least for some students.
- **Differentiation:** Principals are excited that, beyond core instruction, supplemental materials allow them to provide instruction and practice that is self-paced and customized to students' abilities, which they say allows them to keep their advanced students engaged and also provide extra support for students who need it.
- **Engagement:** Digital apps that gamify instruction, in particular, are engaging for students. One principal said that she finds students competing against one another in Imagine Math, even logging in at home to keep playing, as the format mirrors that of games they would choose on their own. This principal says that the kids don't realize they're learning, but they're seeing real gains.
- **Accessibility:** Many principals stated that they purchase supplemental materials specifically to accommodate ELLs, particularly when their math teachers cannot speak their first language. They like that these materials offer content fully in students' first language so they can continue to progress in math despite not having full English proficiency yet, but that they can flip back and forth between English and their first language to develop English skills, too.

KEY INSIGHTS: Types of materials purchased

- Principals have primarily purchased **computer software, lessons, apps, visual aids, and games.**
- Principals anticipate some **changes in purchasing patterns** in the coming year:
 -  **App, game, and video or audio recordings** purchases
 -  **Computer software** (possibly because licenses are already secured)
- Principals are enthusiastic about digital products that they've purchased that...
 - **Gamify** math instruction
 - Provide **integrated**, in-program English, Spanish, and other **language instruction**
 - Offer **multiple forms of engagement**, especially for ELLs (e.g., virtual manipulatives; listening, speaking, reading, and writing components)
 - Go beyond “skill and drill” to more **creative problem solving**

KEY INSIGHTS: Likes and Dislikes

Principals like that many of the supplemental products they use meet their goals, but they have yet to find a single solution that meets all of their diverse needs.

Likes

- Ability to **customize content** to student needs
- **Engaging**, game-like platforms
- Ability to provide instruction and support in **multiple languages**
- **Alignment** with curriculum and state standards

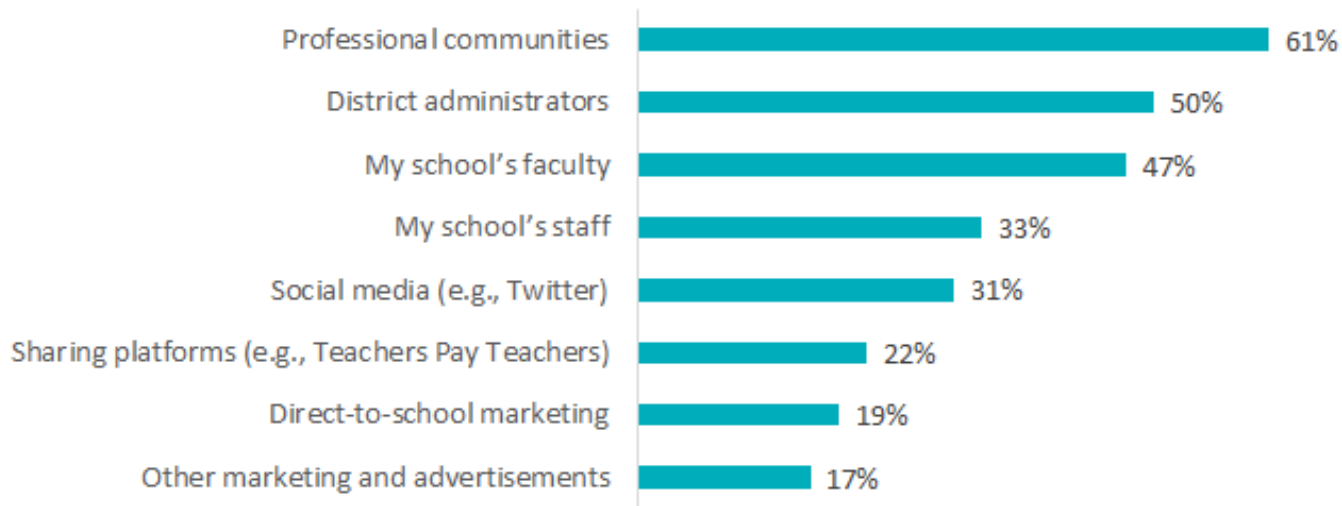
Dislikes

- **No single solution** meets all of a school's needs
- High **cost**
- Resources for English Language Learners **lack rigor**
- Tech solutions **can't replace individualized support** and teaching strategies

Key Findings

DECIDING: Where do principals learn about options?

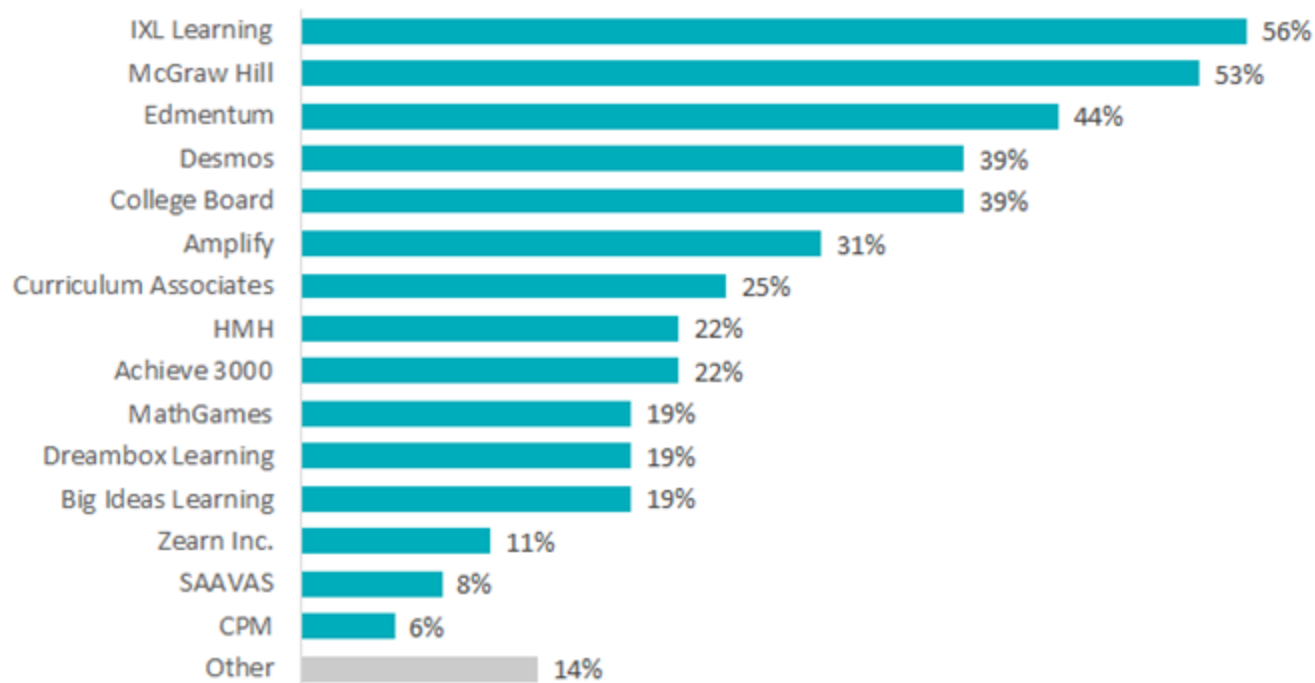
Principals primarily learn about supplemental instructional materials from their professional communities, district administrators, and school faculty.



Source: Principal Purchasing Survey. N=36.

DECIDING: Which companies are principals familiar with?

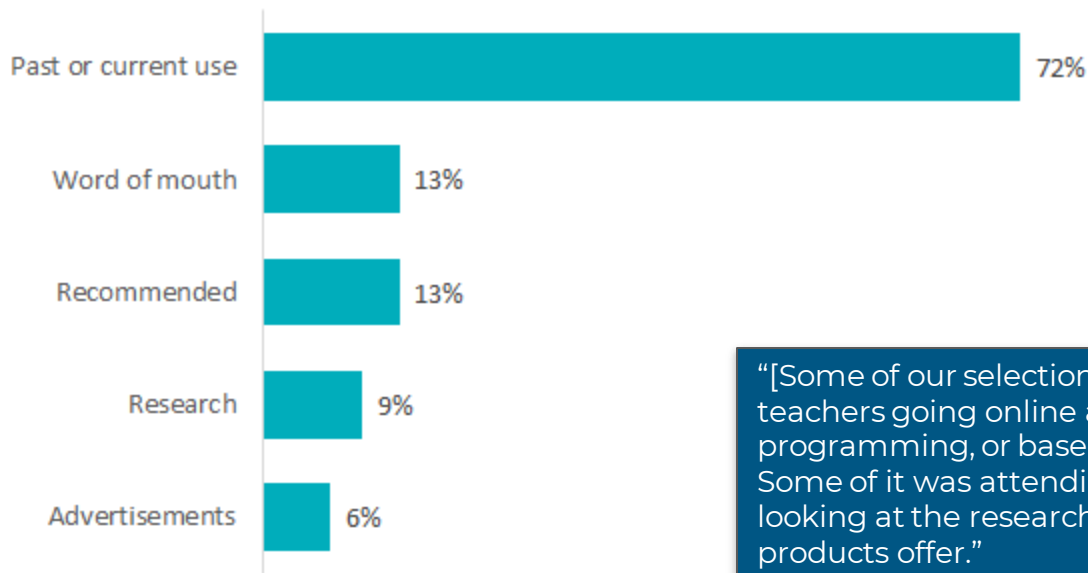
Principals are most familiar with IXL Learning and McGraw Hill. Over a third of principals are also familiar with Edmentum, Desmos, and College Board.



Source: Principal Purchasing Survey. N=36.

DECIDING: Why are principals familiar with these companies?

Most principals are familiar with companies because they've used their products in the past. A few principals learned about products through other means, such as a teacher recommendation or curriculum research.

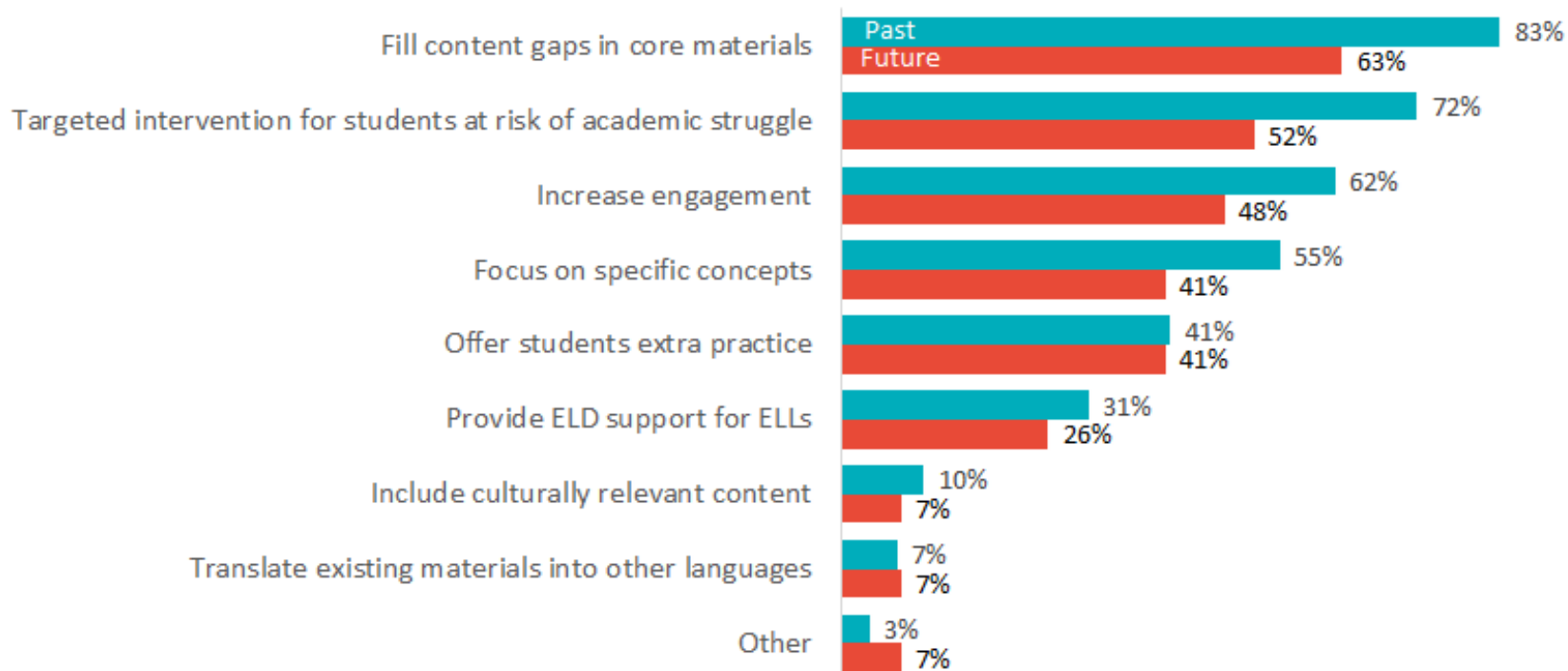


"[Some of our selections were based on] our teachers going online and just looking at programming, or based on word of mouth. Some of it was attending conferences and just looking at the research and seeing what these products offer."

Source: Principal Purchasing Survey. N=33.

DECIDING: Which needs are principals trying to meet?

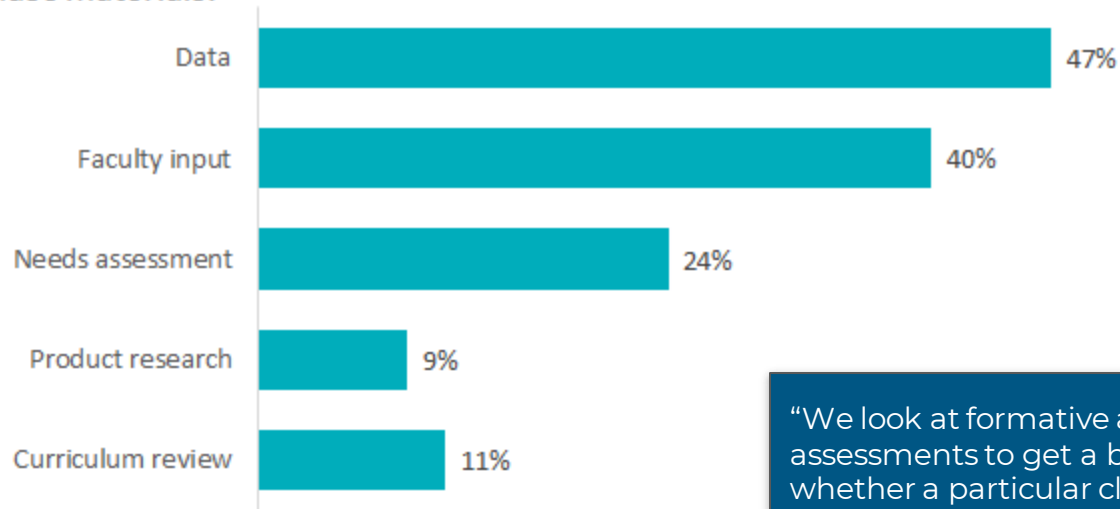
In general, principals anticipate filling fewer needs with supplemental math materials in the **future** than they did in the **past**. Filling content gaps, providing targeted intervention, and increasing engagement are consistently the top reasons principals purchase supplemental math materials.



Source: Principal Purchasing Survey. Past n=29; future n=27.

DECIDING: How do principals determine a need for materials?

Data (e.g., test scores) and faculty input are the primary drivers of principals' decisions to purchase materials.

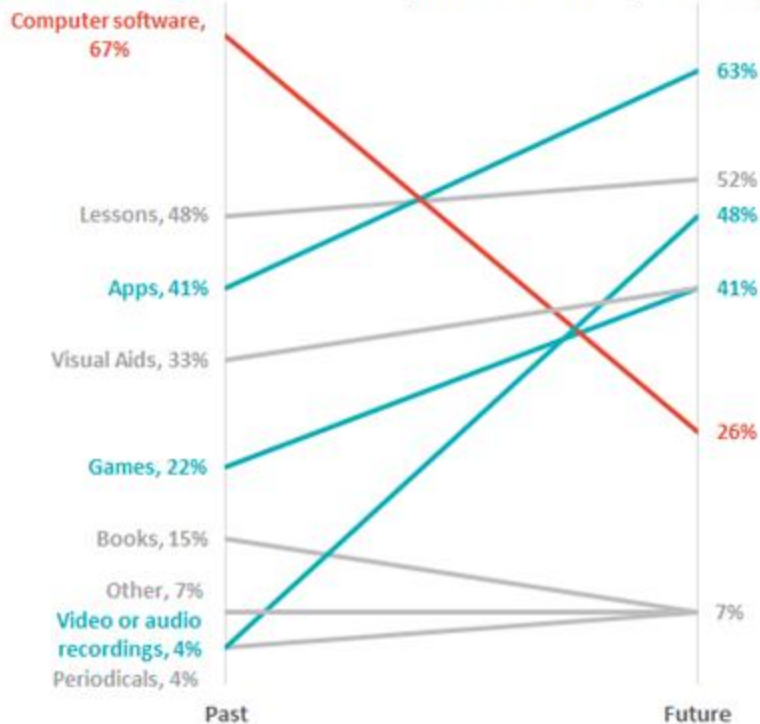


“We look at formative and summative assessments to get a baseline on how and whether a particular class or group of students is struggling with concepts. Then we look at specific subgroups -- ELLs, children of color, different socioeconomic groups -- and try to identify buckets of need.”

Source: Principal Purchasing Survey. N=35.

DECIDING: What types of materials do principals purchase?

Fewer principals intend to purchase **computer software** than they did in the past, and more principals intend to purchase **apps, games, and video or audio recordings**. Other material purchases will stay relatively stable.



Source: Principal Purchasing Survey.
Past n=29;
future n=27.

DECIDING: What do principals prioritize in materials?

Principals consider many factors when selecting materials, but the most common factors relate to outcomes, engagement, and ease of use.

Outcome-oriented

- Evidence-based content and approach
- Standards- and curriculum-aligned content

“Don’t put something in place because it looks good and it’s easy for the teacher to use. We need to keep it student-centered and keep it fun and engaging so that we can get the best outcomes for our scholars.”

Engaging

- Gamification is the top-cited element that engages students
- Culturally relevant and real-life content (e.g., students of color as main characters in familiar environments; focus on financial literacy)

“I look at the research -- whether it was just one school or if it was a huge body of research, or has it just been used as somebody’s dissertation project? And I look at the longevity of the product. I look at the company -- is it a reputable company? And a lot of it is hearing what works in my colleagues’ schools.”

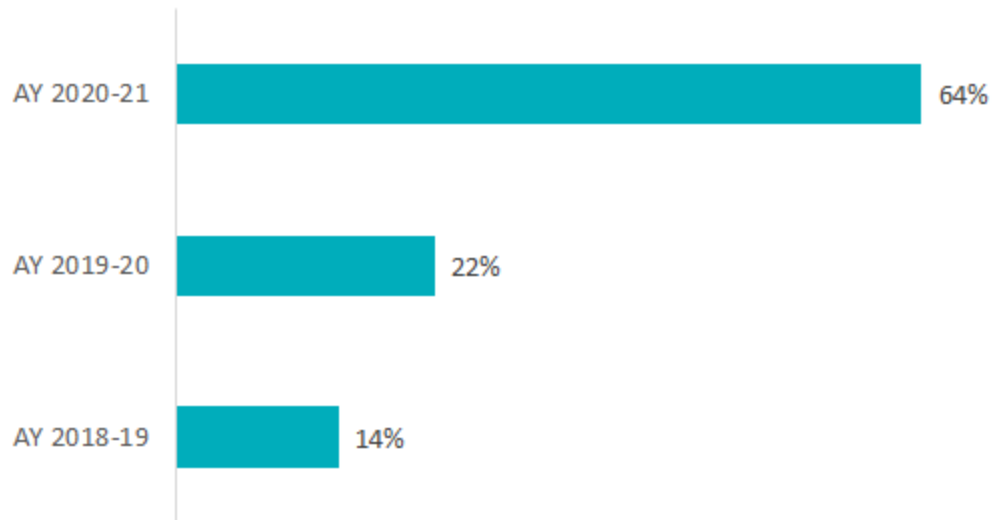
Flexible and easy to use

- Provides self-paced, differentiated, language-appropriate content
- Easy for teachers to use, including customizing content for students’ needs and generating reports

PURCHASING: How recently have principals purchased materials?

Nearly two-thirds of principals last purchased new supplemental math materials in the most recent academic year (20-21).

44% of principals say that their supplemental math material purchases increased since before the pandemic.

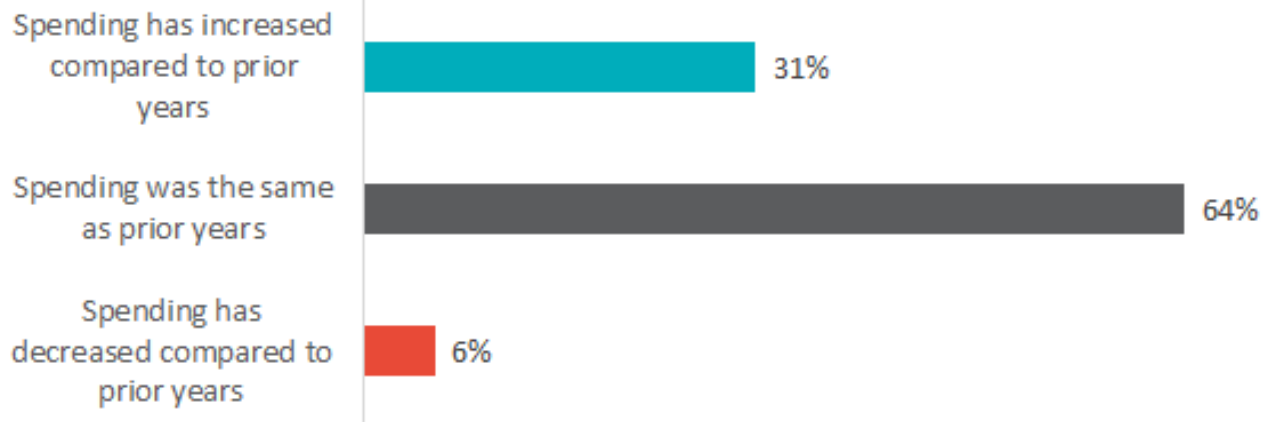


Source: Principal Purchasing Survey. N=36.

PURCHASING: How much did principals spend?

Principals spent approximately **15.3%** of their overall instructional budget on supplemental math materials in the most recent year they made these purchases.

In the most recent year that principals purchased supplemental math materials, 64% said **spending was the same** as prior years, while 31% **increased spending** and 6% **decreased spending**.



PURCHASING: How much discretion do principals have?

25% of principals say that they have restrictions on the amounts or types of supplemental math materials they can purchase. Either...

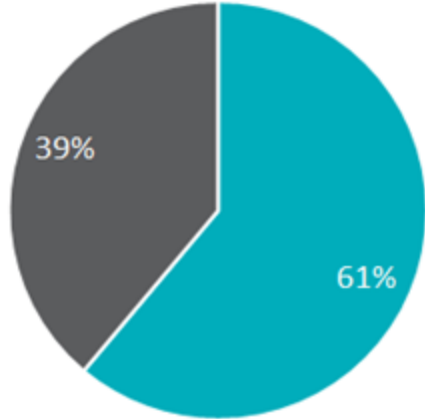
- The district needs to approve purchases, or
- The district's curriculum office purchases supplemental math materials and shares with schools

“As a principal, unless you were an ESL teacher and you are very familiar with the most updated materials, you kind of have to defer to the [district special program] directors who have been researching this, possibly been working in this field for a long time. So I don't know that you have a lot of autonomy [over purchases as a principal] and I don't know that you should have a lot of autonomy because you may purchase things that aren't research based or have not been proven to help our students?”

“I know a lot of districts are going more toward that kind of top-down model [of making purchases] for the whole district. My district allows the teachers and the schools to have that advocacy for their students, and I like that a lot.”

USING: Did the materials meet schools' needs?

All principals surveyed were able to secure the supplemental math materials that **fully** or **partially** fit their need or use case.

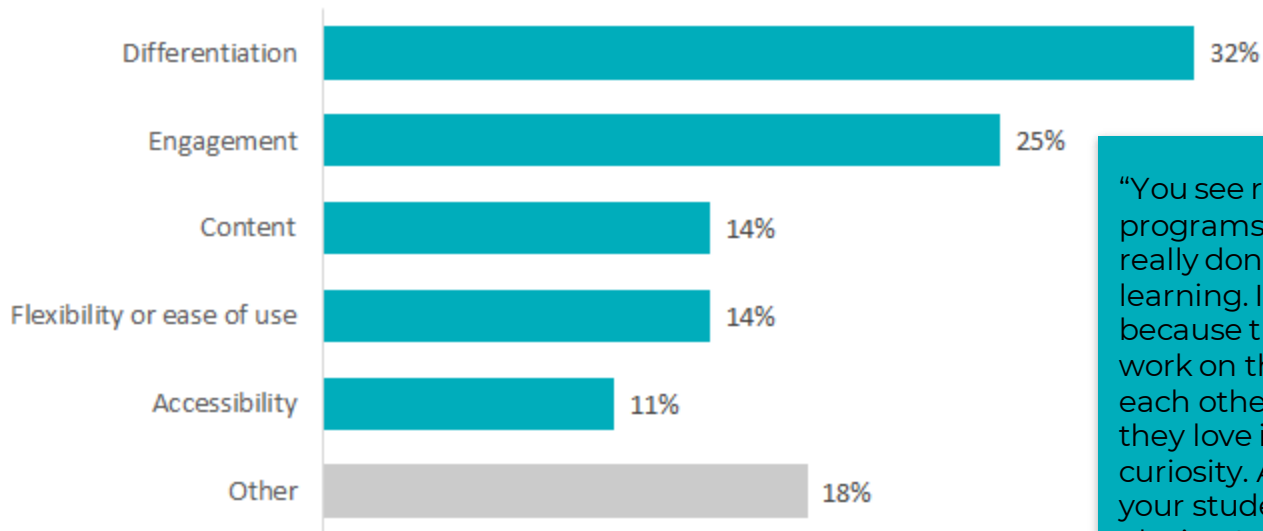


Among those whose needs were partially met...

- Four had needs that were too diverse to be met by the option they chose.
- Three had funding or cost concerns.
- Two are still looking for something better (e.g., more engaging).

USING: What do principals like about what they've purchased?

Principals like the ability to differentiate instruction (e.g., self-paced, custom content), that the materials are engaging, that the content is strong (e.g., rigorous, aligned with standards), and that programs are flexible and easy to use. Some principals noted that the materials improve accessibility, especially for English Language Learners.



“You see real gains with these programs. [With Imagine Math], they really don’t realize that they’re learning. It’s competitive for them because they sit side-by-side and work on the same thing and see each other’s point totals going up. So they love it...it’s piquing their curiosity. And you find that some of your students are going home and playing Imagine Math..”

Source: Principal Purchasing Survey. N=28.

USING: What strategies do schools use with these products?

Principals described several strategies that they use to get the most out of their products.

Rotation models

- Splitting the class into small groups that rotate from independent work with the program to small-group work with the teacher.

Real-time translation

- Using materials for Gen Ed instruction that include translation into students' first language so ELLs can follow along.
- When teachers do not have access to translated resources, some will simply translate the whole lesson using Google Translate and send materials to ELLs before class.

Buddy systems

- An ELL will pair up with a bilingual student to help them understand the material.

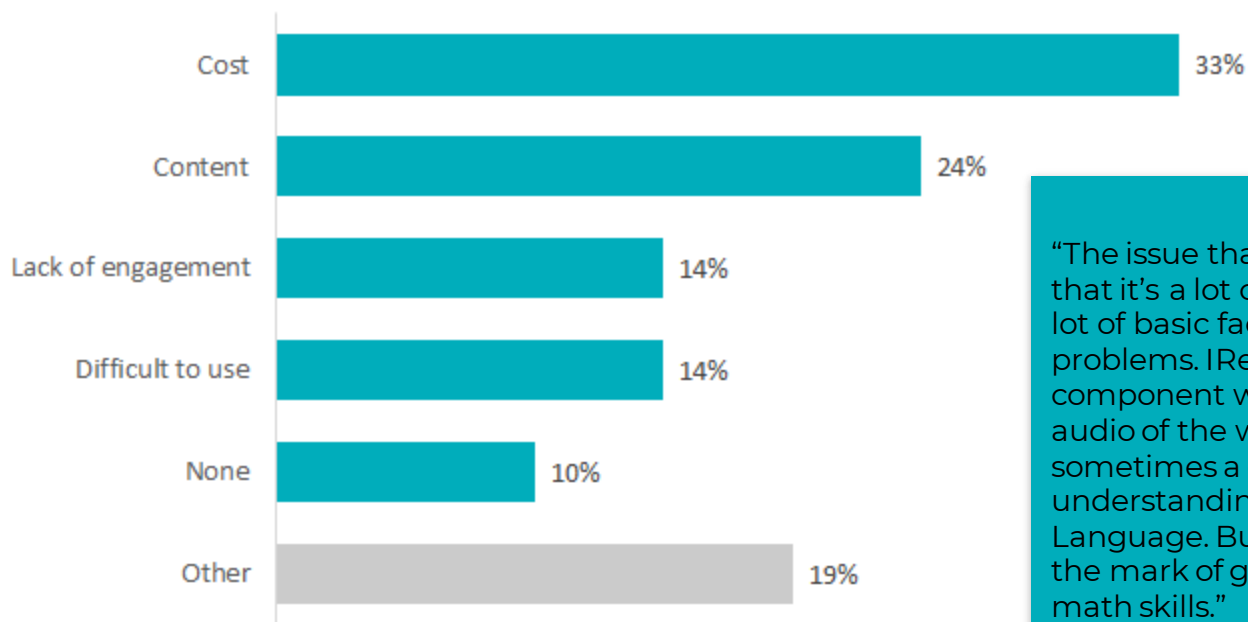
Tech access and caregiver training

- Providing hot spots and caregiver training to support at-home program use was a key to enabling students to log in to use these products at home and during summer school.

“For an intervention program, we used i-Ready as something kids could do independently when the teacher was working with a small group, or something they could do before school. We had some incentives -- badges and lollipops and other little things that middle school kids like. And that proved to be really successful -- the reading score went from an F school into a solid D over the course of the year. We appreciate all progress.”

USING: What do principals dislike about what they've purchased?

Some principals dislike the cost of materials and the content (e.g., rigor, curriculum alignment, narrow focus), and a couple had concerns about the lack of engagement and difficulty of use.



“The issue that I have with all of them is that it’s a lot of skill and drill. It’s really a lot of basic facts and a tiny bit of word problems. IReady does have a component where the kids can hear the audio of the word problem because sometimes a child...has issues understanding how to read the English Language. But all of them do not pass the mark of getting past really low-level math skills.”

Source: Principal Purchasing Survey. N=21.

USING: What strategies do schools use with these products?

Principals firmly believe that **no product is a proxy for strong instruction and individualized support**, and they emphasized that the best products mimic these characteristics. However, they have seen a **dearth of effective math-specific ELD materials** and are eager to purchase materials that do.

"I don't really see a number one math program for ELLs. I would argue it's a huge need and something a lot of people don't think about. A lot of people might feel, 'Well they know math; let's focus on the reading or writing part of it.'

Many think math is universal, they should be able to figure this out, but a lot of our standardized tests are a lot of word problems, which complicates matters for [ELLs]."

"Sometimes when a company offers ELL [support], they offer a watered down version of their normal program -- just fewer problems on the page. We want the rigor to make sure our population is growing at the same rate as our white or children of color or socioeconomically diverse children.."

USING: What are characteristics of an ideal product?

When principals imagined an ideal product to support their English Language Learners in math, a few themes arose:

Multi-sensory and multi-disciplinary

- Students read, write, listen, and speak to develop all four language domains
- Content reflects other subjects in school to build math relevance (e.g., word problems that incorporate social science content)

Culturally relevant and practical content

- Content that reflects their students' cultures, not only their race or their language.
- Content that reflects real-life application of math and prepares students for the real world (e.g., personal finance and investing)

Format that is individualized

- Format (in addition to content) that is customized to students' unique needs (e.g., audio-heavy for students who can't read English or their first language) and provides individualized problem-solving (e.g., walking students step-by-step through a problem-solving process).

"I lived in places where people spoke languages other than English, and for me, being a foreigner in someone else's country, when I was able to make a connection like 'this is the same as my culture in America,' it allowed me to engage a bit more. But when everything is different, it makes the fracture stay broken."

NEXT STEPS AND REFLECTIONS

What we heard	Reflection questions
<p>Principals are meeting their supplemental math needs for ELL students across a variety of platforms but have yet to find one program that meets all of their needs.</p>	<ul style="list-style-type: none">● What is needed to support supplemental math program development for ELL students that still offers the strengths principals like - customizable content, engaging game-like platforms, and ability to differentiate for different levels of need?● What is needed to make sure these products include ideal characteristics identified by principals: multi-sensory and multi-disciplinary, culturally relevant and practical, and individualized?
<p>Principals are looking for products that are evidence-based, engaging, and relatively easy for their teachers to learn.</p>	<ul style="list-style-type: none">● What is needed to support supplemental math program development products that combine all of these characteristics in one program?● What is needed to make sure these programs are affordable for principals?

“I'm always about trying to find alternative ways for our students to learn, and that's big for me. If it's not in the blueprint, we'll put it in the blueprint if it's going to help kids. I'm not ever going to shy away from helping kids or spending money to help kids.”

About #PrincipalProject



#PrincipalProject is a community of **45,000 school leaders**, including principals and assistant principals. It is focused within 6-12 and primarily made up of school leaders in Title 1 schools. It prioritizes building relationships with school leaders, providing the resources and tools principals need most, and the dissemination of evidence-based practices.

Now: As school leaders find themselves responsible for guiding schools and communities through virtual transformations, suspensions and closures, #PrincipalProject is focusing on elevating instructional leadership resources for principals while supporting emotional and community needs.