

Design Case Study

Edia Learning

Schools are struggling to recover from COVID.

The National Assessment of Educational Progress (NAEP) reported that 2022 was the biggest drop in US test scores in 50 years. At Lee County, a school district we work with, math scores dropped by -44%.

When schools shut down for COVID, students missed an entire year of math. This is problematic because math can't be learned out of order: you need to learn how to add and subtract before you can solve an equation.

As a result, American students are struggling in math, and schools can't get more than 1-2% growth in test scores.

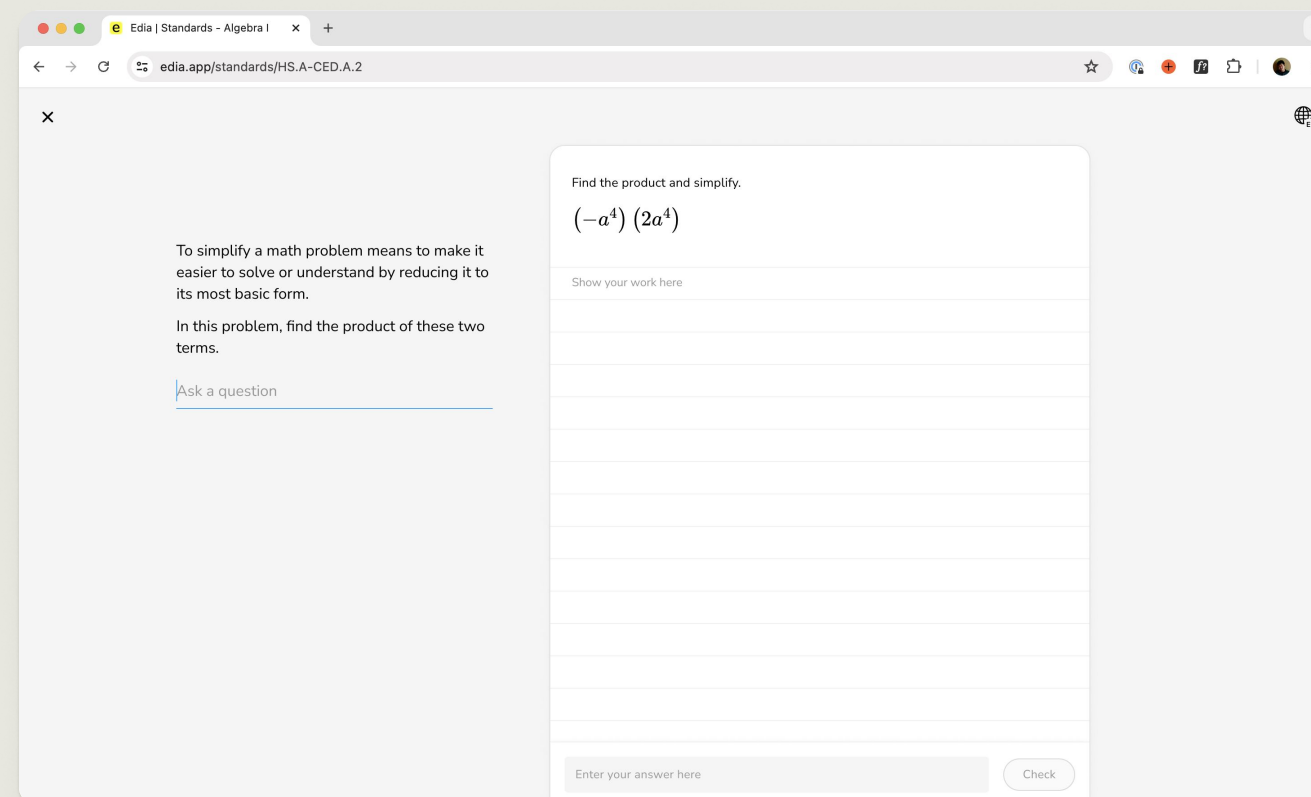
Edia addresses this with a simple promise:

We improve your math scores, or you get a full refund.

How does Edia guarantee results?

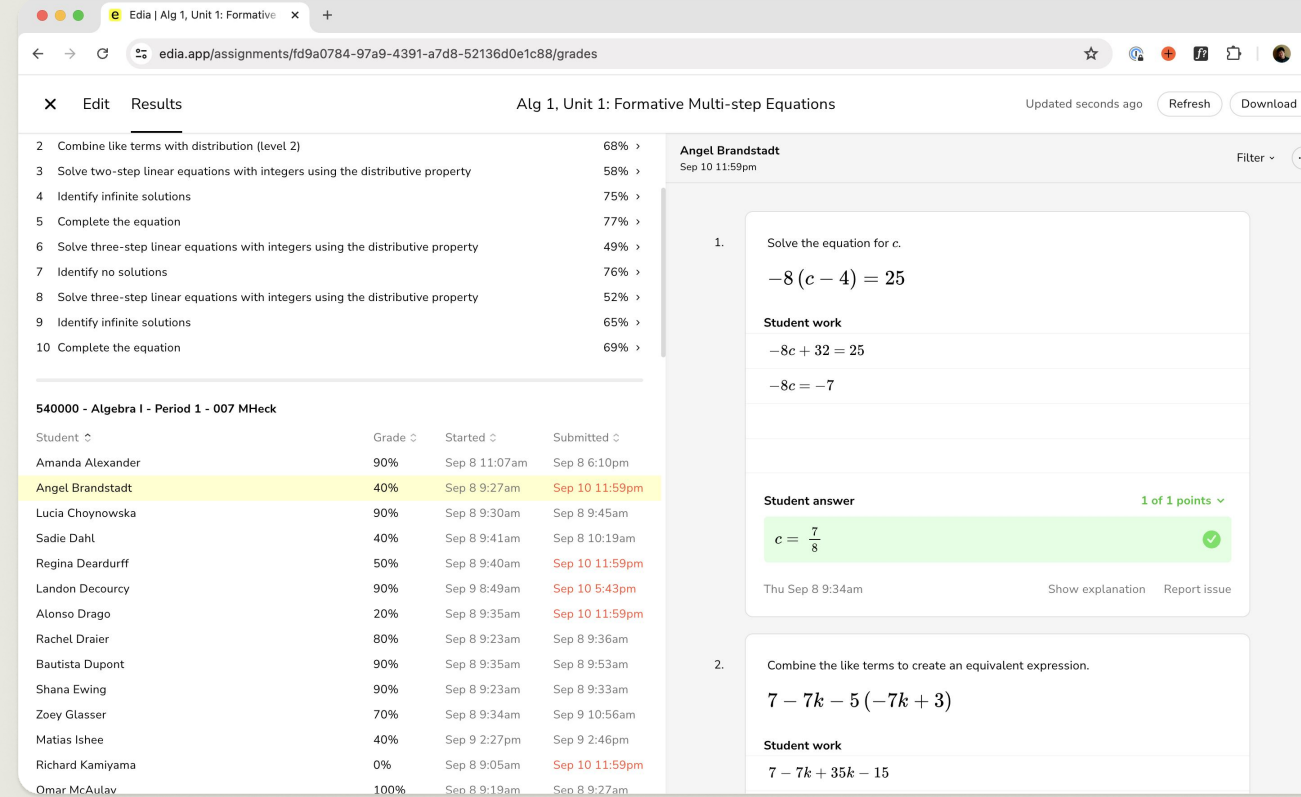
Instant feedback

AI coaches students in real-time. It can catch mistakes and answer questions in natural language, just like a tutor would. Students get the benefit of 1:1 instruction at a fraction of the cost.



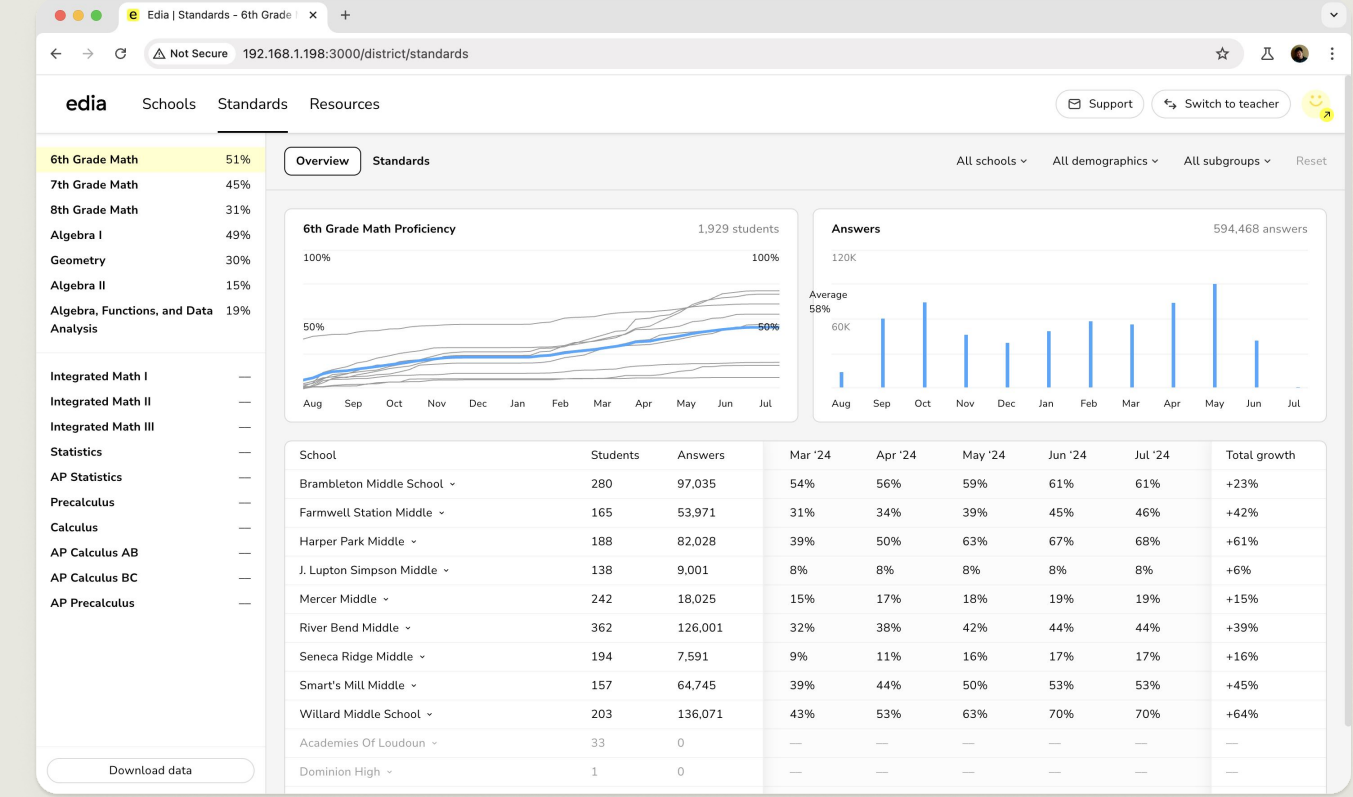
Real-time data

Teachers don't have the time to grade homework every day. As a result, teachers don't know that a student is struggling until the test a month later. Edia grades automatically, so teachers can fix problems as they happen.



Visibility

Principals need to know student proficiency to allocate resources for tutors, after-school programs, or training. Before Edia, they had to check with each teacher individually. Now the data is reported automatically.



It works.

None of our school districts have asked for a refund.

Hillside Public Schools in New Jersey, a school district with 9% of their students passing state assessments, saw that number rise to 17% within 6 months of piloting Edia.

Our districts (33 and counting) see +5-12% growth in proficiency within a year, compared to +1-2% in most districts in the United States.

“With Edia we’re seeing data we never had before, which means we’re having conversations we never had before. It’s transformed how my math department operates.”

JERRY PUTT, PRINCIPAL
FREDERICK COUNTY PUBLIC SCHOOLS

Case Study 1: Assignments

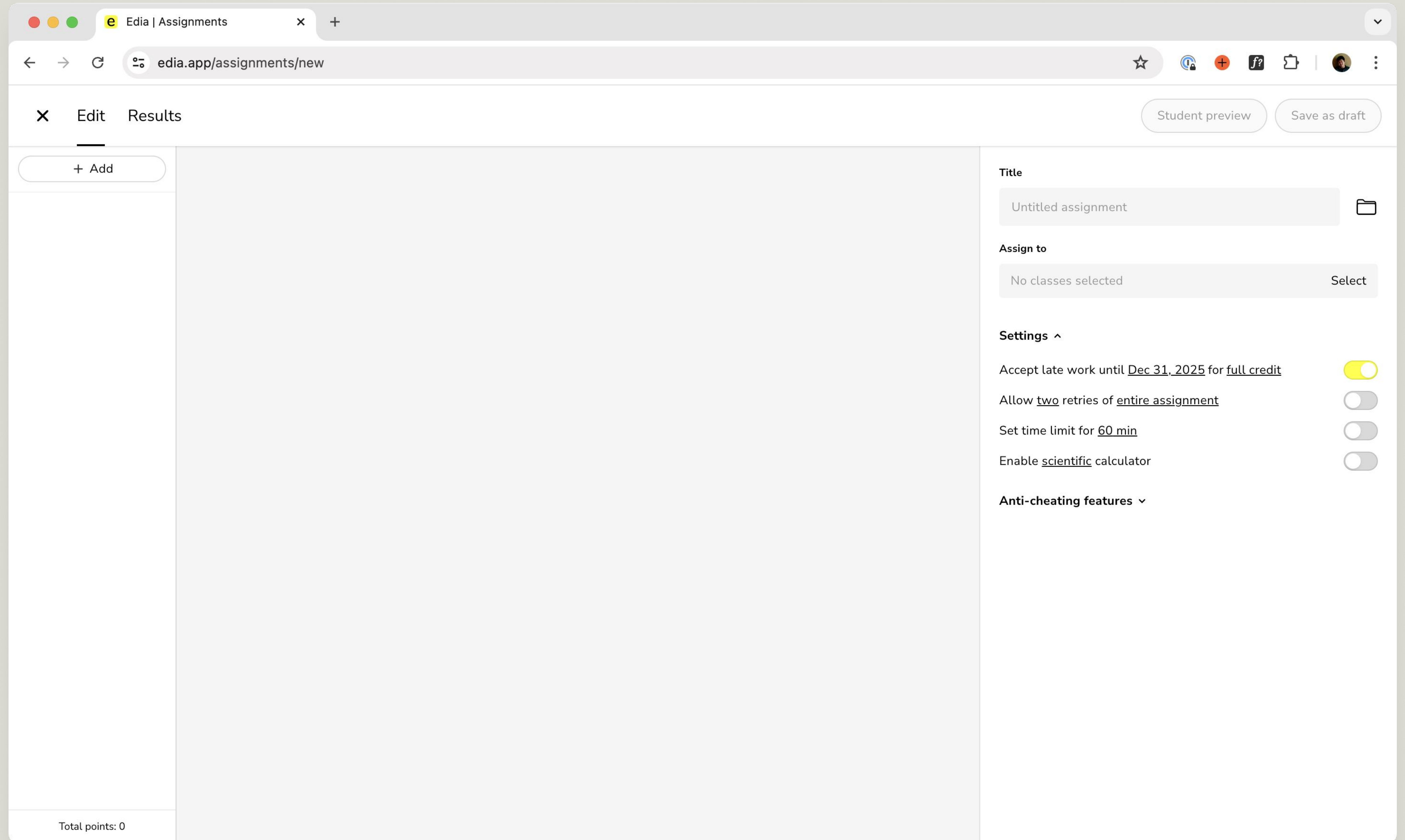
Edia's core product is the Math Assignment creator.

It's how teachers create homework and quizzes, which is the foundation that our entire product suite is built on.

None of the original team members are teachers.

So we were deeply dependent on constant feedback.

Every week, we cold emailed 100s of teachers to try Edia, and followed up with churned users to ask them how we could improve the Assignment Creator.



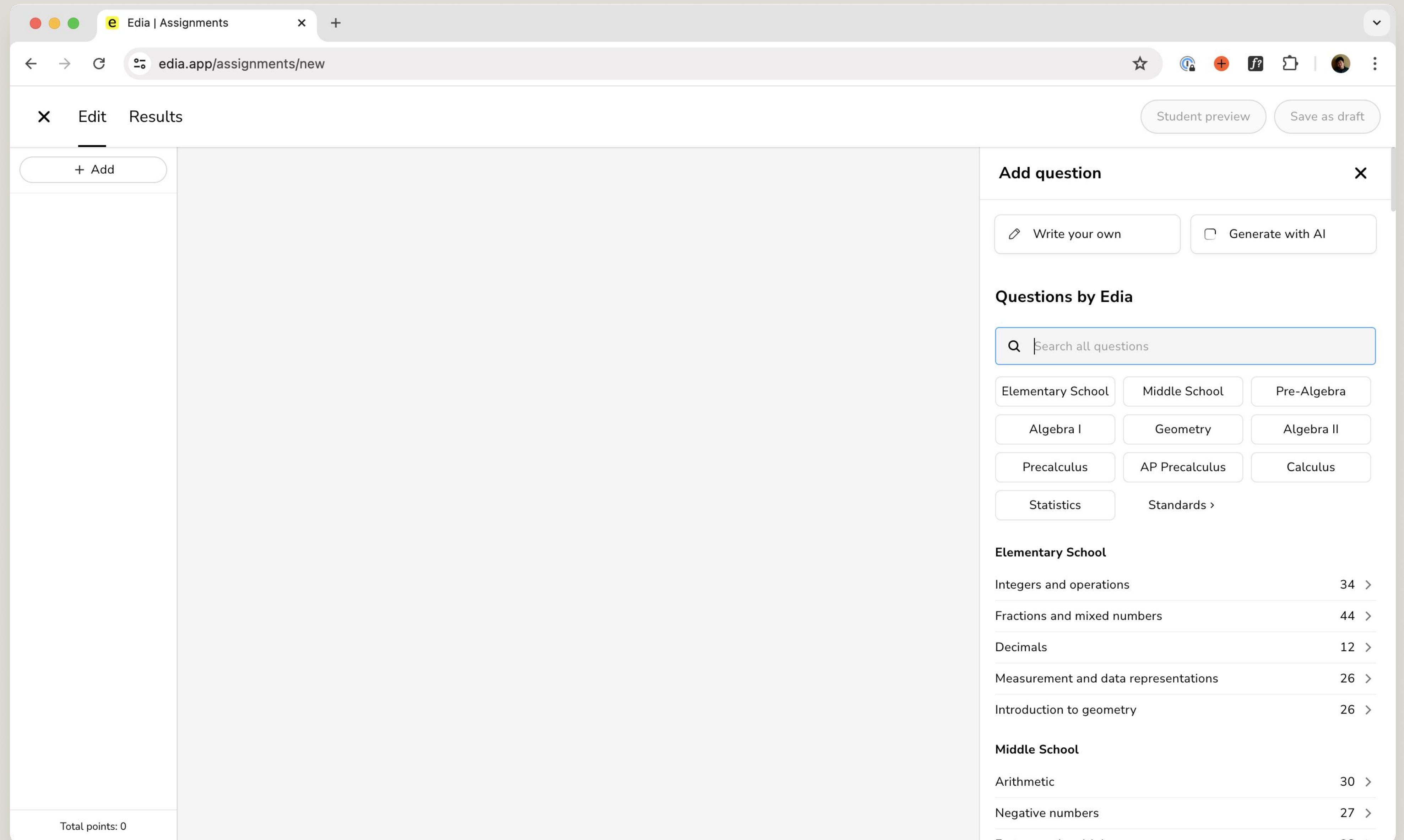
The usage logs don't always tell the full story.

When we looked at dropoffs in our logs, this "Add question" screen was consistently an issue.

We went through an entire month of optimizations to the user flow, getting incremental gains in retention.

But when we emailed and called teachers, it turned out it was actually a content problem: we just didn't have the questions they wanted.

So Joe (CEO) started hiring content writers.



Keep our style uniform

When we started hiring a team to write our questions, we started to have inconsistencies in colors, shapes, line weights, and fonts used.

I created a content style guide for the team to unify our visual styles.

The screenshot shows the Edia app interface for creating a new assignment. The browser address bar shows `edia.app/assignments/new`. The interface includes a top navigation bar with "Edit" and "Results" tabs, and buttons for "Student preview" and "Save as draft". A central panel titled "Answer 6 questions" displays two questions. The first question asks to complete the square for the equation $-4x^2 + y^2 - 24x - 10y - 47 = 0$. The second question asks which conic is the result of a plane intersecting two cones, accompanied by a diagram of two intersecting cones and a blue shaded plane. A left sidebar contains a list of question categories, and a right sidebar shows a search for "conic" with a list of related topics under "Geometry" and "Algebra II".

edia | Assignments

edia.app/assignments/new

Student preview Save as draft

+ Add

Answer 6 questions

1. - 1 pt + Edit Duplicate Delete

Complete the square to find the standard form equation of the hyperbola.

$$-4x^2 + y^2 - 24x - 10y - 47 = 0$$

Show your work here

Enter your answer Check

2. - 1 pt + Edit Duplicate Delete

Which conic is the result of the plane intersecting the cones?

1 Complete the square to find the standard form equation of a hyperbola

2 Double-napped cones

3 Identify center and radius given standard equation

4 Multiple monomials (one variable) – level 1

5 Graph given standard equation

6 Find properties of hyperbola given equation

Total points: 6

Add question

Q conic

Geometry

- Identify conics from 3D drawings 1 >
- Identify center and radius of circles 3 >
- Formulate standard equation of circles 2 >
- Derive the equation of a circle from definition 4 >
- Write equation of conics from definition 4 >
- Apply the equation of circles 5 >
- Apply the equation of ellipses 5 >
- Apply the equation of hyperbolas 5 >
- Identify properties and equations of parabolas 3 >
- Understand the focus and directrix of parabolas 3 >
- Connect the locus definition to the equation of a conic 5 >

Algebra II

- Identify properties and equations of parabolas 3 >
- Apply the distance and midpoint formulas 2 >
- Classify conics 6 >
- Apply the equation of circles 5 >
- Write equations of circles 8 >

Adding complexity only when necessary

No matter how many questions our team writes, there will always be questions that our team hasn't covered yet.

We wanted to avoid the complexity of a custom question creator, but teachers told us that they couldn't use Edia if even 1 of 10 questions were missing.

The screenshot shows a web browser window with the URL `edia.app/assignments/new`. The page is titled "New question" and features a sidebar on the left with a "+ Add" button and a list of questions, including one labeled "New custom question". The main area displays a question editor for "Answer 1 question" with a text input field containing "New custom question" and four radio button choices: "Choice 1", "Choice 2", "Choice 3", and "Choice 4". The right sidebar contains configuration options: "Correct answer" (set to "Choice 1"), "Explanation" (with an "Add explanation" button), and "Standards" (with an "Add standards" button). The bottom left corner shows "Total points: 1".

AI made impossible problems possible

The issue with a custom question creator is that they aren't programmed by our content team to handle student inputs, and thus, cannot be graded automatically.

But when LLMs (GPT, Gemini, Claude, etc) came out in 2022, it suddenly made automated grading possible for any question.

The screenshot shows the Edia app interface for creating a new question. The browser address bar shows `edia.app/assignments/new`. The interface is divided into several sections:

- Top Bar:** Includes navigation icons (back, forward, refresh), a search bar, and user profile icons.
- Assignment Header:** Shows "Edia | Assignments" and "edia.app/assignments/new".
- Question Editor:** The main area for creating a question. It includes a "New question" header, a "Modify" dropdown, and a "Close" button. The question text is: "Taylor Swift is planning a series of concerts in different cities. For her concert in New York City, tickets are sold at three different price points: VIP tickets cost \$250 each, Regular tickets cost \$120 each, Balcony tickets cost \$80 each. Taylor's fans are excited and many are buying multiple tickets. Jessica bought 2 VIP tickets, 3 regular tickets, and 5 balcony tickets. Meanwhile, her friend Alex bought 1 VIP ticket, 4 regular tickets, and 2 balcony tickets. Calculate Jessica's total cost." Below the question is a "Your answer" field with the placeholder "Write your answer here".
- Question List:** On the left, a list of questions is shown, with "1 Custom" selected.
- Question Details:** On the right, the question details are shown, including the question text, a "Correct answer" field with "Sample correct" selected, and a "Standards" section with "Add standards" button.
- Bottom Bar:** Shows "Total points: 1".

Case Study 2: Differentiation

In education, “differentiation” is adapting how you teach to each student’s needs.

But this is more of a theoretical ideal than actual practice. Teachers do not have the time to plan and teach 3 separate lessons, nor personalize and grade 3 different homework assignments.

But because Edia saves teachers so much time, this is now possible.

Teachers save hours

That time is spent on students who need the most help, or planning the next day's lesson.

The screenshot shows a web browser window with the URL `edia.app/assignments/fd9a0784-97a9-4391-a7d8-52136d0e1c88/grades`. The page title is "Alg 1, Unit 1: Formative Multi-step Equations" and it shows "710 answers". A bar chart displays the percentage of students correct for 10 questions. Below the chart is a table with columns for "Question" and "% of students correct". At the bottom, a table lists student names, their grades, and submission times.

Question	% of students correct
1 Solve two-step linear equations with integers using the distributive property	65%
2 Combine like terms with distribution (level 2)	68%
3 Solve two-step linear equations with integers using the distributive property	58%
4 Identify infinite solutions	75%
5 Complete the equation	77%
6 Solve three-step linear equations with integers using the distributive property	49%
7 Identify no solutions	76%
8 Solve three-step linear equations with integers using the distributive property	52%
9 Identify infinite solutions	65%
10 Complete the equation	69%

540000 - Algebra I - Period 1 - 007 MHeck			
Student	Grade	Started	Submitted
Amanda Alexander	90%	Sep 8 11:07am	Sep 8 6:10pm
Angel Brandstadt	40%	Sep 8 9:27am	Sep 10 11:59pm
Lucia Choynowska	90%	Sep 8 9:30am	Sep 8 9:45am
Sadie Dahl	40%	Sep 8 9:41am	Sep 8 10:19am
Regina Deardurff	50%	Sep 8 9:40am	Sep 10 11:59pm

Students show their work

Though other math programs can auto-grade too, none of them have a way for students to show their work.

Only on Edia, teachers can see the students think through the problem.

The screenshot shows the Edia app interface for a formative assignment titled "Alg 1, Unit 1: Formative Multi-step Equations". The interface is divided into three main sections: a list of assignment questions, a table of student results, and a detailed view of a student's work.

Assignment Questions:

- 2 Combine like terms with distribution (level 2) 68%
- 3 Solve two-step linear equations with integers using the distributive property 58%
- 4 Identify infinite solutions 75%
- 5 Complete the equation 77%
- 6 Solve three-step linear equations with integers using the distributive property 49%
- 7 Identify no solutions 76%
- 8 Solve three-step linear equations with integers using the distributive property 52%
- 9 Identify infinite solutions 65%
- 10 Complete the equation 69%

Student Results Table:

Student	Grade	Started	Submitted
Amanda Alexander	90%	Sep 8 11:07am	Sep 8 6:10pm
Angel Brandstadt	40%	Sep 8 9:27am	Sep 10 11:59pm
Lucia Choynowska	90%	Sep 8 9:30am	Sep 8 9:45am
Sadie Dahl	40%	Sep 8 9:41am	Sep 8 10:19am
Regina Deardurff	50%	Sep 8 9:40am	Sep 10 11:59pm
Landon Decourcy	90%	Sep 9 8:49am	Sep 10 5:43pm
Alonso Drago	20%	Sep 8 9:35am	Sep 10 11:59pm
Rachel Draier	80%	Sep 8 9:23am	Sep 8 9:36am
Bautista Dupont	90%	Sep 8 9:35am	Sep 8 9:53am
Shana Ewing	90%	Sep 8 9:23am	Sep 8 9:33am
Zoey Glasser	70%	Sep 8 9:34am	Sep 9 10:56am
Matias Ishee	40%	Sep 9 2:27pm	Sep 9 2:46pm
Richard Kamiyama	0%	Sep 8 9:05am	Sep 10 11:59pm
Omar McAulav	100%	Sep 8 9:19am	Sep 8 9:27am

Student Work Detail (Angel Brandstadt, Sep 10 11:59pm):

1. Solve the equation for c .

$$-8(c - 4) = 25$$

Student work

$$-8c + 32 = 25$$
$$-8c = -7$$

Student answer 1 of 1 points ✓

$$c = \frac{7}{8}$$

Thu Sep 8 9:34am Show explanation Report issue

2. Combine the like terms to create an equivalent expression.

$$7 - 7k - 5(-7k + 3)$$

Student work

$$7 - 7k + 35k - 15$$

Standards data updates daily, not every three months

Without Edia, teachers have to rely on quarterly assessments to know how their students are doing on state standards.

One school called them “post-mortem data”, because by the time the data comes in, the student has been failing for weeks.

The screenshot shows the Edia Standards dashboard for Algebra I. The browser address bar is `edia.app/standards`. The page has a navigation bar with "edia", "Assignments", "Classes", and "Standards". A "Switch to admin" button is in the top right. The main content area is titled "Algebra I Standards" and includes filters for "All classes", "All demographics", "All subgroups", and a "Reset" button. A dropdown menu is open, showing demographic filters: "All students" (74), "Free or Reduced Lunch" (0), "English Language Learners" (0), "Individualized Education Plan" (0), and "In intervention" (60). The sidebar lists course categories and standards with their respective answer counts:

Course	Percentage
6th Grade Math	4%
Algebra I	31%

Standard	Answers
HS.N-RN	518 answers
HS.N-Q	6 answers
HS.A-SSE	205 answers
HS.A-APR	1.2k answers
HS.A-CED	3.8k answers
HS.A-REI	7k answers
HS.F-IF	7.2k answers
HS.F-BF	564 answers
HS.F-LE	3.1k answers
HS.S-ID	417 answers

The main grid displays performance charts for various standards. Each chart shows a percentage of students (0% to 100%) over time (0h to 2h+). The standards shown are:

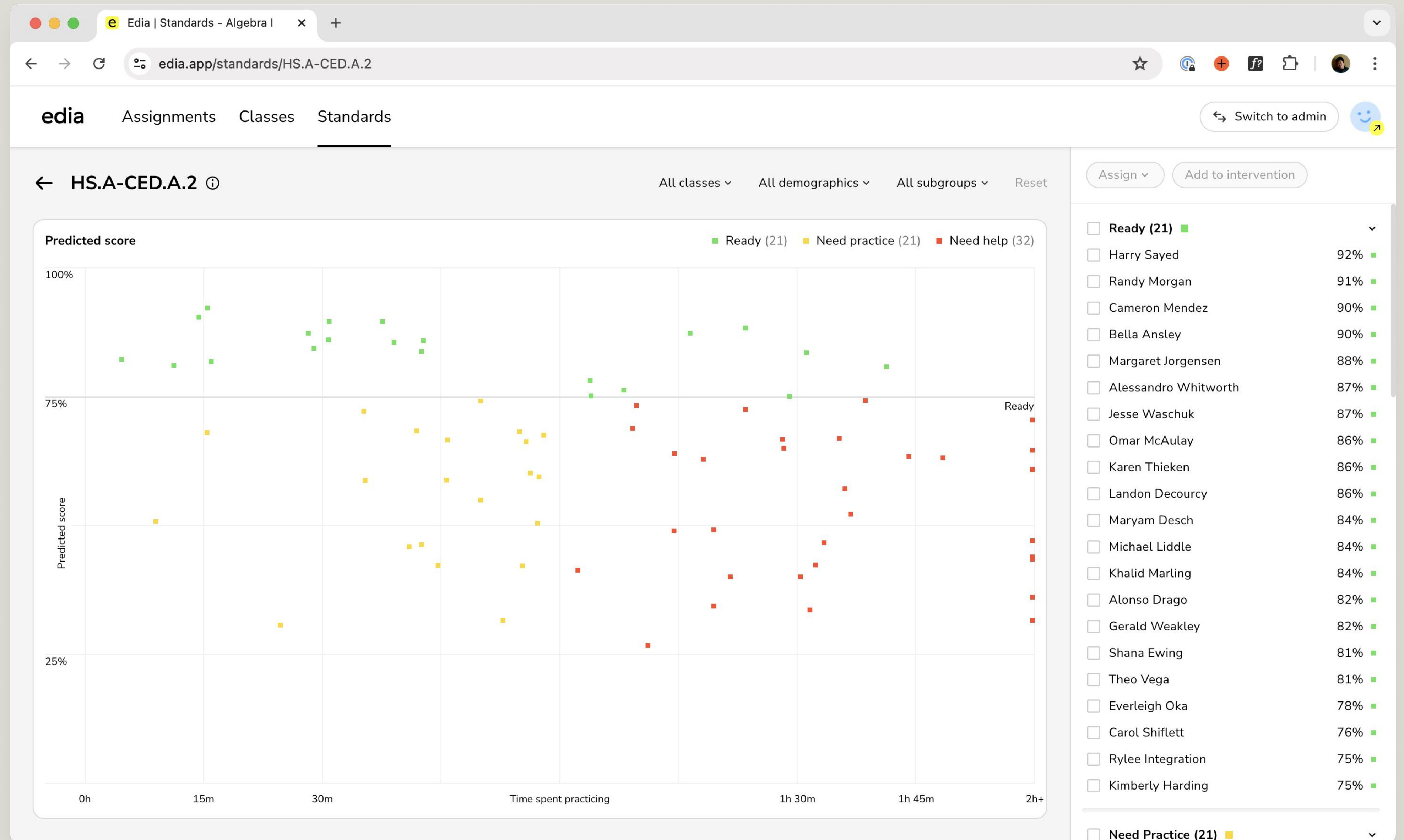
- HS.A-APR.A.1
- HS.A-CED.A.1
- HS.A-CED.A.2
- HS.A-CED.A.3
- HS.A-CED.A.4
- HS.A-REI.A.1
- HS.A-REI.B.3
- HS.A-REI.B.4.a
- HS.A-REI.B.4.b
- HS.A-REI.C.5
- HS.A-REI.C.6
- HS.A-REI.C.7
- HS.A-REI.D.10
- HS.A-REI.D.11
- HS.A-REI.D.12

Some charts show "Not enough data yet". The charts use a color-coded system: green for high performance, yellow for medium, and red for low performance.

Teachers can intervene before a knowledge gap becomes a problem

A math coach in California:

“We love this graph because we can see a student in red, click to see all their assignments, and know immediately what they need help with. This would have taken hours to do in Excel.”



The theoretical ideal of differentiation, realized

Edia generates targeted assignments in one click.

In this screenshot, a teacher selects three students, and assigns a review that only contains problems they need to practice.

On paper, this would have taken hours.

The screenshot shows the Edia app interface for standard HS.A-CED.A.2. The main view is a scatter plot titled "Predicted score" with the y-axis ranging from 25% to 100% and the x-axis representing "Time spent practicing" from 0h to 2h+. Data points are color-coded: green for "Ready (21)" and yellow for "Need practice". A dropdown menu is open, showing options to assign a review to selected students. The selected students are Megan Borha (61%), Sadie Dahl (61%), and Omar Westlake (57%).

Student	Predicted Score
Megan Borha	61%
Sadie Dahl	61%
Omar Westlake	57%
Bautista Dupont	52%
Lucia Choynowska	49%
Zoe Battiston	49%
Sophia Cayless	47%
Alex Rickard	46%
Emika Moy	44%
Danielle Starr	43%
Rachel Draier	42%
Christina Townson	41%
Judith Comstock	40%
Adrian Mc Alpine	40%
Matias Ichee	36%

Case Study 3: Analytics

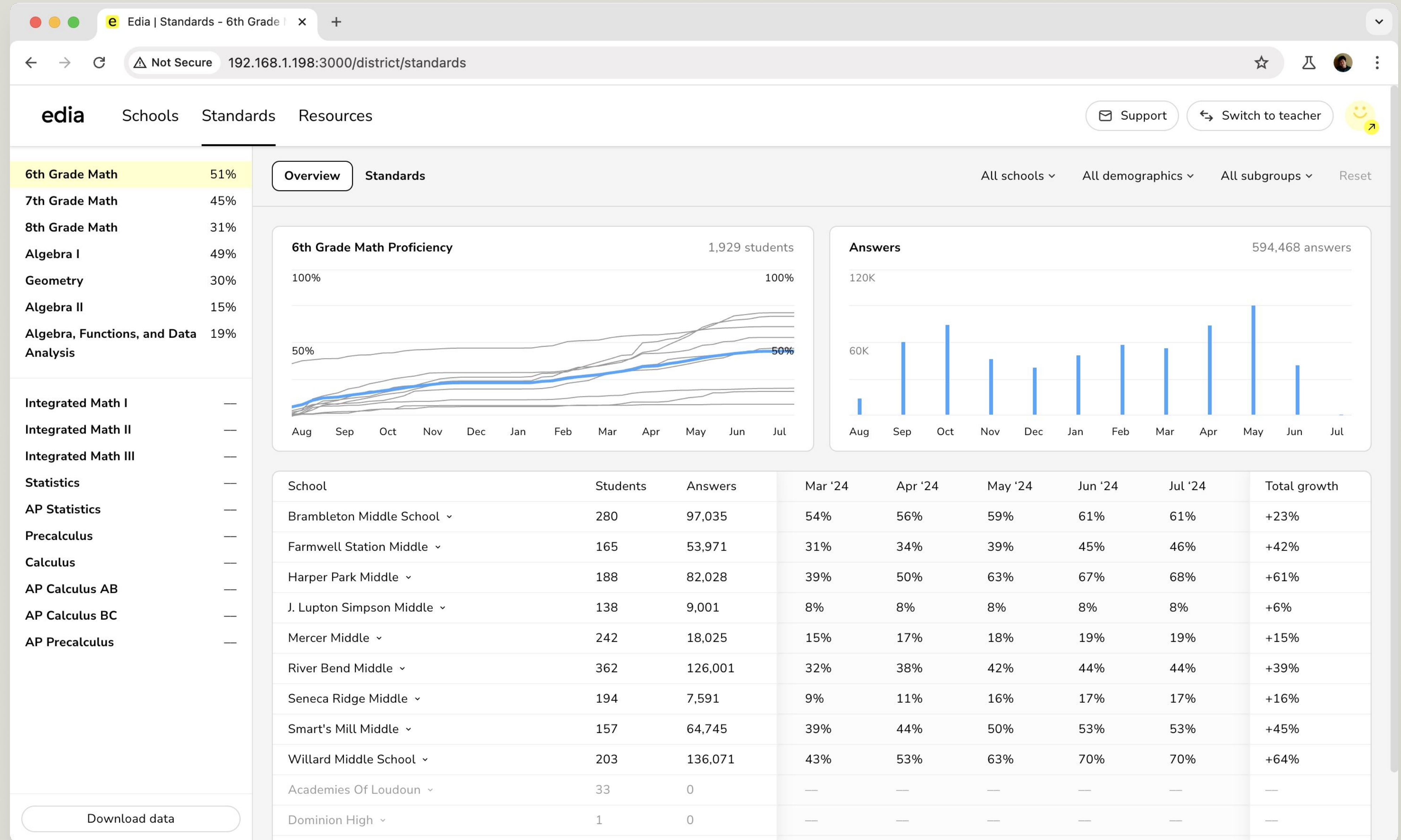
America has a teacher shortage. One of our partner school districts in San Diego sponsors visas for teachers from the Philippines because they can't hire enough math teachers.

Superintendents have to make strategic decisions about where to allocate the teachers they have and how to empower them. Which after-school programs need staff? Do teachers need additional training? Is the curriculum working, or does it need revisions?

The information to make those decisions requires talking to each teacher individually, but our admin dashboard makes that information more visible. This was requested by every district we partner with.

An entire district in one screen

District administrators can see the growth of their entire district in one dashboard.



Don't make an Excel spreadsheet. Just filter.

To compare math scores across schools or demographics, school admins would chase down dozens of teachers to export data, then spend days merging CSV files into a massive Excel spreadsheet.

That's now just two clicks.

The screenshot shows the Edia Standards dashboard for 6th Grade Math. The interface includes a sidebar with course categories, a main content area with charts and a table, and a top navigation bar. A demographic filter dropdown is currently open, showing a list of demographic groups with their respective student counts.

Demographic Filter Data:

Demographic	Count
<input checked="" type="checkbox"/> American Indian	16
<input type="checkbox"/> Asian	592
<input checked="" type="checkbox"/> Black	290
<input checked="" type="checkbox"/> Hispanic (Black)	32
<input checked="" type="checkbox"/> Hispanic (White)	514
<input checked="" type="checkbox"/> Hispanic (Other)	616
<input checked="" type="checkbox"/> Pacific Islander	1
<input type="checkbox"/> White	1316
<input type="checkbox"/> Other	291

6th Grade Math Proficiency Data (734 students):

Month	Proficiency %
Aug	~10%
Sep	~15%
Oct	~20%
Nov	~25%
Dec	~30%
Jan	~35%
Feb	~40%
Mar	~45%
Apr	~50%
May	~55%
Jun	~60%
Jul	~65%

Answers Data (212,485 answers):

Month	Answers
Aug	~5K
Sep	~15K
Apr	~25K
May	~35K
Jun	~15K
Jul	~5K

School Performance Table:

School	Students	Answers	Mar '24	Apr '24	May '24	Jun '24	Jul '24	Total growth
Brambleton Middle School	61	18,327	51%	53%	56%	58%	58%	+23%
Farmwell Station Middle	59	17,409	29%	32%	37%	42%	43%	+40%
Harper Park Middle	86	37,451	38%	48%	61%	66%	67%	+60%
J. Lupton Simpson Middle	70	4,105	7%	7%	7%	8%	8%	+6%
Mercer Middle	54	3,786	13%	15%	16%	16%	16%	+12%
River Bend Middle	159	59,024	30%	37%	40%	43%	43%	+39%
Seneca Ridge Middle	113	3,703	9%	11%	15%	17%	17%	+16%
Smart's Mill Middle	82	37,194	38%	43%	48%	52%	52%	+45%
Willard Middle School	50	31,486	41%	51%	60%	68%	68%	+62%
Sterling Middle	13	0	—	—	—	—	—	—

My role at Edia

YEAR	2020	2021	2022	2023	2024
STAFF	<u>3 employees</u> CEO 1 Engineer 1 Designer		<u>5 employees</u> +2 Content Writers	<u>9 employees</u> +1 Sales +1 Customer Success +2 Content Writers	<u>23 employees</u> +1 Head of Sales +11 Sales Team +2 Content Writers
STAGE	<p>Our initial goal was to make a free, high-quality product for math teachers that would spread organically through word of mouth. Premium content and more controls (eg. granular due dates, advanced questions) would be an upsell. We also planned to sell tutoring and automated report cards to parents.</p> <p>Our naïve logic was that building a sales team is hard, but building a good product with self-serve purchase options would be easier and scale much faster.</p>		<p>We refined our free product until we had steady growth and 80%+ retention. In-product surveys showed that teachers loved the product. But our premium Edia+ product made less than \$1K per month and our parent product had no usage.</p> <p>We learned that the main reason teachers didn't use Edia was lack of content, and that teachers had little influence over software purchasing decisions. So our CEO hired a content writing team and started reaching out to department heads and principals.</p>		<p>As Edia gets more involved at the principal or district administrator level, these customers want Edia to show them the data to make better decisions. The future of Edia is building the “business dashboard” for public schools.</p> <p>We are working on a pilot to co-design a new dashboard with a school district in Colorado, and will sell it as our second product in 2025.</p>
MY ROLE	Designed assignment creator for math teachers Designed integrations with EdTech platforms (Google, Clever) Designed premium product with Stripe payment integration Product design for parent product (mobile UI) Marketing emails for parent product		Expand supported question types on Edia Mobile + desktop interfaces for all questions Iterations, refinements, redesigns of finding content. Tracked feedback surveys and # of successful content searches		Build progress monitoring & remedial math programs for teachers and admins Work with Colorado Springs D11 district to co-design and pilot an attendance product Support marketing team with one-pagers, RFPs, presentations, product comparisons.

Learnings

Ask your customers

3 non-teachers built a product for teachers, which could be seen as a red flag.

But it gave us the humbleness to understand that we are not the user, and we need to ask our customers for feedback constantly.

There is a different standard for software you have to rely on every day to do your job.

Simple designs = greater flexibility

Another issue with being non-teachers is that we didn't start the company with the full picture of how a school district works.

Our product suite was built incrementally as we learned about how educational organizations are structured, which resulted in a lot of redesigning UIs.

This would have been far more painful if we designed intricate, complex interfaces, but from the beginning we kept our code and design modular and easy to rearrange.

Stay lean until the product is defined

The first three years of the company were lean. There were only three of us coding and designing the product, writing thousands of math problems, or doing email and phone outreach to schools.

We changed the product several times, and this would have been much harder if we had large sales, training, and content teams.

Now that we've figured out our customer, the story that resonates with them, and the product they need, it's much easier to scale.

Additional work samples

Various one-pagers I've designed for our sales team

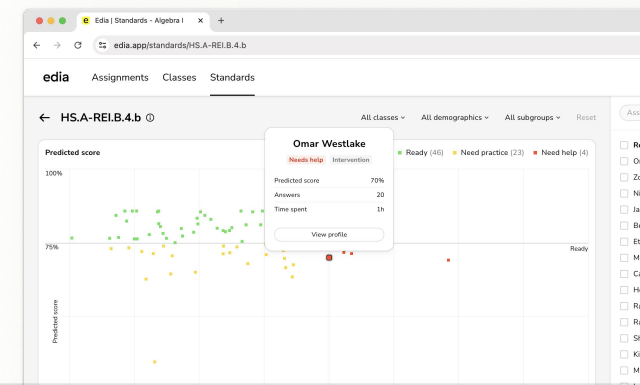


Contact John Appleseed
appleseed@edia.app

The only 6-12 Math solution that guarantees better outcomes on STAAR

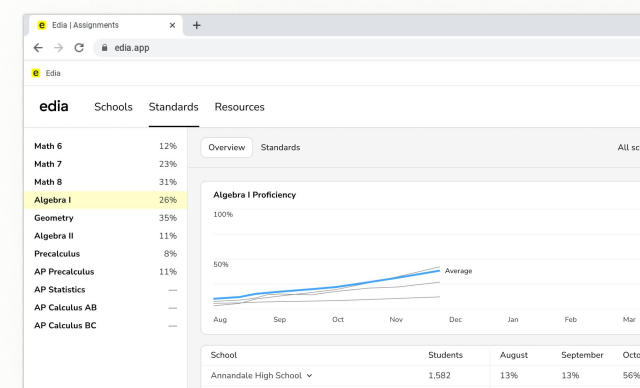
Teachers get real-time data to differentiate and automatically personalize assignments

Data on Edia updates in real-time, not months later. Easily identify which standards students need help with and differentiate assignments in one click.



Admins get visibility across every grade level, campus, class, demographic, and student

Live dashboards answer critical questions about proficiency on end-of-year exams, gaps in instruction, or where to allocate staff.



Students get immediate AI coaching on every math problem

AI gives students personalized feedback that responds to their answers. Carefully engineered to *guide* the student, not give the answer.

Find the roots and maximum of the quadratic equation below. If there are no real roots, write "DNE" (does not exist) on the answer field.

$$f(x) = -\frac{1}{2}(x-7)^2 - 6$$

Roots can be found by setting $f(x) = 0$.

$$f(x) = -\frac{1}{2}(x-7)$$

$$0 = -\frac{1}{2}(x-7)$$

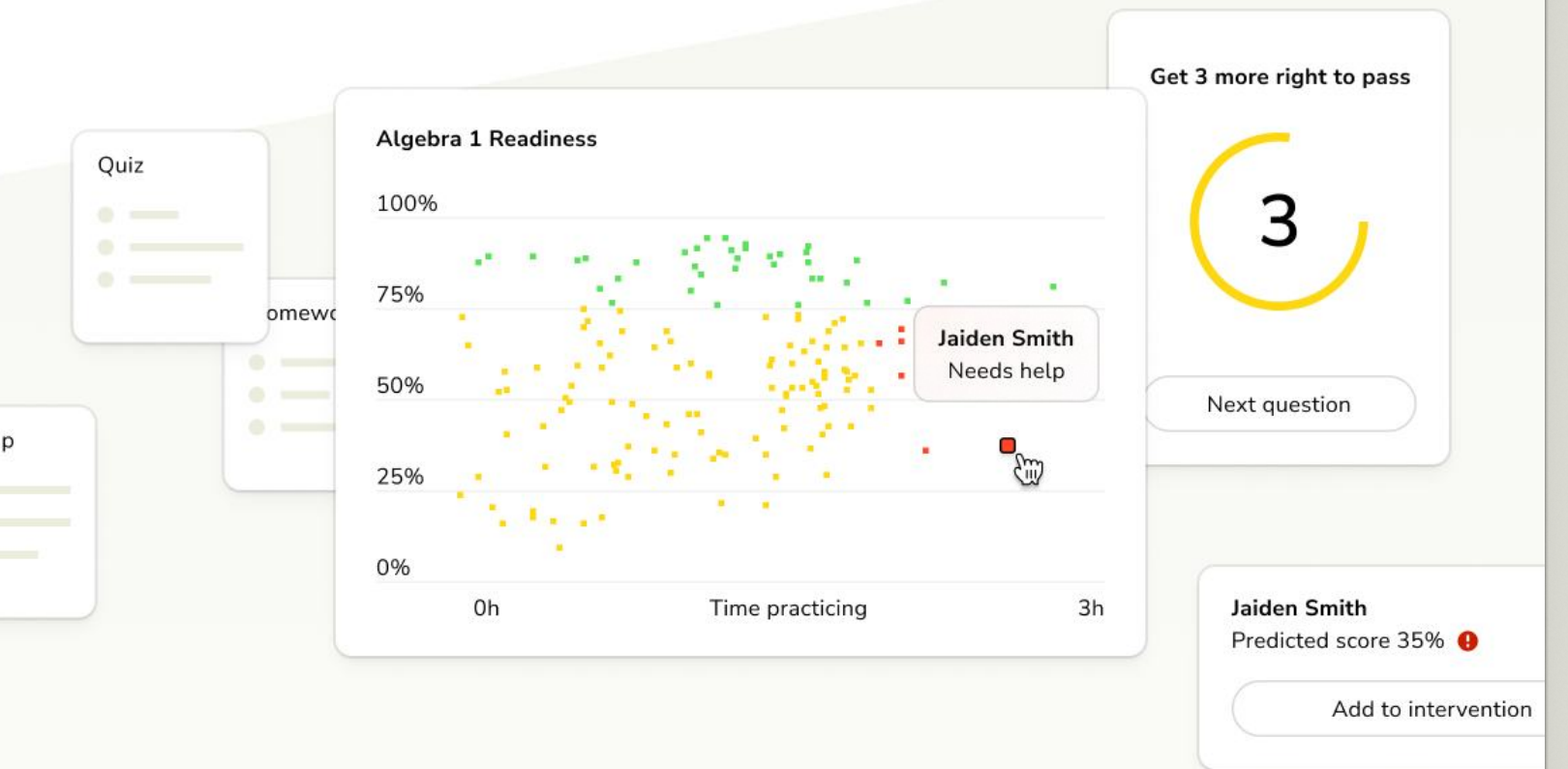
AI Please check your work



Scan to request more info
Andy Graham (407) 920-4499
Dan Watters (843) 412-6468

Edia guarantees improvement on the SC Ready

Edia is the only 6-12 math solution that connects all tiers of instruction, so that every student can succeed at math.



"Edia has just about everything you can ask for when it comes to building high level assignments for any high school classroom. It's been a big hit among my students."
- Math Teacher, New Jersey

"A student told me that because of Edia, this was the first time she's taken a math exam and didn't feel anxious the night before."
- K-12 Math Coordinator, Texas

"It is hard to find programs that Math teachers can customize and see real results. Edia is a GAME CHANGER!"
- Math Dept. Chair, Virginia

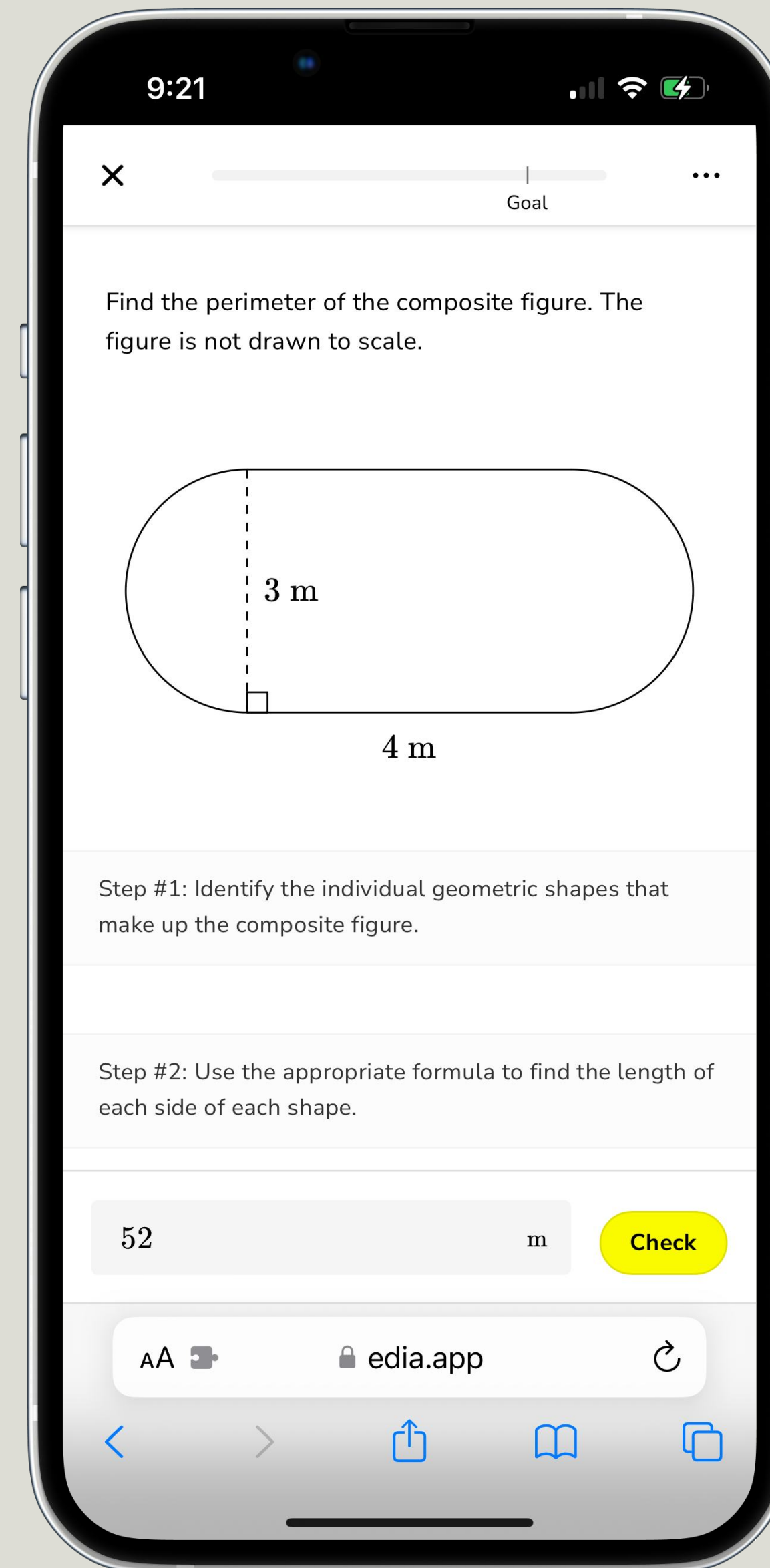
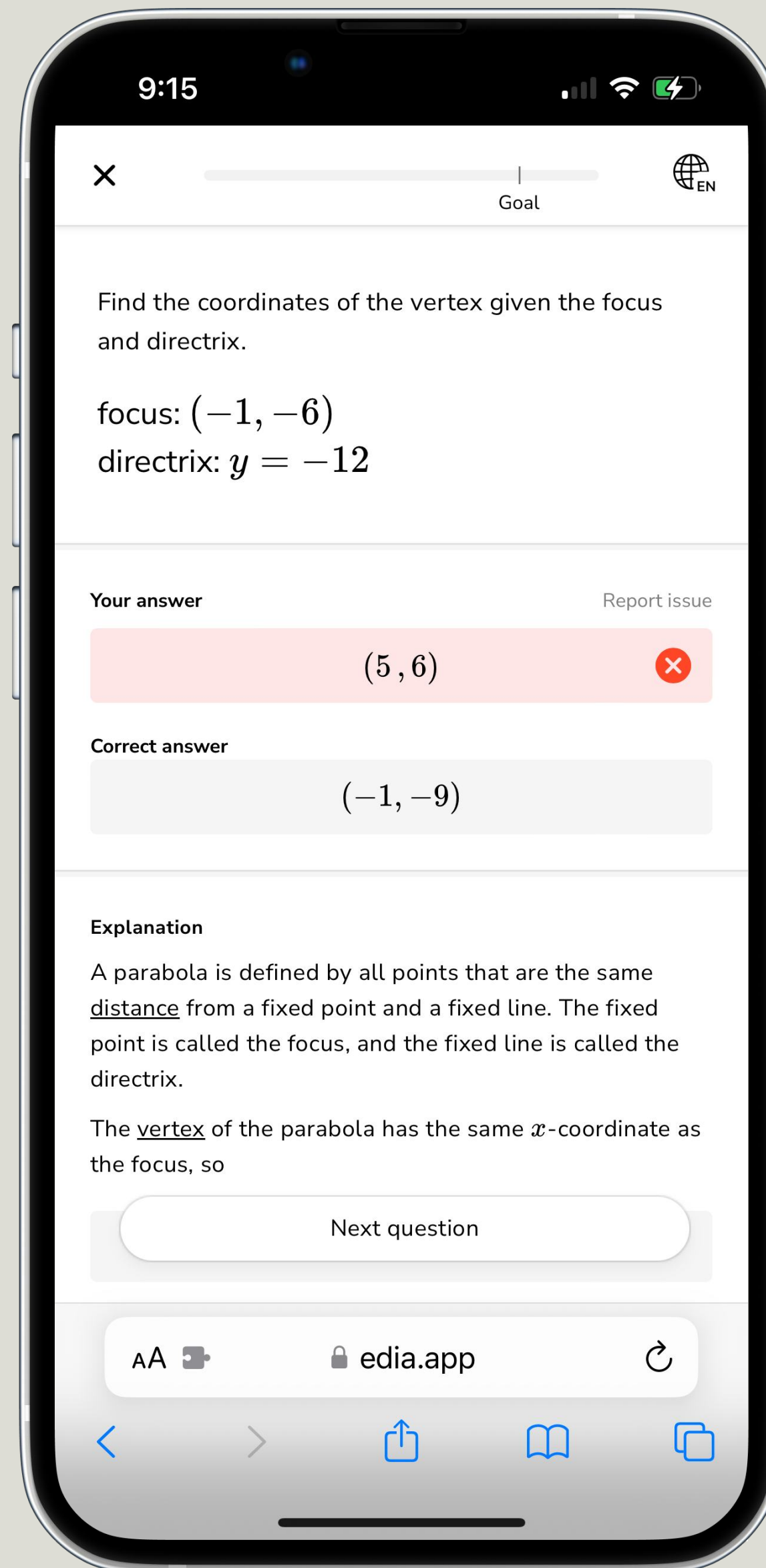
"I don't ever want to go a single day without having Edia."
- Math Teacher, California



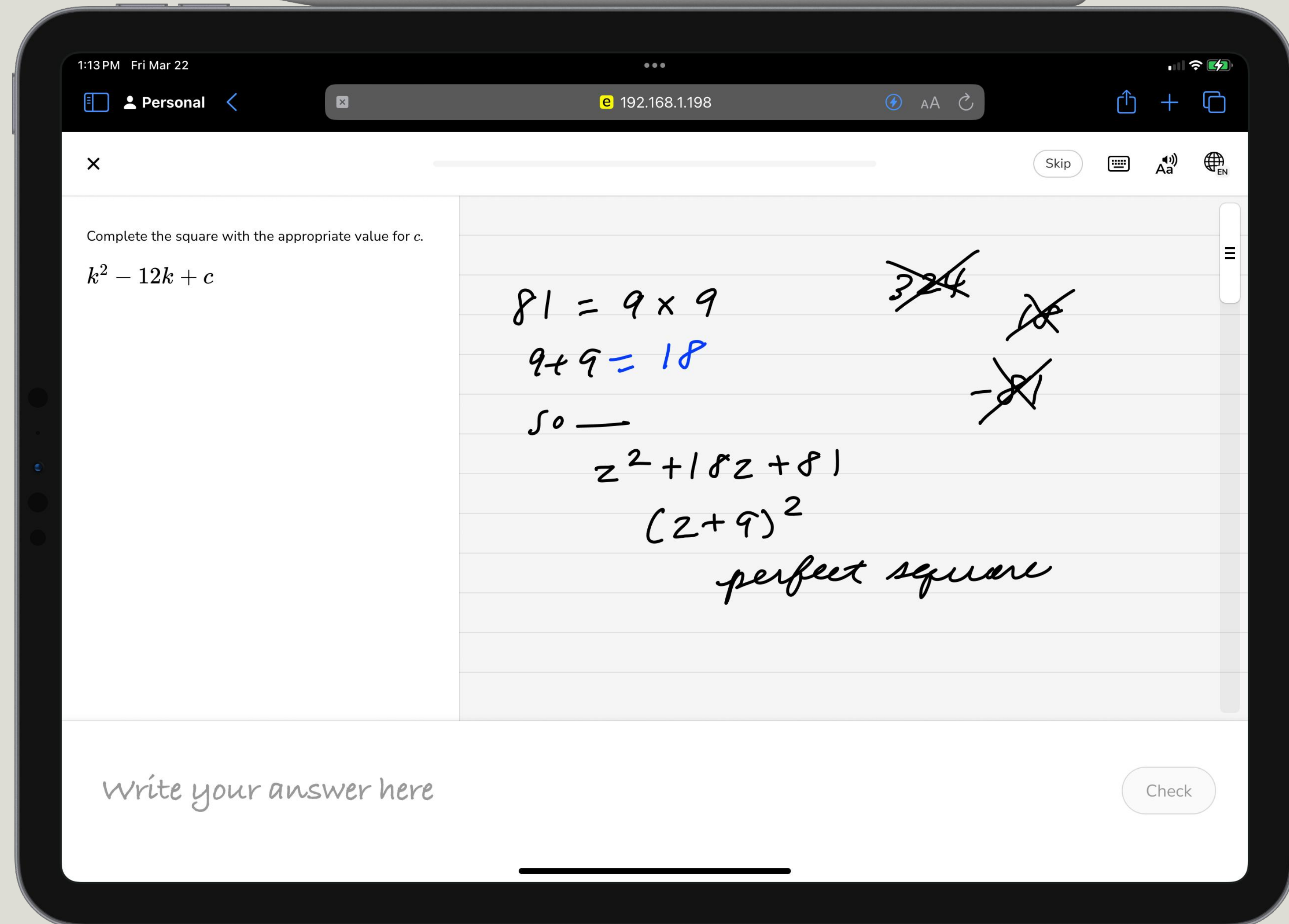
Column wraps designed for a conference in North Carolina



Every screen on Edia is designed for both desktop & mobile.



We're expanding to K-5,
where tablets are more
common.



1:13 PM Fri Mar 22

Personal < 192.168.1.198

Skip

Complete the square with the appropriate value for c .

$k^2 - 12k + c$

$81 = 9 \times 9$

$9 + 9 = 18$

So —

$z^2 + 18z + 81$

$(z + 9)^2$

perfect square

Write your answer here

Check

What I can do for you

Early-stage startups

Do-it-all generalist.

- Rapid iterations to find product-market fit. I've been through early-stage enough times to understand the balance between moving fast and high craft.
- Create a simple brand, logo, and lightweight design system that can be expanded as the company evolves.
- Marketing materials (email, digital ads, flyers, banners, stickers, LinkedIn banners, documents, etc.)

Mid-size

Senior/Staff IC

- Complete projects start to finish with minimal guidance and high craft
- Shape early-stage projects with sprints, brainstorming, and rapid prototyping
- Make design move faster by building internal tooling, contributing to design systems, and creating templates that make researchers, PMs, and copywriters more effective designers too
- Coach/mentor teammates

What I'm interested in

B2B with consumer sensibilities.

Products in complex industries that break through by designing effortless interfaces. See: Ramp, Slack, Gong.

Marketing.

I've worked at startups with great products that struggle with marketing. What's our message, how do we say it, and how do we know it's landing with customers? How do we keep the team aligned and maintain a consistent style across our touchpoints? This is a field primed for disruption by AI. See: Jasper AI, Canva

Thank you
hcokim.com