



Making Math Personal for ALL Learners

Blended Learning “Khan” Work for You!

March 5, 2015



A Little Lesson in Grammar.....

- ❖ Take one minute to open the envelope, take out all the words, and create an inspiring sentence!
- ❖ The best grammatically correct sentence (no implied words) wins an AMAZING prize!



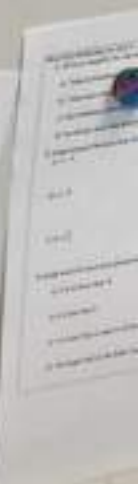
Session Goals

- ❖ Discussion and background about the WCPSS initiative
- ❖ Brief introduction to Khan Academy and Blended Learning
- ❖ Preliminary results
- ❖ Hear from students (on video)
- ❖ Meet the Teachers - Brianna Tucker and Julie Resua from Mills Park Middle School
- ❖ Questions?

MATH 7

BEGINNING OF CLASS

- Group A: Grab ipad, log on, Must make 600 points today!
- Group B: Paste ML #1 on page 1a



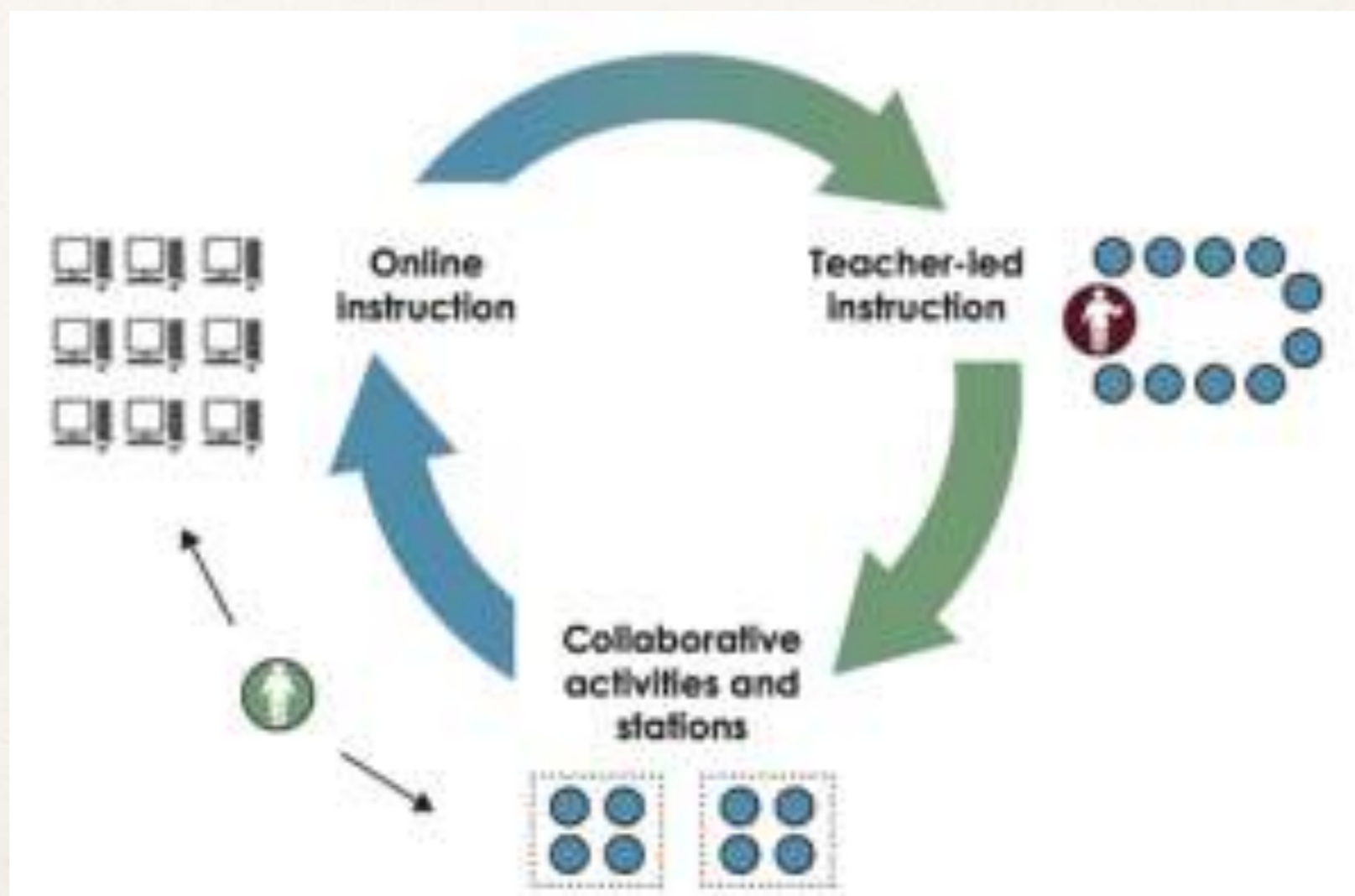
Why?



Unsatisfactory growth from students in
ICR and Resource middle school math
classes

Blended Learning Overview

[Blended Learning Overview Video from The Learning Accelerator](#)



Graphic Courtesy: Dreambox Learning

Challenges



- ❖ Students have a WIDE variety of needs
- ❖ Students may be unmotivated
- ❖ Possible behavior issues due to lack of confidence and other factors
- ❖ Not enough time to address student needs
- ❖ Felt handcuffed to pacing guides leaving some behind and others unchallenged

Blended Learning



- ❖ Allows you to FOCUS on the skills students need help with
- ❖ Allows you real-time access to student data
- ❖ Allows students to be accountable for their own learning and for more opportunities to learn

Blended Learning Myths

- ❖ Students learn from the computer making teachers less important.
- ❖ My instructional and planning responsibilities will decrease.
- ❖ My interaction with students will decrease.

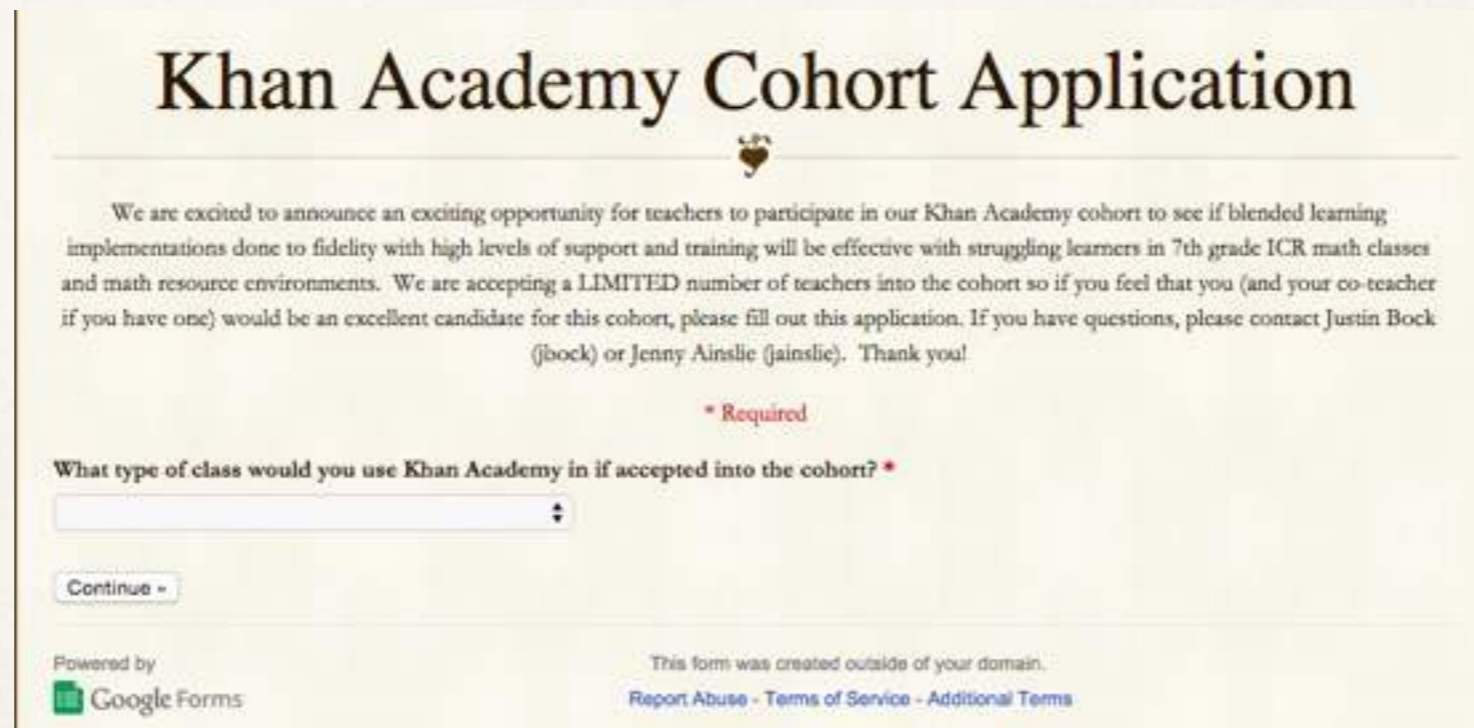
Myth
BUSTED

The Main Takeaway for Teachers

*Khan Academy will **INFORM** your instruction allowing you to meet the individual needs of your students.*

Our Initiative Timeline

- ❖ Application process started July, 2014




Khan Academy Cohort Application

We are excited to announce an exciting opportunity for teachers to participate in our Khan Academy cohort to see if blended learning implementations done to fidelity with high levels of support and training will be effective with struggling learners in 7th grade ICR math classes and math resource environments. We are accepting a LIMITED number of teachers into the cohort so if you feel that you (and your co-teacher if you have one) would be an excellent candidate for this cohort, please fill out this application. If you have questions, please contact Justin Bock (jbock) or Jenny Ainslie (jainslie). Thank you!

*** Required**

What type of class would you use Khan Academy in if accepted into the cohort? *

[Continue >](#)

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- ❖ Teachers Selected August, 2014

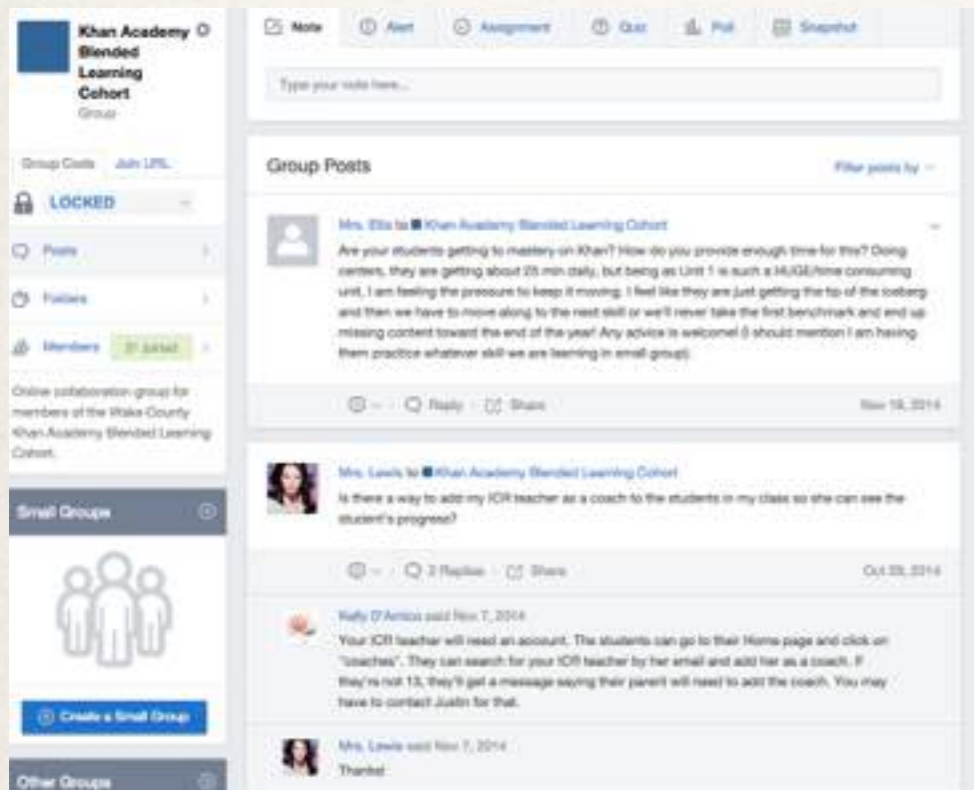
Our Initiative Timeline

- ❖ Khan Kick-Off with Dr. Eric Kellerer - 9/11/14 (37 teachers attended)



Our Initiative Timeline

- ❖ Edmodo Group Collaboration and Cohort Website Set-up: <http://khancohort.weebly.com>



- ❖ Follow-up Meeting for ICR pairs - 1/12/15

What does KA look like from the student perspective?

View full list of 7th grade (U.S.) content

2,134

0 0 0 0 2 2

7th grade (U.S.)

MISSION PROGRESS



- 0 skills mastered
- 0 skills level two
- 6 skills level one
- 0 skills practiced
- 97 skills not started

[Show all skills](#)

UPCOMING BADGES



Finish 5 more practice tasks to get the Geek of the week: practice badge

RECENTLY FINISHED

Mastery Challenge

+550 energy points

SKILLS UP NEXT FOR YOU



MASTERY CHALLENGE

Strengthen skills you've already practiced

Start



YOU ADDED

Multiplying fractions by fractions word problems

Remove

Practice



YOU ADDED

Equivalent forms of expressions 1

Remove

Practice



YOU ADDED

Surface area using nets

Use the net of a 3D figure to find its surface area.

Remove

Practice

Practice and Mastery Challenges

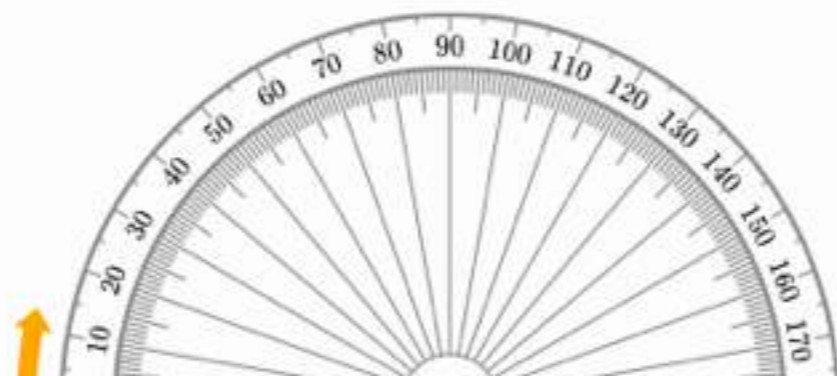
Measuring angles

Get the first 1 correct, or 5 in a row



Measure this angle in degrees.

- an integer, like 6



Answer

Check Answer

Show me how

I'd like a hint

Stuck? Watch a video.



- Measuring angles in degrees
- Measuring angles using a protractor
- More angle measurements using a protractor

Video Explanations of Skills

Angle basics The naming of an angle is related to the line segments that create it. We'll also learn about the angle's vertex. Come on. Let's do this.

Angle

A is vertex of the angle

$\angle BAC$ or $\angle CAB$


$\angle GHE$

YouTube

0:00 / 6:49

Options Share Info

Incentives - Avatars and Badges

 **Justin Bock** @bockjustin
NCTIES Presenter Extraordinaire! If you are reading this, you are awesome!
Cary, NC, United States

Edit Profile



2,134

Home Profile **Badges** Progress Discussion Programs Coaches



Meteorite badges are common and easy to earn when just getting started.

Badges Earned

 Challenge Accepted <i>Last achieved 5 months ago in Math</i>	 Cypress <i>Last achieved 6 months ago</i>
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Possible Badges

 Picking Up Steam 100 <i>Quickly & correctly answer 5 skill problems in a row (time limit depends on skill difficulty)</i>	 Just Getting Started 100 <i>Achieve mastery in 3 unique skills</i>	 Inspiration 500 <i>Another user created a program based on one of yours</i>
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 1000	 1000	 1000
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What does KA look like from the teacher perspective?

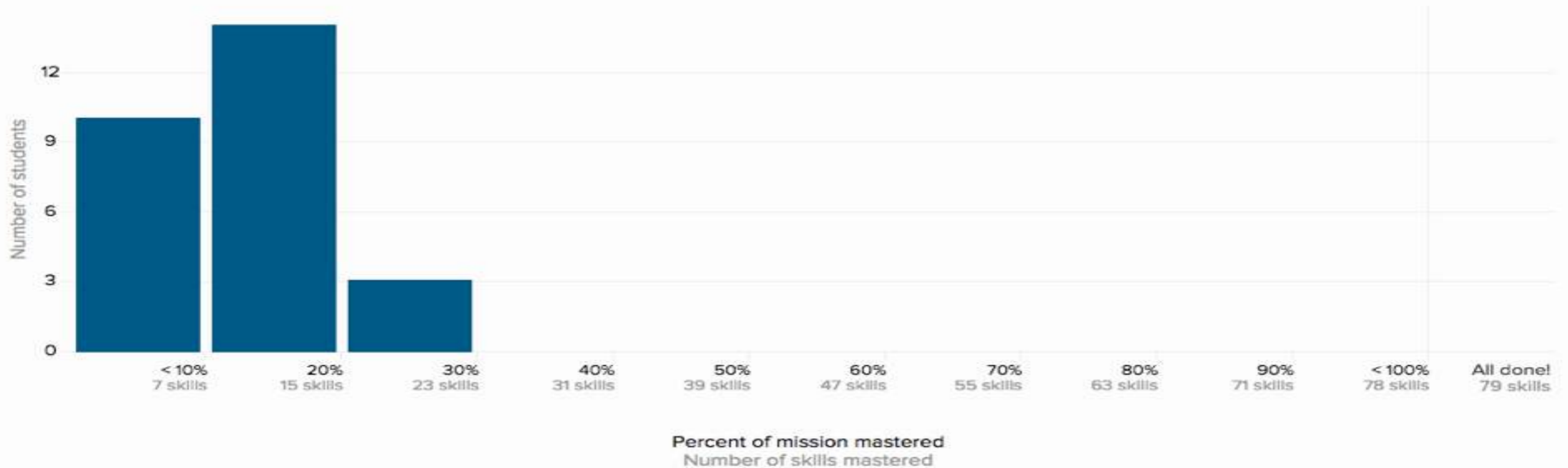
Class: DMS - Edwards/Kaczor 2

Mission: 7th grade (U.S.)

Download

Total skills mastered in the 7th grade (U.S.) mission

Class: DMS - Edwards/Kaczor 2



Student level: Any level

Within mission: Find topics or skills

Activity from: All time

Student Name ^	■	■	⊙	Points
aarinsantiago1	5	7	406	22,360
airykastallings9	7	17	727	65,291
amanimiddleton8	7	11	784	36,847
anthonyfreeman9	3	19	540	52,009
ashanteramirez9	7	10	591	36,417
brandonmiranda9	6	13	822	57,604
christianbailey9	3	19	436	50,180

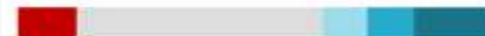
[aarinsantiago1](#)

Make a recommendation


Skills Recommendations Videos Badges Activity Focus

Total 7th grade (U.S.) progress

MISSION FOUNDATIONS



Class Skills Mastered/Struggling/ Time Spent

Student Name				Points
serinanguyen1	1	7	412	51,390
emilybly9	2	4	381	41,370
madisonrower9	1	7	369	49,043
neryleonfelipe9	1	5	359	47,810
vinitaravivarma1	1	4	354	64,487
shamlahsue9	1	0	337	13,175
klerramontanez9	2	1	331	29,535
brettrepage9	2	4	322	50,509
brewwhite9	0	4	322	36,181
lordanwalker9	0	10	291	25,005

Specific Topics Mastered/Practiced/ Struggling

Skills Recommendations Videos Badges Activity Focus

Total 7th grade (U.S.) progress

MISSION FOUNDATIONS

MISSION-LEVEL SKILLS 0 / 79

Activity from: All time Only show attempted skills

MISSION FOUNDATIONS +7

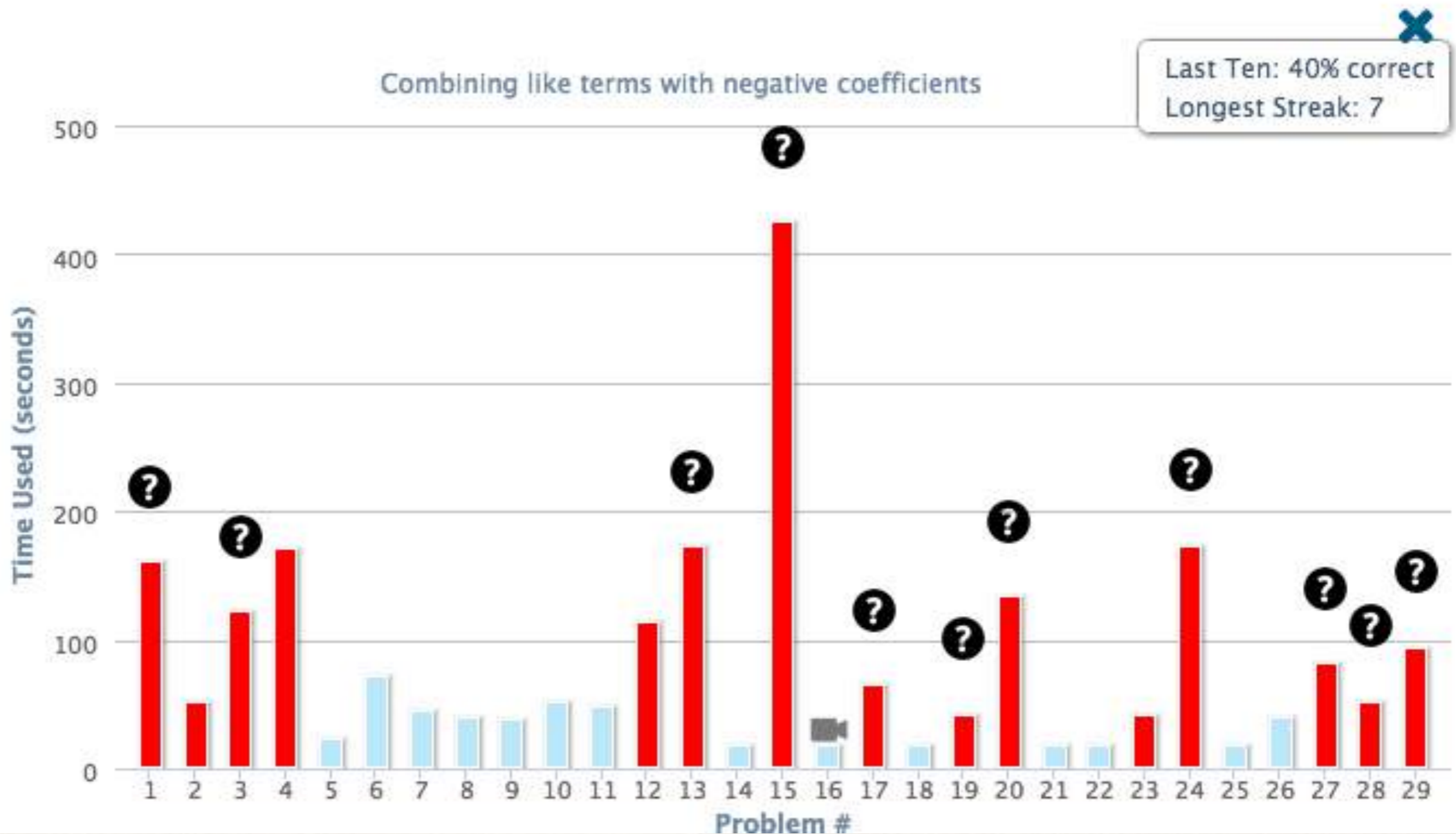
Skill	Level	Questions	
Dividing decimals 4	↑ Mastered	1	3
One-step equations with addition and subtraction	↑ Mastered	1	-
Rate problems 0.5	↑ Mastered	1	1
Negative numbers on the number line	↑ Mastered	6	1
Identifying parts of expressions	↑ Mastered	-	-
Division by 2 digits	↑ Mastered	38	67
Multi-digit multiplication	↑ Mastered	6	6

NEGATIVE NUMBERS: ADDITION AND SUBTRACTION

Skill	Level	Questions	
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Actual Questions Answered with Detail

Skills » Combining like terms with negative coefficients



Class Detail on Specific Topics

VARIABLES AND EXPRESSIONS

Combining like terms with negative coefficients

Combine the like terms to make a simpler expression:

$$-5r + 8r + 5$$

Simplify algebraic expressions by combining like terms. Coefficients on some terms are negative.

[Open skill in a new tab](#)

Struggling

aarjobanerjee9
 brettrepape9
 elijahcannon9
 kalebtrofatter1
 kaylasteinberg
 kierramontanez9
 kobebrooks7
 kylereilly1
 mahnoorsalman9
 serinanguyen1
 shamiahshue9
 spencerhulse1
 vinitaravivarma1
 zariaboyd1

Needs Practice

brewwhite9
 briannalilly9
 edisonyeung1
 emilybly9
 esmyrivera9
 jaredscott9
 jordanwalker9
 mahmoudmahmoud2
 reaganbruns9
 ryanbrown
 serinanguyen
 trevanhibbard9
 tylervammino9
 zacquirywatson7

Practiced

Level One

Level Two

Mastered

madisonrower9
 neryleonfelipe9

Make Specific Recommendations

▼ VARIABLES AND EXPRESSIONS

▼ Combining like terms with negative coefficients

Combine the like terms to make a simpler expression:

$$-5r + 8r + 5$$

Simplify algebraic expressions by combining like terms. Coefficients on some terms are negative.

[Open skill in a new tab](#)

Struggling

- aarjobanerjee9
- brettrepage9
- elijahcannon9
- kalebtrofatter1
- kaylasteinberg
- kierramontanez9
- kobebrooks7
- kylereilly1
- mahnoorsalman9
- serinanguyen1
- shamiahsue9
- spencerhulse1
- vinitaravivarma1
- zariaboyd1

Needs Practice

- brewwhite9
- briannalilly9
- edisonyeung1
- emilybly9
- esmyrivera9
- jaredscott9
- jordanwalker9
- mahmoudmahmo...
- reaganbruns9
- ryanbrown
- serinanguyen
- trevanhibbard9
- tylervammino9
- zacquirywatson7

Practiced

Level One

Level Two

Mastered

- madisonrower9
- neryleonfelipe9

+ Recommendation options

[Cancel](#) or

[Recommend to 14 students](#)

Class Detail By Skill

Class: MFM3 - Residual/Week ▾ Filter: Find topics or skills ▾ Struggling

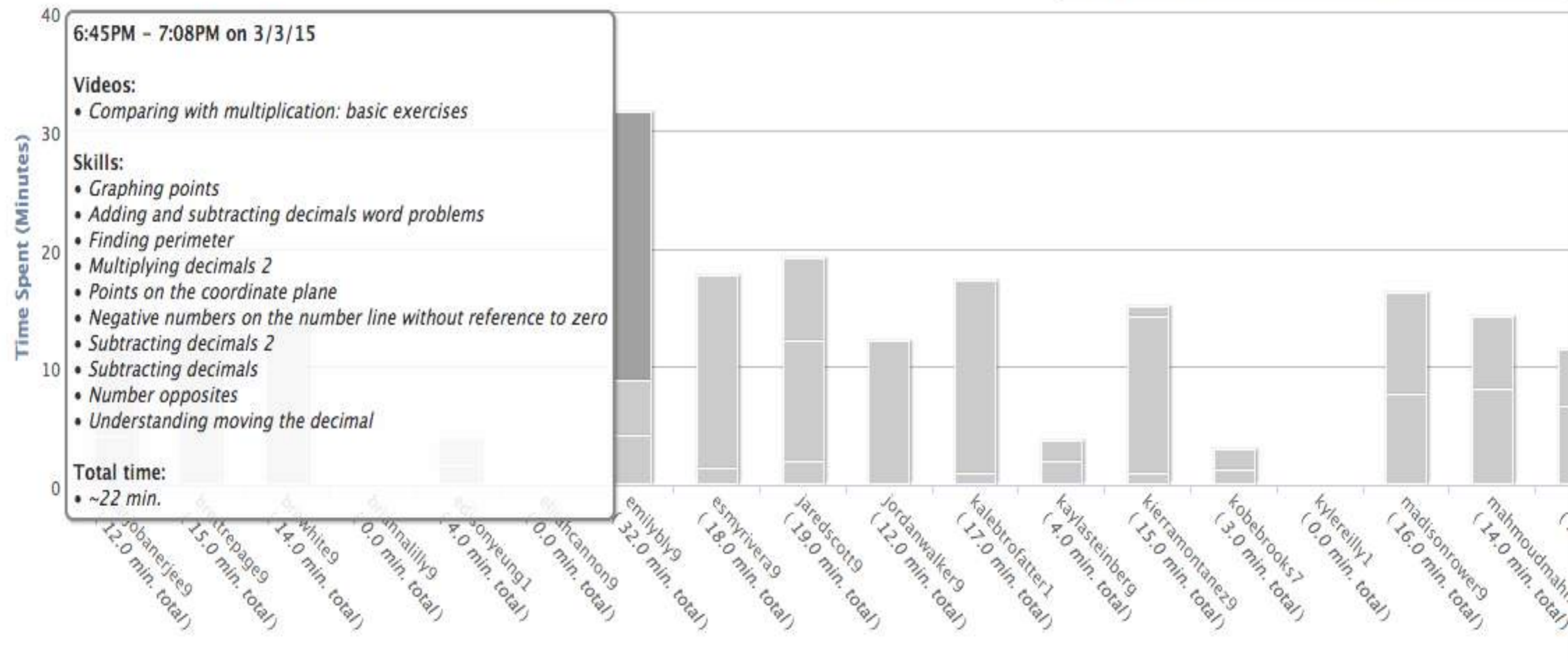
Student status	Comparing with multiplication	Multiplication and division word problems	Multi-digit multiplication	Division with remainders	Division by 2 digits	Multi-digit division	Number opposites
arjobanerjee9	Light Blue	Light Blue	Dark Blue	Dark Blue	Dark Blue	Light Blue	Dark Blue
brettrep9	Light Blue	Dark Blue	Red	Dark Blue	Dark Blue	Dark Blue	Light Blue
rewhite9	Light Blue	Light Blue	Light Blue	Dark Blue	Dark Blue	Light Blue	Light Blue
riannalilly9	Light Blue	Light Blue	Light Blue	Dark Blue	Dark Blue	Light Blue	Light Blue
disonyeung1	Light Blue	Light Blue	Light Blue	Red	Light Blue	Light Blue	Light Blue
iljahcannon9	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
milybly9	Light Blue	Light Blue	Light Blue	Dark Blue	Dark Blue	Light Blue	Light Blue
smyrivera9	Light Blue	Light Blue	Dark Blue	Light Blue	Light Blue	Light Blue	Dark Blue
aredscott9	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
ordanwalker9	Light Blue	Light Blue	Dark Blue	Dark Blue	Dark Blue	Red	Light Blue
alebtrofatter1	Light Blue	Light Blue	Dark Blue	Dark Blue	Dark Blue	Dark Blue	Light Blue
aylasteinberg	Light Blue	Light Blue	Dark Blue	Red	Light Blue	Light Blue	Light Blue
lerramontanez9	Light Blue	Light Blue	Red	Dark Blue	Light Blue	Light Blue	Red
obebrooks7	Light Blue	Light Blue	Light Blue	Dark Blue	Dark Blue	Dark Blue	Light Blue
ylereilly1	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
nadisonrower9	Light Blue	Light Blue	Dark Blue	Dark Blue	Dark Blue	Red	Dark Blue
nahmoudmahmoud2	Light Blue	Dark Blue	Light Blue	Dark Blue	Dark Blue	Dark Blue	Dark Blue
nahnoorsalman9	Light Blue	Light Blue	Dark Blue	Dark Blue	Dark Blue	Light Blue	Light Blue
andersonfili9	Light Blue	Light Blue	Dark Blue	Dark Blue	Dark Blue	Dark Blue	Light Blue

brettrep9
Multi-digit division
 Status: Mastered
 Last attempted: 5 months ago
 Problems attempted: 1

Activity During/After School

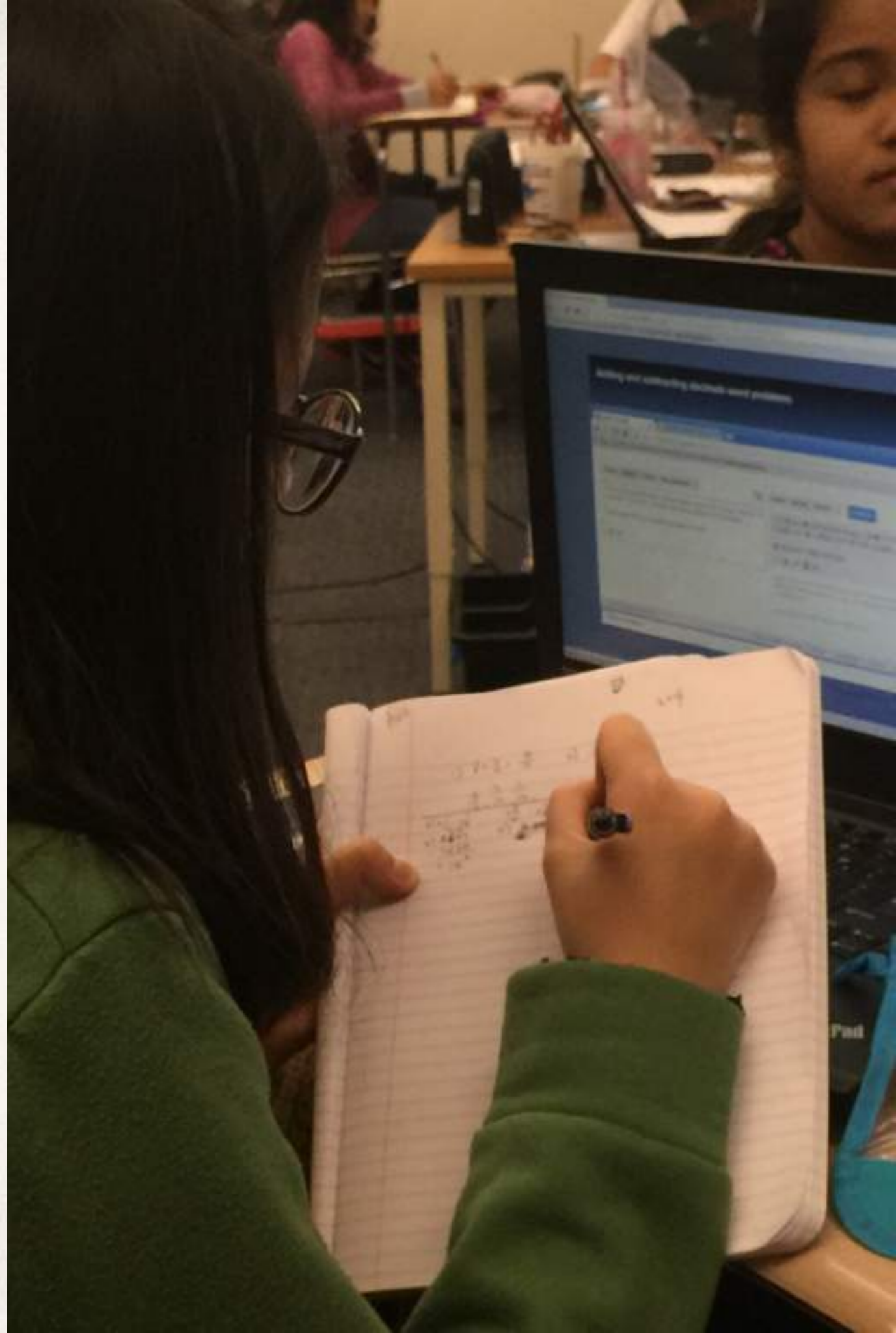
Time spent on Khan Academy per student. Class: **MPMS - Resua/Webb** Activity from: **Last 30 days**

During normal school hours
 Outside of school hours



Some Preliminary Khan Data

As of 1/12/2015



7th Grade ICR Program Data

- ❖ 410 students spent over an hour TOTAL minutes in program so far
- ❖ Two students have logged over 1,000 minutes (almost 17 hours individually)
- ❖ 113,967 TOTAL MINUTES spent in Khan (almost 1,900 total student hours - 1,058 highest individual)
- ❖ 1,087 skills identified as STRUGGLING

7th Grade ICR Program Data

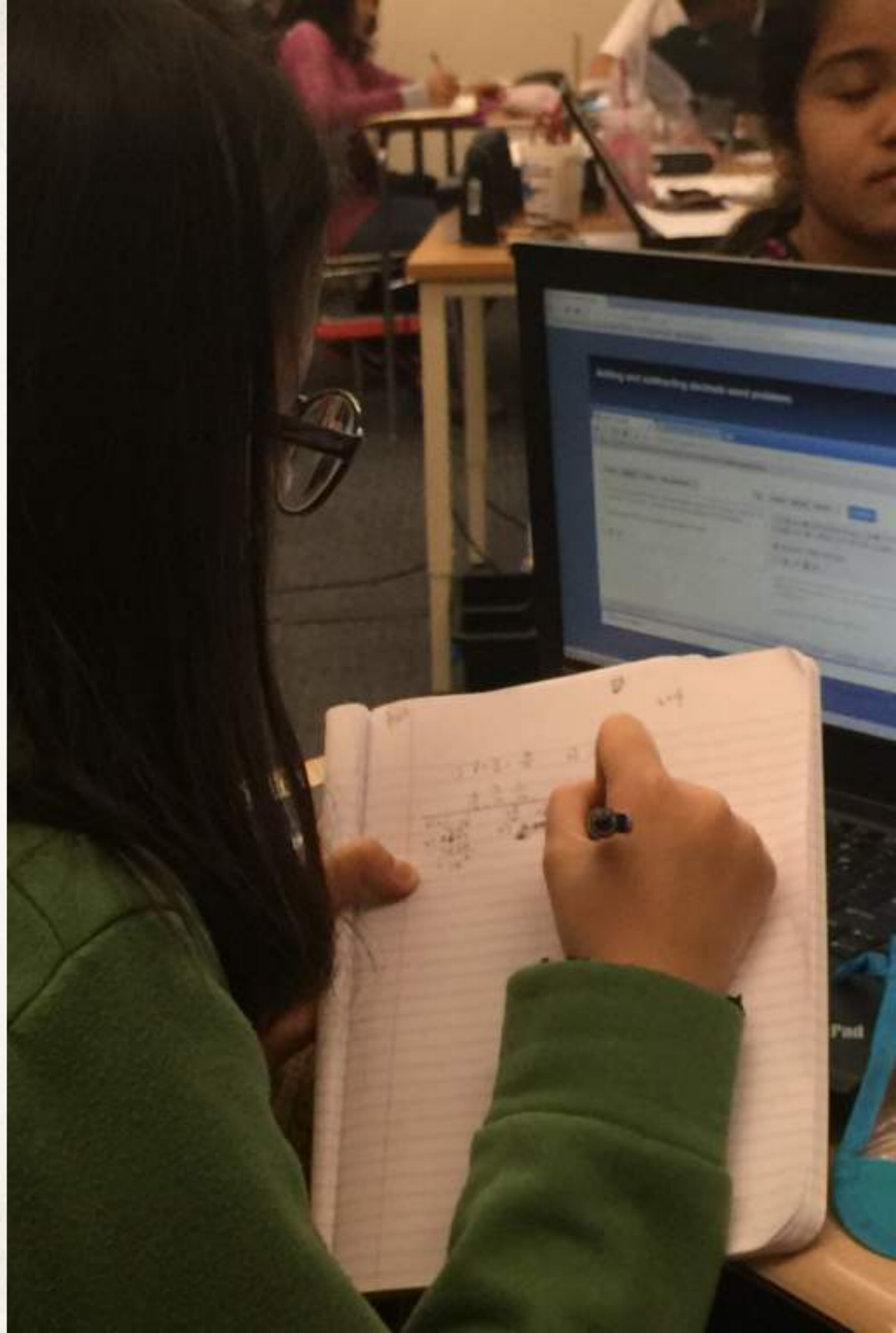
- ❖ 4,943 TOTAL BADGES earned (47 is the highest number)
- ❖ 10,452 skills MASTERED, 824 at level 2, 2,339 at level 1, and 4,715 practiced (166 highest individual topics mastered)
- ❖ 9,181,352 TOTAL Points Earned

Khan Class Case 21 Performance

	Total N	Total % Pts	Avg % Correct		School Pts	Avg School Pts	Difference		Total Prof Pts	Avg Prof Pts	School Pts	Avg School Pts	Difference
Total Classes	1833	732.47	40.0%		752.04	41.0%	-1.1%		402.8	22.0%	450.35	24.6%	-2.6%
Non-Khan Classes	1370	547.12	39.9%		568.26	41.5%	-1.5%		307.7	22.5%	351.14	25.6%	-3.2%
Khan Classes	463	185.35	40.0%		183.78	39.7%	0.3%		95.0	20.5%	99.20	21.4%	-0.9%

Teacher Response

As of 1/12/2015



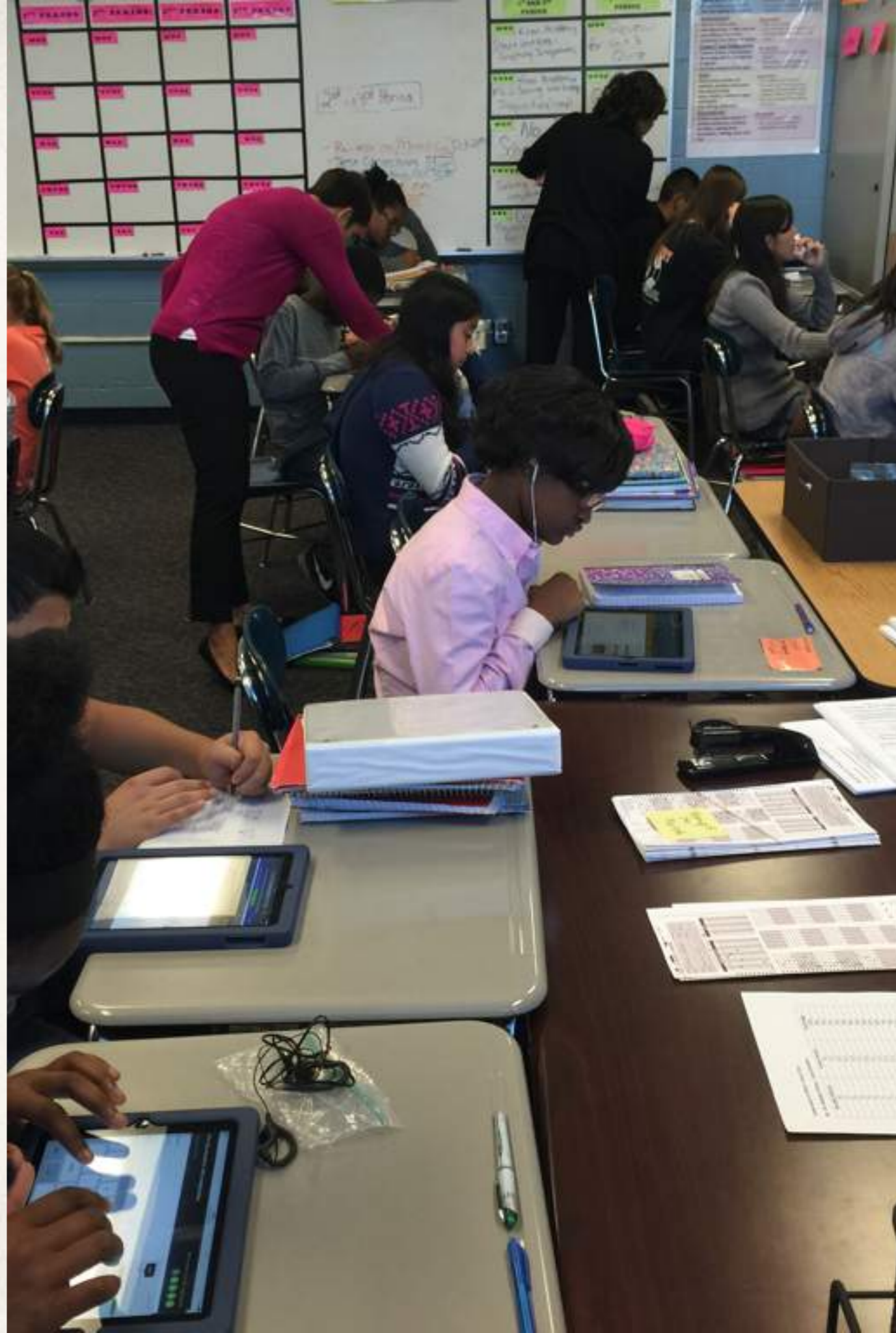
Question #1: Do you feel Khan Academy has improved student learning this year?

72.2% - Yes, it has IMPROVED student learning this year.

22.2% - I have not used it enough to have an opinion.

6.6 % - These is NO difference in student learning

0% - No, it has HURT student learning.



Question #2:
If you had to do it
over again, would
you implement KA
this year?

83.3% - Yes, I definitely
would use it again

16.7% - Yes, but I am either
not implementing now or am
having difficulty and need
help

0% - No

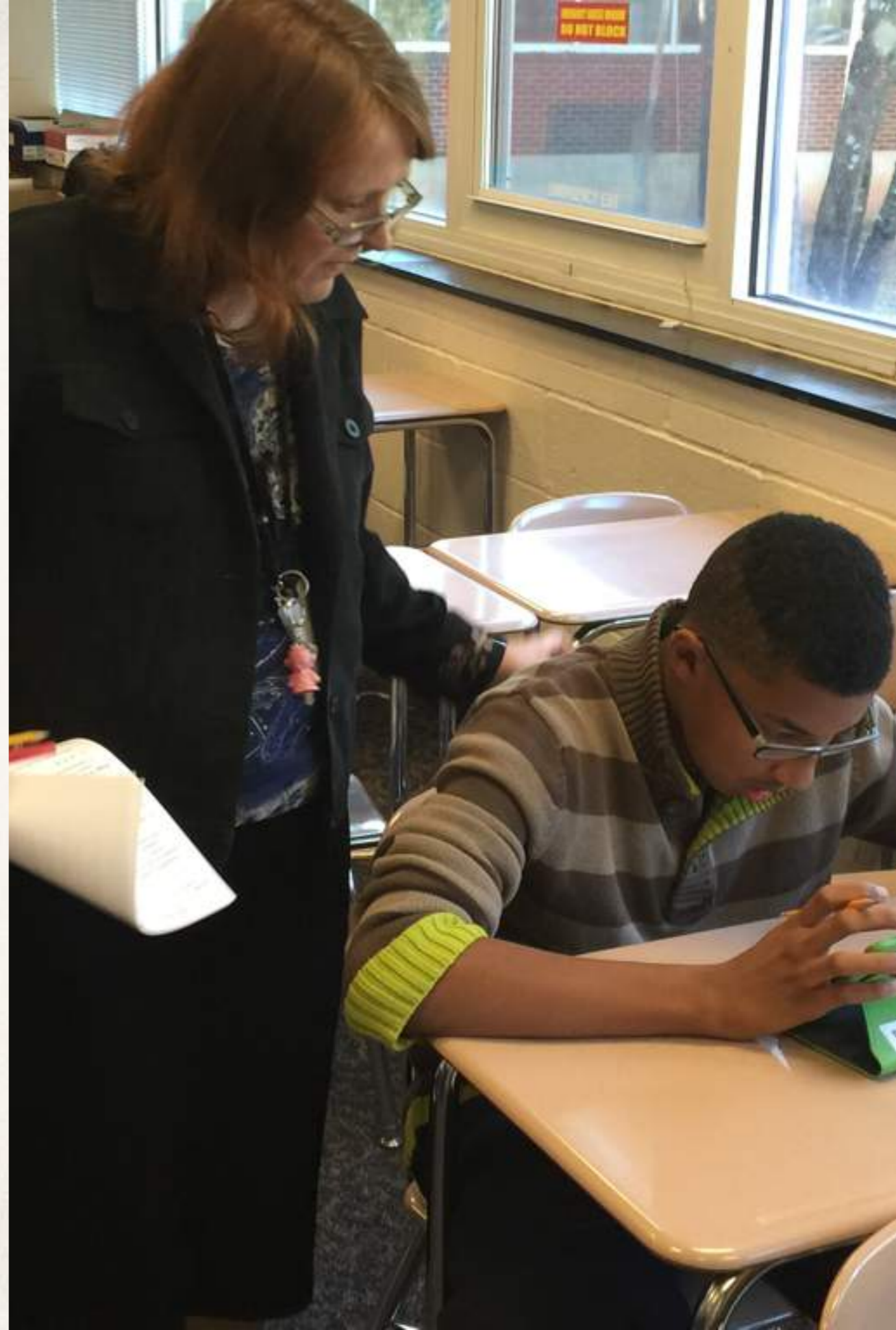


Question #3:

What have been the main challenges encountered?

Main issues identified:

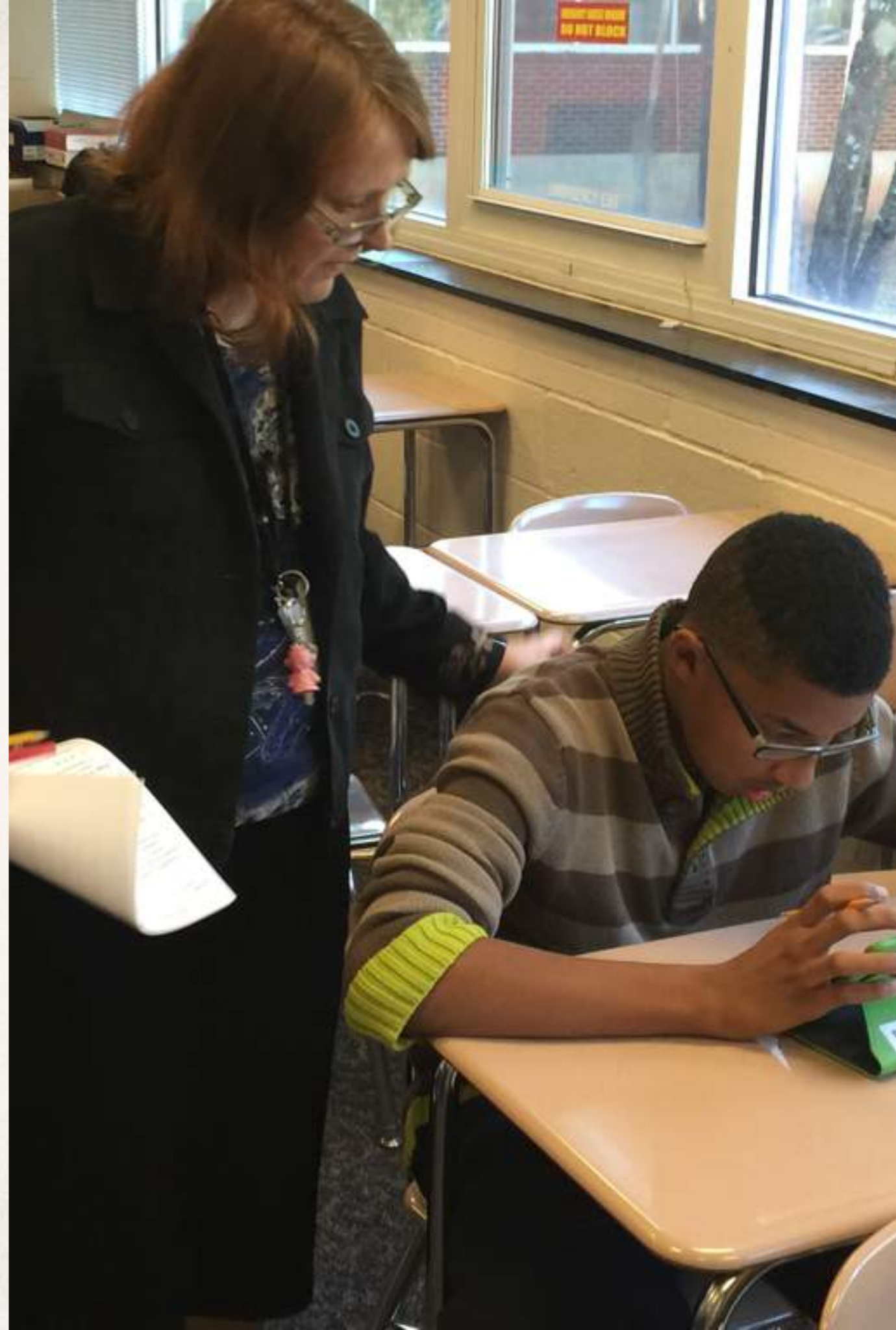
- ❖ **Lack of technology**
- ❖ **Lack of access at home**
- ❖ **Balancing curriculum pacing and Khan**
- ❖ **Motivation**



Question #4: What have been the main benefits?

Main benefits identified:

- ❖ **Individualized to student's needs**
- ❖ **Student collaboration**
- ❖ **Extra time for skill building**
- ❖ **More independence & ownership of learning**
- ❖ **Student confidence**
- ❖ **Immediate feedback**



Let's hear from students....



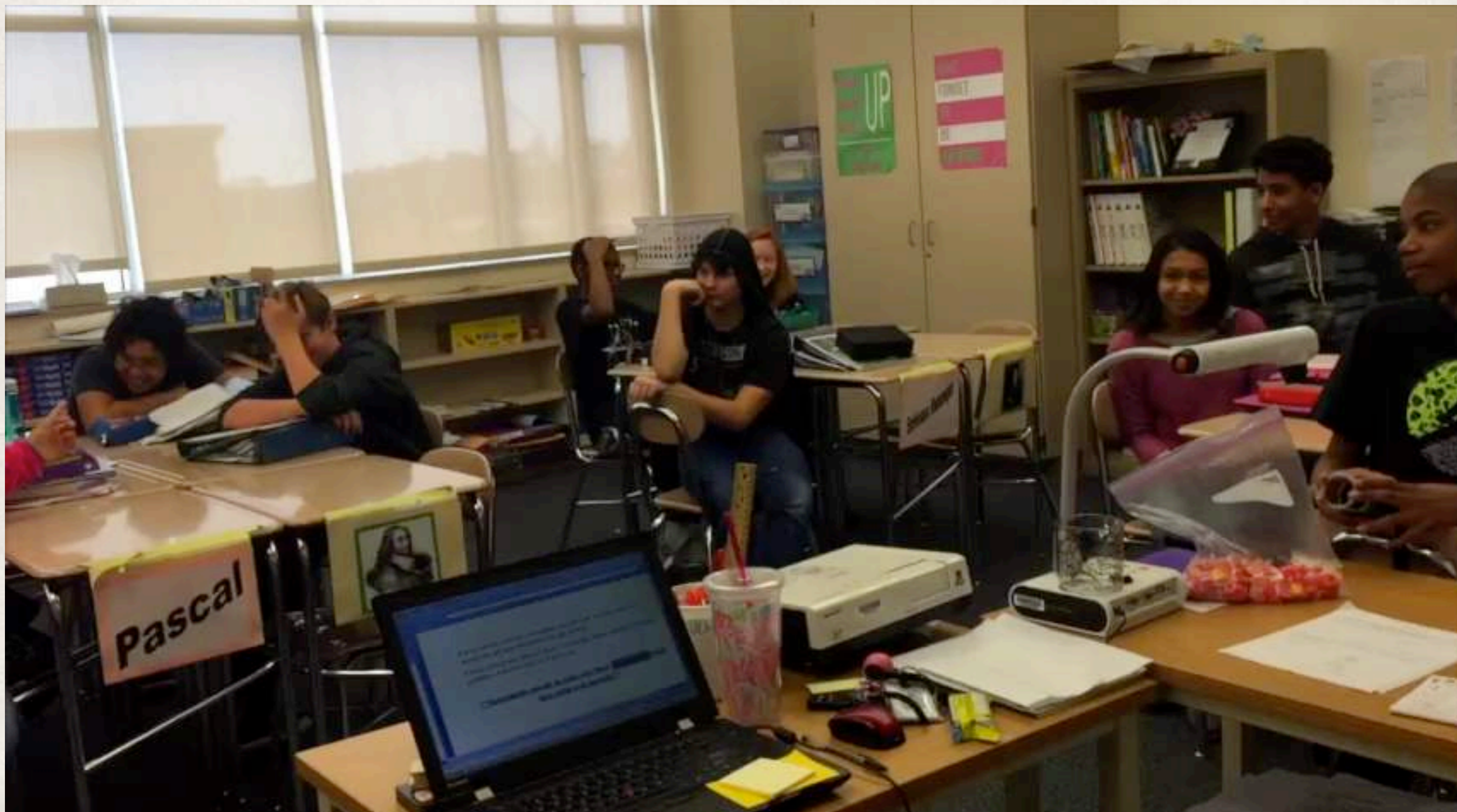
Let's hear from students.....



Let's hear from students.....



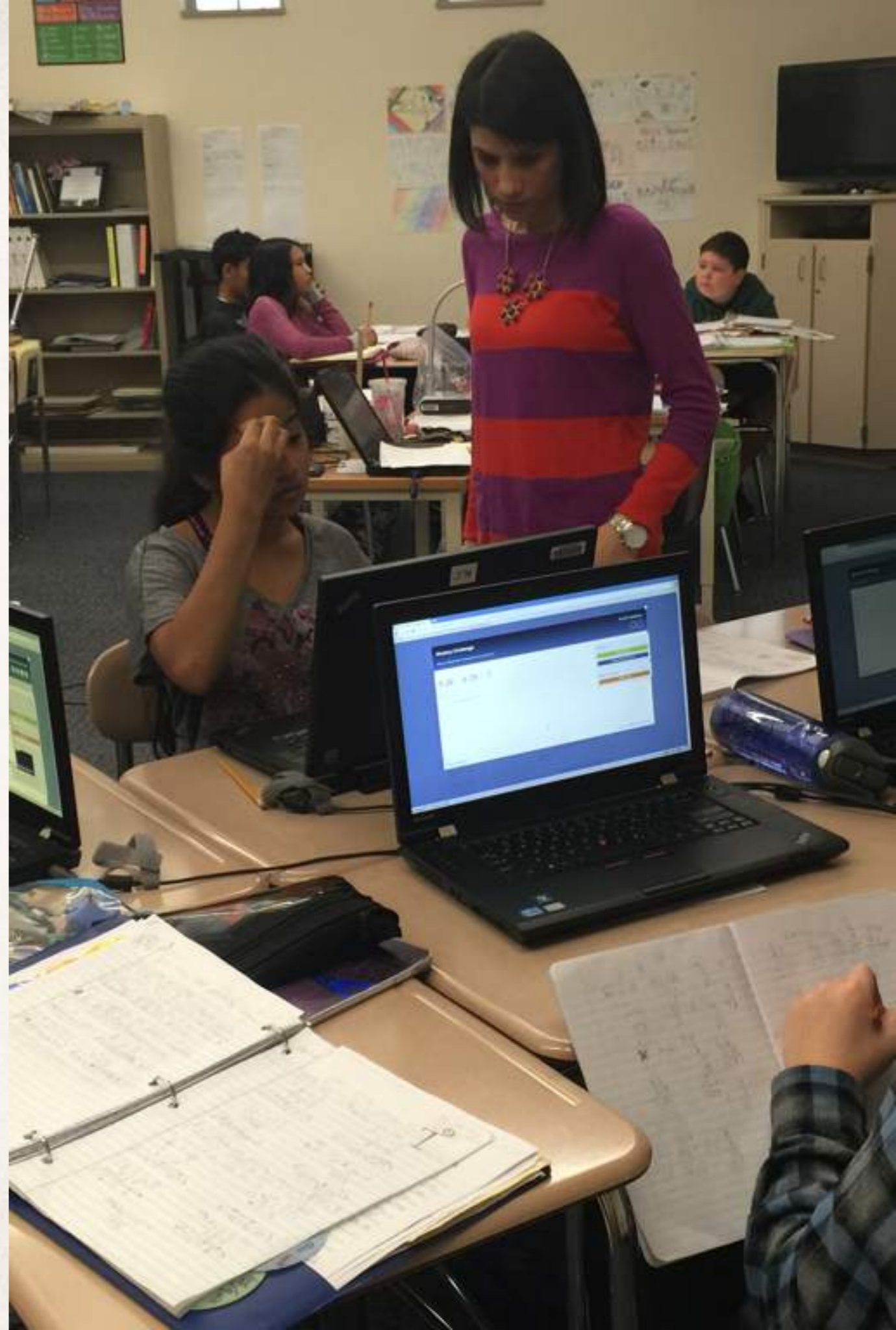
Let's hear from students.....



Hearing from some of our OWN....

Julie Resua - Mills Park MS

Brianna Tucker - Mills Park MS



Blended Learning Rotation Time!



Where can I go to get started?

WCPSS Khan Cohort Website

<http://khancohort.weebly.com>

Khan Academy Coach Resources

<https://www.khanacademy.org/coach-res>

Khan Academy Reference Materials

<https://www.khanacademy.org/coach-res/reference-for-coaches>

Have a safe trip home!

Questions?

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