

READING WRITING IN THE DISCIPLINES

Blended Learning: Using Technology to Learn Math Concepts Video Transcript

Leon Young:

Go to your second period class. Make sure you have your math notebook. If you don't, grab a sheet of paper. Make sure you have your math notebooks. Have your math notebooks?

When the students walked in, there was a warm-up on their board, and that was to get them started and preview what we were going to talk about today, which was arithmetic sequences.

Student:

Find the common difference.

Young:

Five, four, three, two, one. All right. So this is an opportunity for you guys to show off what we've been doing this whole semester sort of with the technology and also with the group work. I want you guys to work on the problem, read the problem on the board, talk about it, figure out and explain to each other how you guys solved it, and then at the end, I'm going to have one person sort of present what your answer is and how you figured it out. Go ahead and get started.

Student:

I'm going to read it. "Judy found the data table below about her favorite redwood tree. She wondered if she could use it to predict the height of the tree at other points of time. Be ready to share and explain your answer to class."

Student:

Yeah, that's 250. Because you have to multiply it both ways... wait. Yeah, both ways.

Student:

Well, how did you get the 29?

Student:

25 plus four, 29. 29 plus four equals...

Student:

What is it, 29 plus four is what?

Student:

33.

Young:

In the group conversations, I want them to explain their answers. I want them to teach one another.

Student:

21 minus four is 17. And you subtract 17 from four, which is 13. That's what I got, but I don't know if you'll get that.

Young:

If they were just working quietly on a piece of paper, what they're working on is sort of contained and not seen, whereas when you're openly speaking about it, it's on the white board, it's out there, it's open. So it's very easy to see the process of learning, the process of solving the problem.

Student:

25 by ten equals 250.

Young:

All right, so if we look at these two charts, what do these two charts tell us?

Then we went into a discussion where they would see arithmetic sequences in real life and then did some direct instructions where we talked about the vocabulary.

So if you look at it, you can see that there's a pattern of change in here and there's a pattern of growth. Things are getting bigger and increasing. Notice the two underlined words, "arithmetic sequence" and "common difference." Those are the two new vocabulary words that we will be going over.

Just to show them a few examples, to get them familiar with the terms that we would be seeing and how to evaluate these arithmetic sequences.

So the definition of an arithmetic sequence is that in an arithmetic sequence, the same number is added or subtracted each time to get from one term to the next. You'll see a sequence of numbers inside curly brackets. And those curly brackets tell us that those numbers belong together in one set.

And then from there, jumping right into that group collaboration.

So we're going to do a few practice problems with your group. I want to see your answers on the board. If you see an answer that is incorrect, talk about it with your group, correct it.

Student:

The common difference is two-fourths.

Student:

Yeah, two-fourths.

Young:

The most key important time is when they're working together, they're talking out the problems and teaching each other.

Student:

Four minus what is one?

Student:

Three.

Young:

And that's the time where I step back and I can sort of just walk around and observe how they're progressing as a group, where they're getting stuck.

How did you figure that out?

Student:

Because three-fourths and one-fourth is two-fourths, and two-fourths you have to simplify, and it's one-half.

Young:

I could see that other groups were moving along and when I see one group that is on the same problem for a really long time, I know that there's something preventing them from moving on, so I can just work with that group to get them going and not have to slow down the learning of the other groups.

So what is the common difference in this case?

Students:

A half.

Young:
One-half, right.

I am all about efficiency. I don't want to stop the learning from happening. I don't want to slow down any of that process if I don't have to.

Are you guys stuck on this?

Students:
No.

Student:
It's adding .2.

Young:
It's adding .2, so that's going to be your common difference.

When you have four to five students and you're right there, it's much more intimate, it's much more closer, and you can, like, just see each of their faces and acknowledge, like, do you get it, do you understand?

So what's one minus five?

Student:
Negative six.

Student:
No.

Student:
Negative six.

Student:
Negative four.

Young:
Negative four.

When you try different modalities and try many different things, it seems to reach a lot more students.

Student:
Common difference, you add three. So we did mess up there.

Student:

I told you.

Young:

That's what I try to do with having so many different ways of learning in my classroom. It's just trying a lot of different things and blending it. You have so many different types of learners, so having a singular approach isn't going to work. Blending the students of all different levels is something that I'm exploring and I'm seeing that it works.

Moises:

I like how he has a lot of technology. It makes it easier that we can, like, write stuff on the board – how we can, like, write on the computer and it will be projected onto the board. I like that because I don't like being in front of people that much. And then I like how we could use, like, our own separate computer.

Young:

Guys, please get started on S2.

When they're done in that group, some are going to finish the individual practice earlier and then some are going to take a little bit longer and that's okay. So at that point when they're on the individual pace, that's when they're sort of on their own differentiated path. There's about a 50%-50% blend of group time, which is, we're all learning the same thing, we're all learning the standard, and then 50% time where you can either get advanced, work ahead, and if you need help and support on topics that you may have missed in the past, we're going to cover those in that time.

Student:

Mr. Young, I need help.

Young:

Yeah. Is that one yours up there?

Student:

No. Would this be one-half?

Young:

Try to have them all be the same denominator.

Today was one of those days where we're all learning the same thing, we're all working together, and we're going to all help each other understand this common curriculum.

Student:

You go the other way, so, like... oh.

Young:

So it's going to be a positive or a negative number?

Student:

Positive?

Student:

Negative.

Young:

Negative, right? So, we have five and we're going to take away nine.

Student:

Oh, okay.

Young:

There's just so many different things that you can do in the classroom with technology and just creating these different ways for Students to learn and access the information in ways that are more comfortable to them.

Student:

My brain is fried. Four.

Young:

And that's your answer.

Student:

Oh, okay, thank you.

Young:

I tell them that it's important to have the knowledge, but it's even more important to be able to express that knowledge. It's a very important 21st century skill. It's going to be important when they have a job later or work with other people, that you have to be able to not just know it, but be able to share that knowledge and express yourself.

Student:

6.52 plus .25.

Young:

There isn't just one way to do things. There might be one answer, but there are many different ways to that answer, and that's where I feel like being able to express that and speak about that is important.

Team number six, you guys can go. Let's clean this place up. All right, team number one, you may go.