

READING WRITING IN THE DISCIPLINES

Creating a Culture of Collaboration Video Transcript

Martin Berryman:

Hey, guys, take a note of what you should be doing right now on the board.

Classroom management is really important to me. It's important that the students have routines and expectations so that there's a structure, and from that structure, they're free. They feel safe asking questions and talking to each other.

Student:

Well, that's milliliters. And the liquid is clear.

Berryman:

We're trying to figure out how chemists communicate their findings. How do we express what we find in the lab to each other and to the world? And one of the things we need to do today is to investigate the characteristics of a strong claim.

We have 32 students in the class and that can feel very large unless you break the students up into individual groups. It's really difficult to find the right group for students. I do use assessment instruments at the beginning of the year, kind of diagnostics to see what type of thinkers they are and also to try to group them.

The claim answers our beginning question. And the beginning question that we started with was, "Does the empirical formula of a hydrate depend on the initial mass?" I want you to now construct your own claim. I want you to take five minutes and I want you to write it. So go back in the lab and construct your own claim for this lab.

Ricky:

Doing solitary work limits your willingness to ask for help, whereas being in group work makes you feel like you have people around you that can instantly provide feedback if you have a problem.

Student:

Empirical formula.

Student:

Formula of a hydrate.

Berryman:

When they're in the groups, we focus on process skills and interpersonal effectiveness.

I want you to be as accurate as possible, but that's not really what I'm looking at. I'm mainly looking at how you interact with the other members of your group, and I'm looking at how you fulfill your role in the group.

They need to know what the rules are for engaging with each other.

Student:

It's like red rust.

Student:

Yeah.

Berryman:

Listen respectfully to each other, make sure you maintain eye contact, right? And be loud enough to be heard. Sejana just came up with a great question about this. Sejana, could you tell everybody?

Sejana:

We can't really... it's hard to, like, pick, like, a claim because we don't know the beginning question.

Berryman:

Speak loudly, just so everybody can hear, because they can benefit from you. So talk to us, what are you thinking here?

Sejana:

I said that we can't really... well, I can't really pick which claim because I don't know the beginning question for each...

Ricky:

We should practice things that help us be more welcoming and respectful to each other, which can help the lab go more smoothly.

Berryman:

The thing is, guys, because we're in the lab without goggles... Because we're in the lab without goggles, don't touch the beakers.

Those skills are what help people to keep jobs. It's the way you work with other people that really will help you move up.

Student:

How does the reaction change?

Berryman:

Students do come in with literacy skills, but in terms of writing like a scientist, it's different because you need to be taught how to ask a question that has a dependent variable and an independent variable and that can be testable.

Student:

Aluminum and copper are both metals, yet the copper is, like, floating up to the surface and the aluminum isn't.

Student:

Why?

Berryman:

It's an excellent question. Where does it go? It goes right in your notebook because being a scientist -- and we're all scientists, we're all chemists here -- being a good chemist is asking questions.

Ricky:

Mr. Berryman likes us getting the wrong answers for certain reasons.

Berryman:

So how did you solve it?

Ricky:

He uses errors to bring up how one could go wrong with something. When we do get the wrong answer, it's more of, like, a motivational step.

Berryman:

What are you interested in? What excites you about what you're seeing? That's what makes you a good chemist.

If the classroom is set up where they feel safe, where they know that they don't have to be correct when they ask a question or when they know they're not

going to be laughed at, then I think you do create an environment where the kids will ask questions. And for me that's where the learning is.