

## In the Classroom 83

# How to Effectively Use Chalkboards, Blackboards, and Whiteboards in Your Classroom

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**Stan Skrabut:** Thanks ever so much for taking time to listen to this podcast. It certainly means a lot. I know you could be doing other things, perhaps you are doing other things, but you're still hanging out with me, and I really do appreciate it. Here, Western New York, it's been beautiful for the past few days, but it looks like the storms are building. Probably, by the time this episode is done, we'll have some rain, but we really need it, so I'm not complaining too much. This episode, we are going to be exploring the use of chalkboards, blackboards whiteboards in the classroom. Why? You may ask. Everyone knows how to use a blackboard. A matter of fact, it happens to be reported as a natural teaching tool.

While I was reading, *Teaching Effectively with Zoom*, by Dan Levy, I learned about a new strategy for using blackboards, and I wanted to learn a little bit more. I thought it was appropriate to bring you in on my learning journey because there's more effective ways to use these particular tools. Let's talk about, first of all, why use a blackboard, a whiteboard, a chalkboard? I'm just going to call it a chalkboard for now, even though I'm talking whiteboards and blackboards, I'm just going to call it a chalkboard.

First of all, everybody is familiar with the chalkboard. They have been in our classes from the time you started kindergarten all the way up well through college. There have been chalkboards out there. It's a staple of every classroom. They put these things in there expecting instructors to write something or have students come up and use them. The interesting thing is there's really, in terms of learning, there's no significant difference between using a chalkboard or PowerPoint, so they're basically even. However, research has come out saying that when instructors present content on PowerPoint and then elaborate on that content using a chalkboard, students were more active, spent more time asking questions than if the instructor use just one of those tools.

If you're looking for a bump, you can certainly do your presentations, PowerPoint, or Google Slides but then also become more interactive by using the whiteboard to expound on thing. Another research they found that in a physiology lecture, using PowerPoint when it combined with the chalkboard, resulted in higher scores in multiple-choice tests. There is that little bump if you combine those technologies; do a mashup.

One of the other reasons why you would want to do this is it's visible. You can make whatever you're writing visible to the farthest part of your room. In some boards, you

can enhance it by-- If it's got metal boards, you can add magnets to it and post other content on there, and that's a wonderful strategy. One of the other things that come out of the research, a variety of just research studies, and I've put these in the show notes, so you can go check those out later.

Students also prefer the chalkboard over PowerPoint, not all students, but the great majority of them prefer the chalkboard, and here's some reasons why. First of all, it slows down instruction. The information that's being passed on can be only passed on as fast as the instructor can write. Also, because of this, instructors are less likely to add fluff. They will only focus on the essential information and write that down because it's exhausting just to write for 50 minutes straight. It's exhausting. Very often only the essential information gets written down. Also for a complex diagrams that the instructor has to write it out step-by-step, and so the students can follow the process.

If you throw it up on a PowerPoint poof it's there, but the fact that an instructor has to write this out step-by-step and explaining it each step, students prefer that. It just slows down the instruction. This, in turn, helps facilitate note-taking. It provides the students an opportunity to write down their notes and have better organization when they write this down. The PowerPoint is just going too fast for them to keep up.

Also, it's less boring. By writing it down, there's more visual engagement that the students are watching the instructor. They tend to be more alert than as they say, "Death by PowerPoint." Students prefer it. As a result, they tend to go to classes because they want to be able to capture those lectures that are taught on the board. Other reasons why you would want to use a chalkboard is to support non-native speakers. It also leaves a paper trail. Those are different reason. With the chalkboard; because things have been being written down during the class, it also has a way of capturing what students are thinking. There's more student input, and that input can be captured, and therefore, those ideas link together on a chalkboard. Those are reasons why you would want to do it.

In terms of strategies for how you would do it, certainly, you can present your lecture, and we'll talk about different ways that you can do that. You can also expand upon ideas. Something is presented in the class. You could throw it up on the chalkboard, and then do certain things like concept maps to expand upon those ideas or flesh them out. If you're working on a formula, you can continue to expand upon the idea as you're doing that. Chalkboards are also a great tool for problem-solving. You can do this either as individuals. They can go up to the board and solve problems, or you can have a group of students get together and solve problems. Pretty much any type of discipline can be handled using a chalkboard.

With this, you can also assess student knowledge. When I was at the Air Force Academy Prep School, every class, math class, specifically, I remember that they would just send the students to the board assigned problems, and you would work them out on the board while everybody worked down onto them at their desk. You could see how a student was solving the problem, and you can assess whether they got the material or not. You can also use chalkboards for brainstorming. That's

another great way of using chalkboards, get out there and just capture ideas. That's what you want to do.

For a class, if you are having your students working on an activity, you may write the instructions on the board, and that supports any activities that you're given, whether it's going to be homework, whether it's going to be an in-class assignment, you can write those instructions down and send your students out to do this. As I mentioned earlier, if the board has a metal backing, you can use magnets to put up maps or charts or images that you want the students to focus on. From there, you can use chalk or your markers to continue to extend those ideas.

Then finally, as a parking lot. What I mean by a parking lot is to capture concerns or issues that you want to come back to and you can just write them up on the board. It doesn't necessarily have to be as large for students to see it but something that will remind you to come back to that item, and so you can do it in a parking lot. When working on seminars where you have a workshop of that nature, I use a parking lot all the time that somebody wants to make sure that we attend to something before the workshop's over, so I'll write it in the parking lot, and we'll use that.

Some basic Blackboard use. These ideas that I'm going to share with you came from a wonderful article from Yale Porvoo Center for Teaching and Learning. They put together this useful list of recommendations that instructors should think about when creating instruction with chalkboards. I have created a link, put it in the show notes, so make sure that you go check that out. They broke it into basically three groupings, things that you would do before class, things that you would do during class, and things that you would do after class.

Before class, things that you should do. First of all, identify your blackboard and divided into sections. You can delineate your board with lines, and have a preplan for each section. Determine which sections are going to be permanent throughout the class. Other sections that you're going to erase all the time, but just have a plan for all your boards. This is very much in line with this. What I found in this book *Teaching Effectively with Zoom*, with the Harvard Business School board planning. That's one of the things they recommend is really define your board; how you're going to use each board, what information that you're going to put on the board, but you can also subsection the board.

Information that will stay for the whole period or information that you're going to erase constantly and keep adding to and so different ways that you can do it. One section of your board, you should identify what your class goals are, what your objectives are going to be. Then as you're going through the class, you can check off those objectives, but they would stay there for the whole period, things that you're going to make sure that you address during that particular class.

Ideally, prepare your notes beforehand. You can identify those keywords, the equations, everything that you're going to write. Really what you would want to do is take a blank piece of paper, turn it sideways, and imagine that is your chalkboard. Then write down, delineate it, do all those things; write down what you're going to

write, and use that as your working set of lesson note. Then you know what you're going to write down on a particular board, what parts are going to be erased, and all those thing.

If you haven't written on a chalkboard, take time practicing writing on a chalkboard because you need to be clear, you need to be quick, and you need to make sure that you write big enough that it can be seen from all parts of your room. Certainly, your students are going to provide feedback, and if they don't ask them; if everyone can see it, and make sure that you write big enough. You don't want to write too big because then you run out of room. You'll run out a chalkboard really quick. Practice writing in a straight line using contrasting colors. Have a variety of different colored markers or different colored chalk, so you can write on the board.

Me, personally, I find writing on a chalkboard to be exhausting. I don't do it enough. I don't have a lot of practice in that. I suppose if I was teaching full-time and a face-to-face class, I would do this more, but it's not something that I do naturally, and my writing is horrible, so I personally don't do it. Other things that you want to do before class or another thing is make sure that your equipment works. If you happen to be using a whiteboard, make sure that you have the right markers so no permanent markers and that your markers are not dried out. Last thing you want, a lot of folks have walk into a classroom and find out the markers are empty and nothing's more frustrating than that.

I would encourage you to have your own markers that you can bring in there, dry erase markers, or your own set of chalk that you're going to use. That's things that you would do before class started. During class, when you write something up on the board, once you write something, pause, step out of the way, and face your students. One thing you never want to do is really try to instruct with your back to the student. This is something I learned a long time when I was an instructor in the air force, don't teach with you back to the students. Write it up on the board, pause, get out of the way. Students can take in this information, they can formulate questions, and you can also then lecture.

One of the keys when you're writing out key phrases, tell the students what it is before you write it down. It gets into their head, then you write it down, so it gives them time to think about it, percolate on it as you're writing it down. If you need to circle or underline different words for emphasis, circling and underlining is also a great way to bring back focus to a particular item on the board that you can have everybody's center on the board.

What to do if you run out of room. If you're running out of room on a board, you're running out of boards, do not try to squeeze in things in the margin. That doesn't help your students at all. Instead, come to a pausing point, let students know that you need to erase the board; give the students time to write everything down that they want to write down, erase the board, and then continue. Don't try to squeeze things in because the students can't see it. It's not going to be useful. If necessary, put drawings up. You don't have to be an artist. Stick figures work. Students will definitely

remember those. They'll probably remember those more than anything else you put on the board, so don't be afraid to draw.

When it comes time to make a mistake, for example, you determine, spell checking; you know that you misspelled something or you got a formula wrong. Don't just erase it, instead just mark it out, right to correct one, and continue. Don't go up there and erase things. Then finally a good strategy for using the boards is to use a concept map. I use a concept map, a diagram, timelines, tables, whatever, and make it interactive where the students are helping you to create that particular concept map. You can get it started, and you as the instructor would basically be the transcriber. Have students identify what's going to be put up next on that particular board. Those are some strategies that you can use during the class. Now let's talk about a few things that you do after the class.

After class, take a look at your work. Take time to reflect on it, and determine where you need to make improvements. You have your notes in front of you. You can certainly make some further annotations on your notes on where you could have improved that lesson. Maybe something that you got from the students that you want to make a note on your particular set of notes. If you can, take a picture of the board. Capture that board, take a picture of it. This is great for you to refer to later, but you can also send those notes out to your students. Very often, students, if they're using a program like Evernote, which I would use in my classes, I would take pictures of the boards, and automatically, save them to Evernote. You can send the pictures, or let the students take care of those particular pictures.

Then finally, last thing is erase the board so the next instructor can be ready to go when they come into the class, it's just a nice thing to do. Those are some strategies that you want to take into consideration. This idea that I picked up from this book *Teaching Effectively with Zoom* is Harvard Business School has board planning. It's one of their strategies. They call them pastures, and basically, a discussion is broken into segments or pastures. Each board has a purpose, and the boards are considered separate pastures. Then you basically move an idea from one pasture to another. You need to really have these preplanned on what you're going to share to include what colors you're going to use to identify what's happening each board.

I'd love to see this in action, but it just grabbed my attention. I thought that was pretty cool on how they did it. As I further dug into this topic of chalkboards and how to use these, it made so much sense to really delineate your boards. Being focused on what's going into each section of your board. If you have multiple boards, how you're using those boards. Apparently, the Harvard Business School, they have seven to nine boards that they're working on, and each board its own purpose and what's on each board. A chalkboard is something I'd throw something up as the fancy grabbed me, and then I had raised it and put something new, but having this really strategic look on how the board works and how you're building upon ideas, I think just takes it to the next level.

That is keeping the things in face-to-face classrooms using a boards, but we can also do this as virtual strategies. Different virtual strategies that you want. You may



have a portable whiteboard. There is a video I'll talk about here in a little bit that gives ideas on how to use these portable whiteboards. It's a wonderful example of what you can do in order to create a video for a Flipped or online class. It's a wonderful idea. I'll share that in the show notes, but I'll talk about it here in a second.

Having a portable whiteboard. You can have a portable whiteboard that if you're working in a virtual strategy that you're using Zoom, for example, you can have one that sits in your hands, you have a dry erase marker, and you can mark this up, or you can have a normal chalkboard, and use chalk on it. This is a strategy that you can use definitely contrasting markers to bring emphasis. You can sit right in front of your camera and use that.

Another strategy is go to your classroom, set up a camera on a tripod, and teach as you would in a face-to-face class, and so you can use each of those boards. You're just going to have to make sure the camera is pointed at the correct board, at the correct time. Another way that you can do this chalkboard idea virtually is using a document camera and having a document camera and writing under the document camera, just as you would use a whiteboard. You can have either a portable whiteboard that you have a document camera looking at, or you can have just a blank piece of paper that you would write on, and you can use it the same way.

During a recent workshop that I did, I picked up a tool. It's basically a gooseneck for my iPad, and I was able to set up my iPad as a document camera. This was one of those strategies on how to use Zoom, and I was able to build my own document camera using my iPad and connecting it to my computer and such. Those are definitely ways that you can do it.

To take all this to the next level, first of all, there is this strategy, and there's a video called create whiteboard video lessons for YouTube using a laptop webcam for Flipped or online classes, long title, but it was a wonderful strategy. This woman, she went to, I'm going to say, Home Depot. She got some whiteboard-- A board, four by eight; chopped it up into 24 smaller board. She would, basically, on each board, write down what was on that particular pasture. Thinking the Harvard Business School idea, the pasture. She would write down what was on that particular board, so it was legible enough, and basically, put her notes or what she wanted to share on those 24 boards. Then using a tool like Camtasia, she would present each board. She would pause Camtasia after each board and/or start a new video, so they can connect to each other. She would go through each board, all 24 boards presenting her content. Like I said, I put the link in the show notes, go check it out, it's definitely worth seeing.

Another strategy; taking this to the next level is have students get their own portable whiteboard. You're in a Zoom session, you could have them working on a whiteboard, maybe you're working on an equation, have them work on their own portable whiteboard, put the answer, and then you can have them all show their whiteboard, and everybody can compare their whiteboard to see if they solved the problem in the same way. This can be done for English if you're deconstructing a sentence. You can also have students respond to polls, that they have a clean

whiteboard and you give options A through D. They can real quick write a letter, and show it on the screen. You can see this very quickly.

You can have them write one-word answers to something. Just get a feel, take the pulse of the class, and have them show that on their particular cameras. That's a way that you can do that. One of the things-- It doesn't matter face-to-face, virtually, it just doesn't matter. If you can get your students involved interactively, you're going to the next level in terms of learning. You're making this very active. You can, especially, in a virtual environment, use a collaborative online whiteboard where everybody can jump in at one time, where they can share their knowledge, their questions, and their ideas. This will definitely change your classroom where you have students actively involved.

In Zoom, they have a whiteboard that you can work on, but there is also annotation tools that students can use. If you give them permission with the annotation tools, they can go in and mark up on that particular whiteboard. Matter of fact, you can show almost anything, you can bring up a document and do annotation. You can draw on it, you could draw circles, highlight, underline, all those things you can do with Zoom Whiteboard, and also Zoom Annotation. A very powerful tool in that virtual environment.

Another way of doing this, if you were looking for a whiteboard, maybe you have a drawing tablet to support is put PowerPoint in presentation mode. While it's in presentation mode, you can use the annotation tools that PowerPoint has and draw on that particular document, just as you would a whiteboard. For Google Slides, Google Docs, you can work collaboratively in the design mode, in the drafting mode. You can get everybody to work on that particular slide, just hand them the link and invite them in. I recommend that you set up templates for certain information that you're trying to capture. You can have them capture that information.

Other ways, there's lots of iPad apps that you can check out like Penultimate. There's various drawing apps that you can use and you can share in a virtual environment. I encourage you to do that. Regardless of these virtual tools, one of the things that you can do incrementally throughout the process is you can do a screen capture. You can capture those images, just like you would take a picture at your boards at the end of a class, you can do this along the way while you are working in a virtual environment. Using your computer, you can capture the screen, and it differs for a Mac and a PC how you would capture your screen. Definitely, go figure that out for your particular computer or tablet or however you want to do it, but you can capture those screens, and then once again, share them out.

I have to say that learning more about chalkboards, there's a lot to it to really take this to the next level. We can improve instruction by looking at examples of individuals who have mastered this. I'm not somebody who has used chalkboards that often, and so there are basic principles that I knew, and I understood from my years of teaching and helping other educators. Taking this deep dive, spelled out a lot of other good information that I picked up. Hopefully, you found it just as rewarding. One of the things that really jumped out at me is the fact that students

prefer to have the instructor you use a chalkboard over PowerPoint; that jumped out at me. I hope you take that to heart, and I'm looking forward to talking to you next week. Before I go, here's a quick plug for my book.