

Trades Summit Series: Strengthening Teaching and Learning for the Future
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Using Asynchronous Activities to Prepare for Practical Shops
Presenter: Ryan Buhler
Host: Tim Carson

TIM CARSON:

I want to introduce you to Ryan Buhler. We had the opportunity to meet with him yesterday. He is back with us today and his topic for this next presentation is Using Asynchronous Activities to Prepare for Practical Shops. Now for those of you who may not have been able to join us yesterday, Ryan is a curriculum and instructional specialist for the Northern Alberta Institute of Technology. He is an experienced steamfitter and welder journey person and educator who has a passionate curiosity about how students are learning and vocational slash trades education. His curiosity about student engagement led him to his master's in education to the University of Alberta. And his non-professional interests include passions for many nerdy avenues such as Star Wars, Lord of the Rings, and horror in general. He has three little humans, two ridiculous dogs and a loving partner. Take it away, Ryan.

RYAN BUHLER:

Awesome. Thank you so much, Tim. So yeah, this session, it's more informal than yesterday. And it's more just to show some ideas of some things that I've done and that I've also talked to instructors about trying to do. One of the big things. Yesterday, we talked about using some of your shop time to cover theory. And one of the big issues with any of that is that shop space, you have finite time and sometimes there's always the worry that you won't have enough time for the students to go through the projects meaningfully or give them formative time to learn those skills and then apply those skills in that scenario. So especially with the kind of changes that COVID brought about and how we had less time in shops. And we were only told that we can spend time doing the more critical outcomes in the shop, which was also a hard conversation to have. We had looked at different ways to how do we prepare our students for being in the shop environment to get them ready so they have a better chance at success because of that limited time. And from that too, I'm no longer teaching directly in those programs. But there's some things here that some instructors still use now to help spend more intentional time with the students doing the actual practicing, working on the projects and things like that rather than all the setup and everything else that comes with it. So I would just share my screen. Share. There we go, can everyone see my screen? I'm sharing a webpage, browser.

Awesome. So this is actually just a temporary LMS or Learning Management System Moodle. It's a temporary page that I just really play around in. So it's not actually one of the course pages that are used. So there's a little bit of difference in functionality. But the idea behind this one is. This is for cranes. So what we would do on, we have satellite campuses. And so I was on the pipe trades campus. We would do a lot of work with the steamfitters and that. And then we would go out to one of the other campuses out in Spruce Grove and do, because they have a massive footprint for using different styles of cranes and that. And that would be our crane.

And because it was only the one day and there was a lot that we wanted them to be able to do and everything kind of culminated to that. We want to make sure they were well-prepared. So this is pretty much the stuff that we had ready for them to go. We just started looking at how do we get them to engage with it ahead of time. So just notes in the elements, letting students know, letting the students know when it's coming up, what's expected about it. And then they have to use it and have to go through this stuff. And so there were certain things that we wanted them to do ahead of time. Before showing up for crane day, they had to watch a practical video. This video would walk them through all the different lifts in a safe manner and what to look for and things like that. So the students at least have seen what they expected to do. So when they come in, some of them would have watched it once. Some of them would have skimmed. But at least then they have had some context for when we have conversations for what we wanted them to do. We wanted them to check out the rubric, which we planned to discuss that morning. And we've talked to them about ahead of time. And there's a quiz as well. In my temp site because they don't have any student participants in it. I can't do tracking, but what normally would happen is beside, I'm in student view right now. Besides each of these things that I want them to do, there would be a little checkbox and either it would check off for them if they viewed it, or in the case of the quiz, if they've completed it.

So yeah, I had a couple of things in here. One, because of trades are so very vast, students would have less experience working with cranes. So I'm just going to make sure that my sound is stereo. So the first thing was just an optional video. You've seen the movie Cool Runnings. The IC pride.

[VIDEO STARTS]

RYAN:

Not that headlamp. [

[VIDEO STARTS]

MAN:

Now look in the mirror and tell me what you see.

JUNIOR:

I see Junior.

MAN:

You see Junior. Well you want to know what I see. I see pride. I see power. I see a bad *** mother who don't take no crap, from nobody. JUNIOR: You really see all that?

MAN:

Yeah, man. But it's not about what I see. What do you see? Now look in this mirror and tell me again what you see.

JUNIOR:

I see. Pride. Power. I see.

MAN:

A bad *** mother who don't

MAN AND JUNIOR:

take no crap off of nobody!

MAN:

Again!

JUNIOR:

I see pride! I see power! I see a bad *** mother who won't take no crap off of nobody!

MAN:

Again.

JUNIOR:

I see pride! I see power! I see a bad *** mother who won't take no crap off of nobody! Yeah.

[VIDEO ENDS]

RYAN:

So that was just a fun video to tell them, Hey, you've got this. Don't be too worried and that they could do. So. Optional. Because again, I don't actually need them to do it. But then I'd actually have them. The expectation is they would look at the actual rubric. I'll show you. Okay, I see. Because I'm in student view. Let's look at that. So I just want to return. Sorry about that. So yeah, they would have the rubric. For some reason. I forgot what that is looking like right now. I'm just going to cancel that. Go back. Sorry. But yeah, I wanted them to look over the rubric so they have an idea because we're going to talk about that in the morning. And the rubric was actually co-created with one particular group so that they had input on, I know where I needed them to go or where we wanted them to be at and what we were really looking for. But we talked about, what do you think is most important? What does a three look like versus a two and stuff like that. We've had really good feedback from the students. Because they had a little bit more agency in their learning. They felt they have more control. And there was a lot less worry and concern and they had a better idea of how they've been. So anyways, the expectation is they look it over ahead of time. Then I had a quiz. This quiz had a combination of short answer and multiple choice. And so they had to do it ahead of time. And if somebody showed up and hadn't done it yet, they got to sit outside and finish it before they started the day because part of what they had to do was they had to do the calculations for the weight of these different pieces of pipe, these different spools so that they can tell the crane operator, whatever way they can pick the appropriate slings and all of that stuff. Then there was a couple of questions about the different hand signals and some kind of safety aspects to it. So that was a check-in to make sure that they were ready to go for lifting. The other things they had to view. This was the only thing that they had to complete before we started. And then this

was the practical lift video. So I wanted to watch them prior to crane day. It's broken into three different parts and it demonstrates they're safety lifting techniques. [Music] That might be the wrong video. Actually had a proper video for them. But then the ideas that they could use that. They would have their frame of reference for when they came to crane day. Think about how to do the similar projects. And now in more conversations with instructors as they're prepping for their shops and stuff, having them break up these even more. So let's say it's a plumbing instructor that is getting them to do a soldering brazing project. Maybe a video to watch that walks through the proper techniques for soldering, proper techniques for bracing. And then a small clip of a video with an instructor putting the pieces together and doing it themselves so they can demo it. And I've even had some conversations with instructors that want to expand on this and have it playing, no Rick Astley. But the actual technical video and having it play on loop in the shops. So students could, if they have a question, they're stuck or something, it just plays it as a nice reminder. This isn't to fully remove the demo. But allow you to move through it a little bit quicker because students do have that frame of reference because they've watched the video.

And then here we would have crane day files. So I would want them to look this over. This was the crane day package that just gave them better directions written out or what they're supposed to do. And this is the actual technical document because they needed for that quiz to be able to use this little chart so they can figure out how to set the crane up, what its max is and all of that stuff.

And then the last thing was the field level risk assessment filled out somewhat ahead of time. And this would be another one that would have the check for the box. Just the expectation is that they look it over ahead of time. So when they come there, they have an idea of what are some of the hazards. We would still have that conversation that morning of what are some of the things that we missed on here. What are the things you would like to add? What are some things that you're not too sure about? All of this was designed in such a way that when the students would come to shop day, to crane day, they had some stuff prepared, ready to go. Like the weights, the quizzes and stuff. And then they've also seen what's expected of them. So I've had a couple of instructors continue with that. Or do things slightly different. And they found then it allows them to get into the project a little bit quicker right from the get-go. They can go through the demos a little bit quicker, the safety hazard assessments and that. And then some of you had said that though, like I said, a student out in the hallway with their phone and they're like, Hey, quick look at that video. If you have a question on next steps, you still have questions, come talk to me. So it allowed them to spend a bit more time concentrating on who needed their help the most. So in keeping with tradition, I think I'm a little bit short on time. I'm not sure on time. I'm finishing a little bit early. But does anybody have any questions about this or does anybody want to comment? I noticed there were some instructors in that mentee from a little bit earlier if you've done something similar and to what effect? So I'll stop sharing the screen.

[INAUDIBLE]

SALLY:

I can go to the back the classroom again. I loved what you showed today and can see all the design that's gone into what you presented as in very much outcome-based. So I'm loving that. I'm just wondering if it was instructor initiated. So did the instructors come to you and say, Can you help me with this design here? Or if you work on this design now that it's there for another instructor coming in, are all instructors open to using this approach?

RYAN:

For sure. So it was something again, I came up with when I was instructing and with one of my. I was lucky because I got to co-teach in some of the rigging stuff. The person I was working with was keen to try these things out as long as they didn't have to create a lot of it. So it was managed, but worked really well and they continue to use some aspects of it. I don't think they co-create the rubric anymore, which was something I was super pumped about. But each time at least. And so I have been showing this to other instructors because now that I'm more in an instructional support role, I have been showing this to other instructors when, especially when they talk about not having a lot of time in the shops. Or even when they're talking about how they wanted to design their shop, trying to get them to put more of their resources online for the students to be able to access ahead of time. Because then that communication leads so students know what's expected of them coming up. And some of them have tried parts of it. A couple of them, one of the instructors took a GoPro and mounted it on their head and did chains or brakes, which is pretty cool for the students to see and stuff like that. So there's some neat. But there were others that were less keen for it. So it's not, definitely not across the board. I had one conversation with an instructor who said that giving a student a rubric ahead of time is just cheating. And so that was an interesting conversation to have. But it was more finding necessarily to somebody else in your small group thing. Pockets of awesomeness. People that want to try things and make some changes, see what works and stuff. And then promoting the stuff that they've done because some of them have taken this and gone with it. One of the instructors gets the students now to take pictures of projects and then upload it onto Moodle. And then also you can use it on Instagram. They have somebody they can share with peers. It also contains some promotion for the program and stuff like that. I think that happens a lot in education. We don't always come up with ideas. We're really good at taking ideas and adapting them.

SALLY:

Yeah. Just when you said that, you know, this whole thing because first, I would like to say to me, This is particularly pedagogically sound. This is actually working towards deeper levels of understanding for the learner. So it seems to me that it's very intentional. And so to have that developed and then the rubric, the co-creation of the rubric is a critical element to this actual design here. So when somebody then comes along and removes that element, the thinking behind it has changed, hasn't it? And so we saw similar designs in air faculty, especially during COVID, and some really well thought out very intentional learning journeys in there in the LMS. But then another instructor comes along and they don't have, they don't have the curriculum and pedagogical understanding of why it's designed that way. So then they just take little pieces of it. And so I'm just going to use that video. I don't use any of this other stuff. And I'm

just wondering this time and place that we're in, we're losing a lot of valuable well thought out curriculum. And I just wondered if you had the magic wand on how we could then encourage subsequent instructors to come on in and really support them to better understand these designs and to implement them. Anyway, I'd probably take up too much time. I'll hand the mic back.

RYAN:

No worries. No magic wand for sure, but I have found some success. One of the things is getting a couple of structures on board to do it. And then it's not somebody from a learning specialist role coming in and be like, Hey, you need to do this because this is great. This is what should be done. Instead being able to poke at it, being like, Hey, this is what somebody else in the carpentry program, is doing, and it works really well. And this seems to get the students engaged and those seem to be, some are really good at taking face value and directly, but others, they want to see what other instructors are doing. And so if you get a couple of advocates or people brought over to doing that similar thing or building on that idea. Then it's easier to convince some of the other instructors that, hey, this is working. This is a good idea. Not a magic wand, but something that seemed to help. Yeah, champions.

JESSICA:

Hi Ryan. My name is Jessica. I'm just going to build on Sally's question. So did you, have you observed a change in the culture of the shops in that there's an expectation about being ready and what ready means when you get to the shop and are there students now encouraging each other to be ready so that their time together is considered more valuable?

RYAN:

I think so. And I think it definitely has depended on the program too and the instructor. Because some of the programs, some of the instructors are very, we shut the door at this time. Or they're less keen to build that engagement into it. They stick to the old model. Now that COVID is over, they've gone back to what was done before and dropped the ball on the stuff that they had created, the inroads that they have made. I think a lot of it and I do talk to some instructors, especially the beginning of some of the students coming in. They come in late or there's other stuff going on in their life too that we have no idea. But if they can build that community and that expectation around what's being done. But it also takes a while. And they said for the first couple of shops, don't bar them from coming in. Make sure that you're saying, Hey, this is an expectation, I need you to do this, but help support them in ways so they can slowly build up to that. And then yeah, you will see those students who will be checking in and reminding each other. We've had Facebook groups and Slack groups and stuff between students where they're like letting people know what they're supposed to do or catching up on things. But it's not, it's definitely something that's not across the board. It's something that's again growing in these pockets where those instructive champions are, where they're able to positively impact the culture of their group and work on what the expectations they have for the students are and also what the students have for the instructor. I don't know if that answered it.

JESSICA:

Yeah. Then I guess my next question is too, is that most, the example you gave was mostly about students knowing what to expect and how to prepare for hands-on things. So were there, did you find that over time too, then you can give more complex or higher level learning activities online as well? Because people, our students, are used to preparing a little bit more on their own.

RYAN:

Yeah, that was the big thing. We did a course. It was designed how to teach online during the middle of everything going weird. And part of it was that the idea that that first day, you don't want to give them seven different technologies and applications and all these other things. It overwhelms the students and your message gets lost in all of this. And so the idea is that we slowly build on something, build up a competency both in yourself as the instructor and the students, and then start adding a little bit more. Trying something new or adding in more expectations. for your students in building that out. Again, to varying degrees of success to be honest. Some of them we've talked about making sure that they have a message at the beginning of the week, at the end of the week that they're letting people know what's coming up this week, what they're expected to do. And then at the end of the week, this is a kind of recap and then what's coming up next week. And this is what you should have done by this time. The feedback I've heard from students that really helps. But again, not all areas do that too.

JESSICA:

Thank you.

CHRISTINE:

Hi Ryan. My name is Christine.

RYAN:

Hi Christine.

CHRISTINE:

Can you hear me okay? Great. Okay. I'm sorry. It's okay. I'm wondering about your experience with students' digital dexterity or literacy when using the LMS. Did you need to provide some training using that technology before they got up and running with it?

RYAN:

Definitely. Like even for the instructors. For myself when I first started our LMS was, this was a couple of years ago, but we're expected to use it, but there's no requirement around what that looks like. So that became just a dumping ground. We just threw stuff in there and if the students looked at it then awesome. If not, no worries. But then we started to get better at using it more intentionally and then we had to because of COVID. And so part of it was yeah, the training of the instructors. But then also with that, the expectation of like, hey, first day, go into student mode. Take your students through each part of the LMS. Show them what, where

the general information is. How you've organized your course content on there and stuff. That really needs to happen. A lot of instructors are getting a lot better at that. Because it does help. It doesn't eliminate all the questions, but it helps eliminate some of it. And it's such a simple thing I found. We had a quiz online. It was that one I showed earlier, but it was multiple choice. And I didn't realize that if a student was doing it and they use their keyboard to scroll down instead of their mouse, it would change the answer above. And so we had a couple of students that all of a sudden, their marks did not reflect their knowledge and their ability. And so it was a good opportunity to then have that conversation. And then going forward when I had more students and other areas, we would still have those same things. I would even show them the analytics to show them, hey, I can see that Friday night, one in the morning you logged onto your Moodle quiz. Probably after a night out of the bar, which wasn't the greatest idea like, and you are able to see where, how long things were open for. Show them where I would go back and look at questions and talk about which ones they had trouble with. But again, yeah, spending that time at the beginning and slowly building their competency in how to use the Moodle and how the big thing was, how each instructor expects them to use the Moodle, because that can be hard thing too with instructors.

CHRISTINE:

And then as a follow-up question. As a follow-up question, do you do this onboarding online? Would you create? I use a similar system where I'm preparing students online, coming ready to do something in class together. But do you prepare them online with videos or audio to prepare them? Or are you meeting face-to-face and going through the system together, like in a computer lab?

RYAN:

When I did teach it, it was, we were meeting face to face. Then this is pre-COVID. And so we would go to the computer lab and I would walk them through how to do it and show them the different areas and stuff like that. Since then, I've heard of some groups that would, they'll have an orientation day the Friday before the Monday starts. And they'll take students through Teams and Moodle. They'll do it all online. So they can screen share and stuff and students can follow along. And I know that some now that they're back on campus, I was in a classroom the other day and they set it up in such a way where they went down to one of the computer labs and walked the students through there. Because it's one thing to sit in a classroom, give a quick demo, and then that's it. Then your students have no idea. It's much better if they can follow along, whether it's at home or at the computer lab. That'd be my suggestion if you are having them on-boarded.

CHRISTINE:

Yeah. Thanks for that.

TIM:

Well, if there are no further questions, we would like. Sorry? Nothing on the chat? Oh, you had a question. Okay.

YVONNE:

Hi Ryan. My name is Yvonne and I am at Red Deer Polytechnic, so not too far from you. I'm in person today. Where I saw this being a really great idea where I work. There used to be say, a program for technical theater. And even though they're not a trade, they would have to work with machinery and tools. I know historically they would have a welding day or forklifts day I think or something like that. I can see this being really valuable in those sorts of situations where they're coming in outside of their normal program but have to spend a day learning something specific. So I really liked this idea. We don't have technical theater anymore, but we do have something like sculpture, where again, they might have to engage in some of these things. So I can see this is a really good way to prep them for their one day of here's how to use a particular machinery or tools or what have you. Thank you.

RYAN:

That's awesome. I think too like any of this as well. Like similar things work and adapting it specifically to that group of students and their need and stuff is important.

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