

8th Podcast - Educational Data Analytics with Jake Wills

START OF PODCAST

Amit: Good morning. Good afternoon. Good evening, listeners—wherever you are. Thank you for joining us, back again on this Edutech Talks podcasts with Amit Pawar and Sam McNeil. My name is Amit, I'm based out of Singapore, part of the Microsoft Education team for APAC and I'm joined by my colleague Sam. How are you doing Sam?

Sam: I'm doing really, Amit, and I just am enjoying this whole series of podcasts that we've done. I have to say, you know, our roles are quite varied, there's lots of different things we do, but I'm so pleased that we're up to number six or seven in the series of podcasts and I've just had a huge amount of fun. So, joining you again from a rainy and cold wintery Christchurch, New Zealand today, but pleased to be on this podcast to warm it up.

Amit: Excellent. And I think this is one of those exciting ones where we really are getting to a point where we're getting more listeners in, getting a lot of feedback from our listeners and we've listened to them. And we have a special guest today, who we'll introduce later on. But before that, let's do what we do on most of our podcasts, which is a quick around the world in tech and back again. What's been interesting for you?

Sam: Amit I've been in schools recently, a number of really large secondary schools and just noticing that some of them are still holding onto on-premise technology and Microsoft's vision is cloud, cloud, cloud. We know that lots of the big tech companies are cloud first, cloud centric and one of the unique things about the Microsoft offering in education and indeed in enterprise is that you can slice and dice this any way you want to be. If you want to be 100% cloud, you can do that. If you want to be 100% on-premise, you can do that. If you want to be hybrid, you can do that. But there's, definitely some components within Microsoft 365, that hybrid side of things really is going to save you and your IT team. A lot of money. And a lot of time and they're shifting some of those core workloads such as Exchange from an on-premise server into the cloud with Exchange online. And I guess what I'm seeing now is that some of these schools that are perhaps stuck running older exchange services, are really having to confront that idea of doing, move this into the cloud and when do we do it? And similarly with things like on-premise network file shares, many schools have already made that leap straight into the cloud using various different platforms. But for those that haven't, you know, they're maintaining hardware, maintaining virtual machines, they're maintaining backups of that content. It's time intensive. It requires expertise when in fact, you know, you could be using things like Microsoft OneDrive as part of 365. You could be using SharePoint Online or you could be using Microsoft Teams, which we've done a number of podcasts around. These are things that schools, you know, need to grapple with. And again, as part of that digital transformation journey that they're on. Right?

Amit: Absolutely. I think it's very topical because these are conversations I'm having here in this part of the world in Singapore and Malaysia and even some parts of the Southeast Asia new markets is primarily around, you know, there are institutions that have existing software licenses that they have kind of locked themselves into for the past few years. Those licenses are coming for renewal or there is an end of contract with their existing service provider and they really need to think about the next step forward. And as you've pointed out, cloud becomes a very good option from number one, agility, number two, cost. And number three is just the plethora of services that are available now that enable new scenarios for institutions to normally reach their existing on-premise students, but also enabling new scenarios around remote learning. Our campus to campus collaboration, which in the past has been a cost intensive, capital intensive as well as infrastructure and also personnel intensive work to be done. So, that's really changing the game. And, and in fact, we are right now involved with a few TCO studies or total cost of ownership studies where we're trying to help institutions understand that cost of ownership and how we can reduce that over a three to five year period as they move from on-premise to cloud. So if you as an institution, as a listener who is part of institution that is in this scenario where you will have on-premise or on the cloud or on hybrid, talk to your friendly Microsoft representative in your country and we would love to have this conversation and it's, and you will agree that it's okay if you're using a quote unquote, competing technologies as from a Microsoft perspective. So if you are a Google school, you're an Apple school or you are an Oracle institution, what have you, we are still open to having that conversation because it really is a, a multi-cloud, multi-vendor multi-technology environment. And at Microsoft, we feel very comfortable having that conversation to make sure, you know, we're not trying to make this a Microsoft-only conversation, but a truly inclusive conversation.

Sam: You're so right, Amit. And from my perspective, there's, a couple of things that stick out for me. I think back to the podcast we did with our colleague Rob Smith around higher education, digital transformation. And he talked about Oracle's PeopleSoft now being hosted in Azure, right. So, straight away we're seeing that. Secondly, this idea about identity and single sign-on from a cloud perspective, really critical, and then thirdly, I actually had a meeting this week with an Apple reseller and he was very interested in growing his business by using cloud MDM services and saying, Hey it doesn't matter if your school is hundreds of kilometers away from where my office is based. We can remotely push out applications and settings and policies using cloud MDM such as Intune and Intune for Education and manage that. And I'm sure organizations that you're dealing with in Singapore and Malaysia must also be reevaluating MDM at this time as their contracts come up.

Amit: Absolutely. And I think, you know, as part of the consolidation of contracts, Microsoft 365 allows them to really consolidate multiple different vendors, multiple different contracts, multiple different technologies into a single integrated platform, which also helps them reduce costs, but also provides that seamless identity experience, a seamless device management experience, be it on a Windows device, iOS device, Android macOS or even Linux in some cases. So, we're really seeing this kind of cross platform conversation across platform, across premises, across multiple campuses. So, there's multiple of scenarios that we can address using a platform like Microsoft 365. And I think the conversation just gets bigger and bigger as we roll out more services and more capabilities into that platform literally on a monthly basis.

Sam: Yeah, you're totally right. And I think I'm glad you throw out the Linux option there because there's a lot of numbers floating around out there around the number of Linux and open source variants of that that are running on the Azure cloud, uh, in terms of infrastructure as a service and platform as a service. And you know, we recently announced even further integration with Moodle instances as a learning management system inside of Azure connected into Microsoft Teams. And so I think I even saw a sticker a while back, two or three, you know, the Microsoft loves Linux, a love heart, Linux, uh, sort of thing. And there's, it's true, right? Who would have thought, and I think Microsoft is one of the biggest, if not the biggest contributors to the Linux kernel source code now. Uh, so, we're really asking those contributions there and, it's timely, right? Because as we get ready to introduce our guest for the session today, I'm also reminded of uh, the conversation again that we had with Rob Smith around what's happening in higher education around at the e-research side of things and the amount of almost supercompute that can be done in the Azure cloud, often on open source platforms that are doing the rendering of the data. And this big data, big research is timely for this conversation, which is, you know, going to have a look at what is the role of data in the K-12 education space at this time. We took a look at it and how it works in Higher Education with Rob. We're going to kind of pivot back towards the K12 uh, side of things because data—data is the new oil is the phrase I'm hearing sometimes, Amit.

Amit: I think data is everywhere. Be it coming from traditional sources or now, you know, coming from the cloud itself, which is social. So you've got Twitters and the Facebooks of the world that are giving you a lot of data and insight into how you are relating to your customers. So, as an institution, how are you working with your students as an institution? What kind of interaction that you are having that will attract the right students back into your institution for the next round of recruitment that you're doing and how do you retain them? What kind of sentiments are there? So data really gives you a lot of insights and not only from the outside in but also inside out. What kind of work has been done inside in terms of collaboration. So, there is the capabilities within the Microsoft cloud which enables through the Microsoft graph the ability to visualize the interactions that individuals are having with others. So data is everywhere. And as you rightly said, I think we should introduce our next guest who has been doing phenomenal work from what you've told me and showed me in, in New Zealand around using data and visualization to really create insight into how institutions can really take advantage of that data they already have. So, why don't you introduce our guest for today?

INTRODUCTION OF GUEST, JAKE WILLS

Sam: I will do that, Amit. So, really happy to have on the podcast this month—Jake Wills, so Jake works as a teacher currently he's math teacher. Hugely, hugely experienced in that space, but not just there. He's also the founder of Maths New Zealand. He's worked with the graphing tool, which I'll let you explain about a little bit more detail. He's

also done numerous consulting roles around data, data visualization and the education space. So Jake, great to have you on our podcast today.

Jake: Thanks, Sam and Amit. It's great to be here today.

Sam: Cool. So I know I've done a very poor introduction for you really because of the role of your experience. Do you want to perhaps just share with our listeners a little bit more detail about, uh, maybe some of your teaching experience, but also some of these projects that you've worked on at a high level? Like I guess initially around data and education?

Jake: Yeah, no, that would be great. So, as Sam said, I'm currently a math teacher. When I first started teaching, we just had a new curriculum in New Zealand, which in statistics moves the focus away from computation to visualization and describing what you can see in the graphs. And one of the challenges that we had with that was the software that we had was great, but it only ran on a slick number of computers. And so my kids would have these various different devices in front of them and what we really wanted as we wanted a cloud solution so that any device they had, it would just work. And so I developed a program called NZ Grapher, which made the visualization of the data that we needed for the New Zealand curriculum really easy. And that's since exploded. So, last year we had 400,000 unique users using it, which was great to see. And as part of that, I started developing some supporting resources and around that, which I've scaled back on recently. But that's where Maths NZ came from. It came from when I arrived at my current school, my principal was like, this is great, but I want to look at some of our student data. And so from that I developed a tool, again, all cloud based called Essay, which is built around analyzing student data and making it really easy for teachers to get the data that they need in a timely fashion. And since then as I said I've done a bit of contracting work, particularly and around using Power BI which is a program that I think is absolutely fantastic. It makes taking data and making it visual and interactive so quick and easy.

Sam: A great snapshot, Jake. Thank you. I guess two things that I've picked up on there is, one, you've gone cloud, right? You've already seen the value of cloud and secondly, I don't think you thought you mentioned that, but a lot of the tools that you have been using in the cloud to build this out have been free open source software, right?

Jake: Yeah. So almost all of the stuff that I've done, I've published on Github so that others can come along and they can take what I've done. But I've also used a lot of stuff that's published open source as well, which, just being able to leverage off the experience of other people is incredibly valuable.

Sam: Yeah. And that's it right. And for our listeners that may not have picked up on this, Microsoft recently acquired Github and it's kind of starting to fold into the stable of all of the various services that we're offering. But yeah, it's a pretty generous thing, Jake, because I'm sure you spent many, many hours working on the code and to contribute that freely back to Github to the wider community to be able to take what you've already done and evolve it or tweak it for their own scenario is a pretty cool thing.

Jake: You know, it's really great, but it also means that I get the experience from other people as well. So the number of the projects that I've got up there, other people will come back and say, hey, why don't you do this, this and this. And they'd been out to contribute directly to the code as well.

Sam: Yeah. But you're obviously a math teacher and math teachers, you know, deal with numbers and data and statistics and so forth. But I guess is it just that you're a math teacher that's kind of drawn you down this kind of educational data kind of focus? Or is there something else about the value of data and schools that you've identified that has led you on this journey that you're on?

Jake: I guess I can, I've seen the frustration that teachers have often had with data. They want to use data cause they, they know data can make a difference. And it's about finding the right kids at the right time and having the right information at your finger tips. But so often that hasn't always been the case. We haven't had the right data or the data that we've had has been three, four weeks out of date, which, in some spaces can, you know, be an eternity. And so having that right data at the right time can just make such a huge difference for the kids. And I guess that's what really motivated and made it to a lot of the stuff that I did with the student data is because I've seen the difference that targeting the right kid at the right time can make.

Sam: Yeah, and Amit, I kind of want to bring you on this as well because, Jake may not know, but we both work across Asia Pacific and there's some very developed markets in Asia Pacific such as Singapore where you're based and New Zealand where Jake and I are both based albeit in different cities. However, there's some very emerging markets in this space as well. And you referenced one of them in the introduction in Southeast Asia. New markets is very much an emerging one. What's the role of data in some of those countries, are they sort of seeing this as the potential to accelerate the learning outcomes for their students as well?

Amit: Absolutely. I think one of the things that, you know, a lot of southeast Asia, new market countries like Sri Lanka, Bangladesh, Myanmar or Brunei, are really grappling with is a holistic view on what, where the investment in education is actually going. So, they're probably starting at a more basic level in terms of understanding how data can really help them with, you know, simple things like attendance everyday and the impact of knowing attendance numbers and kind of trends against their outcomes. I mean, simple things like in Sri Lanka for example, they're using data to understand, you know, what time does a student come and how far are they living from the school? Because in some cases they have to travel a lot. Does that impact their attendance that, you know, does the weather impact their attendance? So, because of, you know, rainy season or monsoon coming in, how does that kind of correlate to attendance and results and outcomes? So there's, multiple sources of data that we've shown them that has impact on the day-to-day running of the school. But overall it also gives them a view into the trends that impact learning outcomes of the students as well. So data has become really core to the conversation that we're having. And that leads us to the conversation about, well, if you want to gather data, you need to represent that person or those entities in a digital manner, which means they need a digital identity. Therefore we can start gathering some basic data like, like attendance, then there's scores and, and other information like weather and demographic information like their socio-economic kind of strata and so on and so forth that impacts their ultimate outcome that all of us are trying to drive is a better learning outcome for that student. I would love to hear, you know, from uh, Jake as well, if he's seen similar kinds of usage of data that really has changed the way things have been operationally impacted in the, school you know, like I was just explaining about the weather data for example. How does that impact, because I know you guys in New Zealand have also had your fair share of ups and downs with the weather and other natural incidences. So it would be great to understand that and for our listeners to understand that as well.

Jake: Yes. So I guess I haven't seen too much examples where the weather's been used. But the other bit you were talking about there was attendance. I've seen some really interesting stuff going on with teachers doing attendance, and how that impacts on the students and there's kind of two parts to it. One is, are the teachers doing the roll? And the other bit is are the kids in the class? And one of the things that I've seen a number of schools is teachers weren't doing the rolls when the kids were in front of them. So they were kind of remembering when the kid's there, when they're not there. And one of my colleagues that I was working with in another school did some really cool analysis and around when teachers did the roll and how that impacted on the kids who are in their class and amazingly enough, if teachers would doing the roll when the kids were in front of them and they were doing it more accurately and then we're able to follow up on the kids more effectively. And there was that, I mean, one of the biggest things that we've seen from all of the data I've looked at is there's an incredible correlation between attendance and achievement. If the kid's at school, they can actually learn. If they're not at school, then they really struggle.

Sam: Yeah, really interesting point there, Jake. And think it's that, you know, if it's rubbish data in, then it's going to be rubbish data out, right? And when you're relying on a teacher at the end of a busy, stressful, you know, six periods of teaching, to try to remember who was in their class period one, you know, six or seven hours ago. Good luck. Right? Particularly if the classes are kind of large in size, and so, I've been in leadership roles in schools where you're just continuously asking teachers to be prompt and timely with the data entry and for whatever reason, you know, there's always some inaccuracies there which is really problematic. But I agree with you on the correlation between, uh, being physically present in class and results. But it's really interesting as a, as a counterpoint to that, I ran a pretty large data project at the last school I worked in before joining Microsoft St. Andrew's College and you albeit this is a, you know, an elite independent sort of private school. And so attendance or absences was not generally speaking because students were banking or skipping out on class. But what we found through our data project was that some students were actually having attendance as low as low 60 percentile and yet there was still academically achieving well. And this kind of flew in the face of both the anecdotal hunches that we had at the time that higher attendance equals higher grades. But as we dug into it, we found that some of those students were in fact, you know, some of those amazing students who were, you know, they're in the top sports teams, they're top musicians and they were in all the drama and art and cultural groups as well. So, they were missing class because of the co-curricular activities. But they also seem to be highly motivated and we're catching up on that as well. But we know of course, that that's

not true for every student. And I think your main point around absences, particularly unexplained absences will be detrimental for the learning outcomes of the students. And if there's a takeaway point there is this—school's will do better when they're making data driven decisions rather than relying on anecdotal hunches about individual students. Right?

Jake: Absolutely. But I think it's also, um, there's another bit that's really important to highlight here is data is wonderful and looking at graphs is fantastic, but it's finding out the story behind the data that's most important. One of the things that I like to say is that, you know, a graph will wiggle its eyebrows suggestively and say, hey, maybe look over here, but it's not going to actually tell you what's going on inside a student's life. And so like as you said that you had those kids who are in class 60% of the time but doing really, really well. It's because there's that story behind it and finding that story is where the value is in data.

Sam: Totally. And I'm glad you brought that up because I remember we were developing some dashboards on Power BI as part of the Microsoft 365 suite of tools. And I started to show them to one of the teachers that were heavily involved with the students with learning support. And I asked for her feedback and I showed her, her, tutor group and she could see the data changing and being visualized for each student as I clicked through them in Power BI, and because she was intimately connected with each of those students, she immediately explained why these things were happening. And there was one student who's academic and attendance performance had dropped down and she said, oh yeah, he broke up with his girlfriend at that time and was going through a really tough emotional time. So, she just knew it straight away. Right? And that was part of that story behind the data. But what she immediately saw was the value of the visualization. And we saw teachers starting to become what we kind of refer to as data curious, right? They could see the data, but it wasn't just a static graph in Power BI, they could start interacting with it. They could start asking questions of the data and that really opened their eyes and they were coming to my team saying, so then we need a dashboard that allows us to do this, this and this. And I think in many respects that you know you're onto something when teachers are data curious and asking for more reporting on their students.

Jake: Absolutely. And some of that's about unpacking that story is on I know the story behind the student, you know, they broke up with their boyfriend or girlfriend, but the student here has got a pattern and I don't know that story. So I want to be up to dig deeper and sometimes we've got the data to do that and sometimes we have to come back to people like me or you Sam and say hey, I want to be able to dig into this, this and this as well.

Sam: Look it is, which raises lots of interesting ethical questions around data and how schools do it. And you know, I think, Amit, a future podcast would be great to get maybe someone from CELA or someone from our philanthropies team on here just to talk about the effects of data. Because, you know, I know our head of legal affairs and Microsoft recently published the ethical AI report, didn't he? And when it comes to data, schools, any organization needs to be incredibly careful about what they retain, how they retain it, how they ensure that there is appropriate security for people accessing it and actually what actions they take based off the data, I think.

Amit: I totally agree on that. I think we've had a lot of conversations right now with the Singapore government around how do we use on-premise and cloud-based data sources in a ethical manner as you've pointed out, ensuring security and privacy for those students and even the staff within these institutions to make sure, you know, everyone has their own data privacy maintained, adheres to the law of the country as well. So, it's not just about the technology here, but also the implications on the rules or regulations and the compliance requirements that each country may differ on. And we would love to hear from listeners as to what they're experiencing in their, institutions in the feedback. Just let us know. And then we would love to address that in upcoming podcasts. Like you've just said. We would love to address that.

Sam: And Jake, I know you have been very quick to take publicly available data, published by the Ministry of Education in New Zealand and incorporate that into some of the dashboards that you have a prepared and that's allowed the end-user, particularly with some of the Power Bi dashboards you've done to do a very head to head comparison of schools around academic performance in New Zealand, external examinations and so forth. And also, you know, some of the other data that you've published in that space too around schools, what they're using for email servers, what they're using for student management systems, all of that sort of stuff. Have you navigated that kind of ethical side or public data side of things when it's come to some of those reports you've built?

Jake: I guess what I've tried to do is with all of the reports that I've done, particularly where it comes to comparing schools, is there's always a lot of underlying reasons why schools might be different to each other. So what I've tried to do is rather than comparing School A to School B, you can compare School A to schools that are like School A. So it may be, I'm in New Zealand, we segment schools based social deprivation index so you can peer schools that have a similar social deprivation index or schools that have a similar location or size or those sorts of things. So rather than going, hey, here's two schools, which one's doing better? How's the school going when compared to aggregate schools? Kind of like that.

Sam: Yeah, that makes sense, I guess. And it's an ongoing thing, right? And I guess any school that might be listening and wanting to kind of get into the data project in really do encourage you to take care with that privacy of your data and ensure that you take the appropriate steps. One of the things that we did when we were working with Power BI, we created a data warehouse. I based off Microsoft SQL services and we implemented something called Row-Level Security. And what that meant is that when a teacher signed into Power BI dashboard to access the dashboard reports that would take their Microsoft credentials and then run it through the Row-Level Security filter, which essentially say, ah, you're a teacher of the year nine Math class or you're a teacher of this year ten English class. And it would only show them the data as a result of what they were actually associated with in the student management system. So, it was one way to prevent teachers from just randomly browsing data on students that they don't teach and they'd be wanting to check up on things. And so Row-Level Security is built right into Power BI, as expected from SQL database servers. And that's another way that you can go about protecting your data when it comes to reporting from that side of things. But I'm interested, question for either Amit or Jake around looking at one class or two classes or even five classes. As a teacher it might be possible, but what if you're the head of a school? What if you are a dean who looks after the entire year level? Are we starting to see machine learning coming into play in this educational analytics space to actually look across and look for bigger trends and look for data insights that maybe even the most experienced teacher wouldn't pick up on just because of the sheer volume of data they have to process?

Amit: Look, I'll give it a shot in terms of what I'm seeing here, I mean even the basic things, like I said, in the markets that I'm dealing with, we are talking about very basic data gathering and reporting. As part of what we've been talking about with Power BI, we introduced the natural language searching capability essentially it helps interpret the data. Just using natural language as you and I will be speaking to say, Hey, show me the attendance of all year nine students in my school or across my district and having the ability to filter and try to unravel that story behind the data using natural language really has been a powerful enabler and really is democratizing the actual usage of tools like Power BI, which in the past you need to have coding skills or at least, you know, some level of understanding of the syntax around querying data before you could unravel that. But now you're literally in plain English, asking some of these questions, which is then getting interpreted by machine learning in the back end, which then give you the relevant data and in some cases also leading you down the path of querying further, helping you query based on suggestions that really starts making it easier for you to find the data or rather the information behind the data that is sometimes very hard to find just by doing simple graphs as we've been talking about during this podcast. So yeah, very simple conversation, but it really is a powerful kind of starting point with a natural language query.

Sam: Let's go back to Jack, how about you?

Jack: Um, yeah, absolutely. There's a huge potential for the machine learning to be used in the education space. I haven't seen a lot of it being done. But if I take, say for example our school, we've got about 1500 students here. We have six periods a day where attendance is recorded. So, I mean you've instantly got tens of thousands of data points there. Then the way the assessment works in New Zealand is on a daily basis: students might be picking up what we call credits, which are kind of modules of work and how they've done in them. So, we can have, you know, tens of thousands of data points created on a daily basis. And so being able to sort through them to find the ones that aren't following trends that we would be liking, or you know, are doing really well. And on the other end, something that, you know, has huge potential to impact on the students. So, you can highlight issues early rather than needing to be the ambulance at the bottom of the cliff.

Sam: Yeah, good point. And I think this is something around attendance. And picking up on your question earlier, I think, Amit, where you talked about weather patterns and so forth. We actually did something like that. And this is one of the cool things about Power BI. And I know I'm kind of coming back to this it is part of the 365 suite so it's accessible to a lot of our listeners, easily powerbi.com will look inside your Office 365 portal. You can bring in data

sources from almost anywhere and one of those data sources is actually a webpage. And so if you have a weather report for your city that is hosted on a webpage or you can point Power BI at it and it will look at the underlying html tables and try to bring in the relevant weather patterns. And we ran just as a proof of concept to see if it could be done: a check of attendance versus weather reporting. And it was pretty interesting on that. We found that students on really hot summer days there was some, some decrease in attendance. They might've skived off to go swimming or go somewhere else because it was so sunny. And it reminded me so much actually of my very first teaching job after I left the IT sector, I was teaching in a low socioeconomic school and we would find on which rainy days that our attendance for the first two periods before morning tea time, it was often really, really low because these students did not want to go walking through the rain. They often had to walk. Often their footwear was not weather proof and they would just stay away from school. And so those types of trends we can start to pick up on, that's where machine learning will really, I guess, highlight some of those things and surface them, map them and perhaps also start to be able to recommend some actions that might take place to alleviate those situations.

Amit: Absolutely.

Sam: So, gosh, time is flying as we get here, just clocking over the half hour mark here. Jake, just a question. Do you have any kind of sense or have you had any ideas or where you see educational analytics could potentially go in the K-12 space?

Jake: I guess, the area I see the most potential for is in measuring progress. We're very good currently and a lot of places around the world of going cope this is the benchmark you need to make by the time you're eight years old or ten years old or twelve years old. And yes, you've made it or no, you haven't coped, pass, fail. We're not very good at saying, right, this is where you are currently and you've moved to this far. And so being able to accurately measure progress I think is probably a really big step that we could be making forward.

Sam: Yeah and that reminds me, and I talked about it on our last podcast last month about what I'd been seeing, around the world in edtech, a project out of the US actually from the Tacoma district schools where a deputy principal was using the Microsoft PowerApps Microsoft Flow and Power BI all wrapped inside of Microsoft Teams to digitize the running records of literacy for students. And particularly how that could then help the learning support team wrap around the necessary area to help a student at each point of their progress. And the learning point from their deputy principal who drove that project was when teachers could see the data points that they had been collecting previously just in, you know, paper mark books. When they could see that visualized through Power BI, they were instantly more engaged in that process. And we're able to identify next steps and the progress journey of those students in that way. And I will share that link with our listeners as well, where it'll be up on the Facebook page and then the comments for Spotify podcast as well and do encourage you to check that out because it's those sites, sort of workflows and digitization around progress measurement that can make all the difference for the learning outcomes for our students, right, Amit?

Amit: Absolutely. And while we're on the subject of links and content that you're linking on from this podcast, Jake, we would love to understand for our listeners, where can they find more information about all the great work you're doing? You mentioned Github and other websites...we would love to get those links here as well. So, if there's one call out you want to make in terms of where they can learn about what you've been doing, could you help our listeners?

Jake: Yep. So I've got a website, jpw.nz. I'll give you guys the link so you can chuck it in below. That's kind of got links to all of the various different things that I've done.

Amit: Fantastic. Thank you for sharing that. So, Sam, yeah. Is this the time where we get to thank our guest for coming in and really adding so much value to our podcast? Because I've learned a lot about what's happening from a way our customers and our institutions can use data to really help transform education. It's been a great conversation.

Sam: Okay. It has, and Jake, thank you so much for giving up your valuable time and sharing some of your expertise with our listeners. It's been a very interesting podcast, so thanks a lot Jake.

Jake: No worries. It's been a pleasure coming on.

TIPS AND TRICKS (367:55)

Sam: And before you run away we do finish our podcasts with a little tips and tricks that we have to share with our listeners so they can take away one thing they might want to go and do. And I'm going to kick off here first Amit, because I've got one up my sleeve that was brand new to me this week. I did not know about it. One of the things that many teachers and, or IT admins want to do is create very quick screencasts as tutorials or help desk files so that the students or maybe the teachers can do something really easily and this might be around data and Excel for example, to keep with the theme. So, I know lots of different ways you could do this, but I learned a new one this week, which is if you hit the Windows G key on Windows 10, that will launch the xbox bar. And this is an app that was hidden away from me and it's designed to actually record what you're gaming, funnily enough. But actually it will do a really good job of creating a quick audio and video file of your desktop, and you can then share that file with your listeners uh, sorry your students or colleagues, to show what you're trying to teach them. The one caveat I'll put in here is you need to know that only shows the current application that you're using. So, if you try to switch between applications that won't come across, but very easy one click Windows G and you can start recording your screen. Did you know about that one, Amit?

Amit: I am learning with you. It's always good to learn. Yeah.

Sam: Yeah, great. Uh, how about you, Amit? I bet if you got one and then we'll throw it to Jake.

Amit: Yeah, actually I've got one, which I have, I was at a university this week and they asked me a really curly one, which I happened to research in front of them. And the question was, well, we get a whole lot of requests from our teachers. I was talking to the IT pro in this university here in Singapore. And they said, well, we get a lot of requests for new software to be installed on our PCs and we have to check it against our gold image. And now all that sort of good kind of due diligence that they need to do. How can we make that faster and on some further investigation, I found out in this new capability within Windows 10, 1903 build, which is the latest build of Windows as often we are recording this, and that has a capability called Windows Sandbox. And Windows Sandbox is really a lightweight desktop environment, tailored for you to safely run applications in isolation. So essentially it uses virtualization technology to create a pristine copy of Windows. You install the app you want to try out, it behaves like, you know, any other Windows clean install that you might have done on your PC. So, it really gives you a sense for the impact of that application on your own operating system. So after implementing that in the last two weeks, the IT department is reporting that they're saving multiple hours, having to re-image and reformat devices. So, it's been a really useful kind of dual-ness, you know, paying in immediate dividends. So, it's Windows Sandbox check it out and there is some blog articles about Windows Sandbox from our product team that really goes into the depths of it as well.

Sam: Nice. And I'm going to just ask you, put you on the spot here. Is that available in every edition of Windows 10 or is that something that's only available on maybe Windows 10 Pro, or Enterprise, and Education?

Amit: You're absolutely right. It is part of Windows 10 Pro and Enterprise, or Windows 10 Education edition. If you are using Windows 10 Home, you should look at then potentially and want to use this as a solution like this. Look at upgrading to Windows 10 Pro, which you can also do quite easily right to the Microsoft store. So, if you have Windows 10 Home and wanting to get benefits of all of the Windows 10 Pro goodness, you can do so quite immediately. Really.

Sam: Fantastic. And Jake as our guest, do you have a tip that you want to share with our listeners today?

Jake: I guess probably what I want to share and it's something near and dear to my heart is Microsoft Power BI. It's free for you to download get to play with. A lot of people get scared of data. You can download Microsoft Power BI and have a play, see what you can make. It's one of those things that once you start getting into it, it's not too tricky. So yes, just have a go and get started.

Sam: Nice. And you have actually shared some really cool tutorials on Youtube about some of the funky things that you've been doing in Power BI. Probably not for beginners, but certainly highlighting your prowess and skillsets. And they're available on Youtube as well, aren't they?

Jake: Absolutely. Yes.

Sam: Cool. So, Amit, I think it just leaves it to you to close us off for yet another fun and really informative podcast.

Amit: No, it's been amazing as usual to have you with me, Sam, but more amazing to have an external speaker today. So thank you Jake again and we look forward to more external speakers who can come in and really give us a— outside in perspective of all the tools that Microsoft is making available. So, if you're interested to come on our podcast, please let us know. It's Amit, which is amit.pawar@microsoft.com or you can email Sam on his email, sam.mcneil@microsoft.com. And Sam also runs a blog post and his own blog on the Internet so you can even reach out to him through there. So yeah, we look forward to more conversations like this in the future with the, um, on topics around education technology. So, it's been a pleasure for us to have you listen to us during this podcast and hope you join us next time. Thank you very much.

Sam: Thank you, and thank you on behalf of Jake as well.

Links discussed:

Link to my Jake's website is:

<https://www.jpw.nz>

the powerBI tutorial video we talked about as well:

<https://www.youtube.com/watch?v=vTr37C4FUOI>

we also referenced my blog here:

www.samuelmcneill.com