MATHSTALK **by AMSI Schools** (Series 2, Episode 3)**:**

'Maths is Everywhere! – Pi Day Special'

Speaker Key:

LM Leanne McMahon

ED Elizabeth Dewar

RJ Ryan Jellie

00:00:12

LM Welcome to MathsTalk by AMSI Schools, where conversations in maths become part of your professional learning practice. My name's Leanne McMahon. I'm an AMSI Schools outreach officer and today we have a very special episode of MathsTalk to coincide with the International Day of Mathematics or, as it's commonly known, Pi Day on 14 March.

We're very excited about Pi Day and especially excited for this year's theme which is Maths Is Everywhere. In keeping with the theme, we have two amazing special guests in the studio, the dynamic duo of our last year's Choose Maths Teacher Awards, Elizabeth Dewar and Ryan Jellie from Boneo Primary School on the Mornington Peninsula in Victoria. Welcome, guys.

ED Hi, Leanne.

RJ Hello.

ED How are you?

LM Very well, thank you. So, Pi Day or the International Day of Mathematics have their own website, which is www.idm314.org to find out more about IDM and also download lots of activities you can do in your school with your students to celebrate the day. We're really excited about this year's theme which is Maths Is Everywhere and that's why we thought Ryan and Liz might be terrific guests to chat to. And I'm going to read directly from the blurb on the AMSI website.

00:01:26

Teaching at Boneo Primary School in semi-rural Victoria, Ryan and Liz are passionate educators who are transforming the way students and teachers view the learning and teaching of maths in their school. After discovering that student outcomes in mathematics were on a downward trend, they developed a plan to transform maths instruction and improve student engagement.

In a stunning move to increase engagement, they staged a crashed meteor site in the school's gardens, I'm dying to hear about that, and they staged three dig sites with dinosaur bones. Wow, you two, that sounds absolutely amazing. So, can you tell us how has showing your students that maths is everywhere begun to transform the way that maths is taught at learnt at Boneo?

ED I think we realised really early on that our kids didn't enjoy what they were doing in maths and they weren't interested and they weren't feeling engaged in their schooling in general. So, before we did anything else, we really needed to target that, didn't we?

00:02:27

RJ Yes, increase the motivation of the kids and getting them to want to do the maths instead of they're doing it because they're in a maths lesson and they're being told today we're doing this and they go and do it and then they forget it because there was no connection to it, there was no linking to their lives or making it relevant or showing them why they're doing those activities.

LM And how long ago was this that you decided that a change was needed?

RJ It started about two years ago for us when we were lucky enough to get into the primary maths science specialist programme that Chris Brown was running and was doing an awesome job of and when we got into that, at first we were like so lost, where do we start, what do we do. We've got this time, we've got a bit of money, how are we going to best use it. And we thought we'd go with like a bit of an easy win first and looked at our resourcing.

So, our school budget was pretty small for maths and the new principal that just jumped on board bumped that up and the first thing we did was collected everything at the school that was maths, redistribute it, which was crazy because one person had a jar of dice and that was it. That was it, that's all they had, and then another person had hoarded all the stuff over how many years.

ED We picked the junior schoolteachers from the senior schoolteachers as...

RJ Yes, and it kind of became really clear that we weren't using any concrete materials anymore and it was all textbook and questions on the board. Our school, I suppose, for a bit of context, had done ability grouping since about 2012 and ever since we brought that in we had seen deteriorating results. The bottom, for want of a better word, the lower group, they made a little bit of growth but everyone else was stagnant.

00:04:24

ED However, those bottom kids were still well below standard. They had made some gains but they still weren't being exposed to where they should have been.

RJ And then through that PMSS, when we were exposed to people like Doug Clarke, who is my spirit animal. He is just the most amazing man, and Charlie Lovett and

Jill Cheeseman and all these amazing people that have been working in maths for so long, and then they just preached this experience before instruction and differentiation through prompting and it was just so different to what we were doing in our school and over a cider tower one night in the city Liz and I said, well, how are we going to put our own spin on what these experts are telling us, and that's where we went back to school, looked at the engagement data, which was really low and which was quite upsetting for us because we're pretty passionate about what we did, and the kids just weren't engaged.

00:05:18

ED We thought they were okay but there was no obvious reason that they wouldn't be okay until we actually looked at this data and it was a real shock. It was a real shock.

RJ Everyone was working so hard.

LM Exactly.

RJ And everyone is and then to have this data that the kids weren't really connecting with it, then you're kind of like, well, it's pretty human nature. If I'm not enjoying something, I'm probably not going to retain it and I'm not going to want to do it again.

LM Yes. You were given the opportunity to do the professional learning in the first place with absolutely fantastic people and then you've taken it on and had a think about what can I do to change things in the classroom. First of all, looking at the data, that actually said things need changing. So, that's really quite exciting.

ED I think we were lucky that it wasn't going to get any worse. Whatever we did was going to make a little gain. Free range to try out all of our crazy ideas and we certainly had lots of them.

LM I've heard James Tanton say if you don't know what to do, do something. Anything. He says that in relation to problem-solving but I think in relation to making a change in his students too.

00:06:28

RJ And I think we should say our school wasn't... It wasn't like the kids were setting the place on fire. It's a lovely little school. I went there myself as a student and, yes, the kids enjoy coming to school but the connection really wasn't being built on and when we were talking about how are we going to start and we were looking at it like do we look at the planning, do we look at the assessments that we're using and all that? But then Liz and I both tried to really stay true to who we are and...

ED And we're not really paperwork people and planning people.

LM You're more into crashing meteors.

ED We were much more likely to have success with doing something rather than trying to write it down.

RJ Yes, and that's... For everyone out there, if you've got that 25 Engaging Maths Lesson, I think it's called, that Doug Clarke and I think it's Anne Roche put together...

LM We'll put that on our resource list, yes.

RJ It's just really simple to follow, engaging, easy and the kids loved it and that's... We actually started with one of those activities.

00:07:31

So, instead of lecturing staff about we need to improve engagement and we need to do this and this and this, we just had a staff meeting one night and we said, you're all doing this one activity on the same time, which was the activity how far you can jump, and just go and do the activity and then we're going to talk about what you see after it. And the maths that you do from it is the maths that you do. There was no... It was a very open-ended just go and do it. Just have some fun with the kids.

ED It was really lovely on that day, when we had that time blocked out to do the activity, to see the big kids out there doing the same activity as the preps.

RJ Yes, and it's something that we've spoken a lot about, like what activities can we do that the preps and the sixes and everyone in between can have a shared experience, which is one of our three little days, I think, that we've tried to really bring in at Boneo. So, yes, it was awesome to see the kids out there jumping and measuring their jump and then going back into class and the preps were just comparing the lengths of string.

ED Yes, they were measuring with ribbons.

LM Longer and shorter.

ED Yes, and altering them and comparing, which was lovely.

00:08:44

RJ And, yes, we did some addition out of it. Like once you had your measurement they went and found two other friends and combined what did they all jump together.

LM And so you're adding decimals and that sort of thing.

RJ Yes, that was really cool.

[Audio clip]

ED Unexpectedly, it was the teachers as well who really... They were really chuffed with it. They were like, this is right. So, our gut feeling has been validated by this. You guys are onto something here, so it was really nice.

RJ It's really an awesome feeling now, to sit here and have that justified, that it wasn't just a gut feel, that there are experts out there that really do believe in what we're trying to do, like Clarke and Sullivan and all those guys all talk about that experience before instruction and showing the why before just the what has been a really important difference.

[Audio clip]

00:11:08

LM So, have you got some advice for people who are trying to set up a much more maths is everywhere type approach to their teaching?

RJ We've got a really strong leadership team at school and we've done a lot of work in the past about looking at the curriculum and pulling it apart. So, we have made a really conscious effort of let's not go back there and let's start going to showing some value and through that how far you can jump activity where the school did it, prep to six, and the teachers kind of let the kids go and the kids drove it, that then led to the value being shown of if we do stuff differently, maybe we can improve our engagement data, which is then going to hopefully improve our results, improve our attendance to school, improve behaviour through the school.

So, yes, we had a really big focus on showing the value to staff through action rather than here's another document or here's some more readings or something like that, which we had done a lot of and gave us a really good grounding. It was now about putting that into action and the how. So, we knew the what but how are we going to do it.

00:12:14

LM And was that well received by staff?

RJ It was, yes, absolutely.

ED Yes, I think it was.

RJ Because we went from a broader grouping we kind of went, we're going to stop that and we're now going to have a look at trying to do open-ended tasks where doing differentiation through prompting and there was that kind of like what do we teach when? Well, if you do this activity, you can do addition, you can do place value, you can do subtraction, you can do multiplication, you can do a whole range of things.

ED The other parts of the curriculum.

RJ Yes, the other parts of the curriculum that get neglected because it's number, number, number, they started coming to the fore and number was being taught through these activities instead of that explicit today you're going to learn how to add, put some questions on the board, you're in this group, you're in that group, no...

And the teacher had all the knowledge and the power. You had these kids sitting there and you say, well, how would you do this, and the kids sit there quietly because you've got this ability group and once we opened it to a whole class experience, well, you just need one kid to say, oh, I would do it like this, and then the other kids feed off that and then all of a sudden I'm not teaching, I'm supporting the kids to teach each other and that was a real big shift in the way that I was operating.

00:13:26

LM And then what do you do as a school?

ED I think we were really conscious of not walking in and saying, here we are, we're the new experts in this field. We've been to one PD, so we know this now. So, we went really slowly and carefully, I guess, and that worked in our favour, didn't it?

RJ Yes. We touched base with everyone a lot. There was a lot of visiting classrooms just to see how you're going, what are you wondering, what do you need help with, and then we did a few surveys of staff, just really easy what do you need, and then tried to support in that way, to show that we're really trying to help them change their practice.

ED Yes. And that we were along for the ride as well. We were as vulnerable as they were. So, we were doing it together.

LM And do you get time to do this?

00:14:15

ED We were really lucky that when we were doing it we had two days per week together. So, at the heart of that was a really genuine relationship, I think, and we had time together to talk everything through. We weren't making decisions on our own and I was able to pull the reins a few times on some of Ryan's ideas but that was a huge benefit, I suppose, and not everybody has that.

LM No. In order for these things to actually take hold, you have to have the support of the leadership team. You actually have to be given the time to do it.

RJ Yes.

LM So, these hands-on experiences for students, you spoke about the measurement one. Are there other experiences that you want to talk about?

RJ There were many ideas and then, as Liz heard, sometimes she'd rein us in and then Liz would have ideas and I'd rein her... I think one of the things too is the strength of having two people.

LM Yes.

RJ A lot of people have a maths leader and there's no way we'd be sitting here today if we were doing this on our own. It is a joint reason why we're here and I think... I know everyone's time-poor and all that and leadership's got to do lots of things but you have to have someone to bounce off and that would be a really key change in the school, to find some way that two people can have some time to bounce ideas off each other because when Liz suggested a meteorite one day, I was like, what are you talking about, and then away we went.

00:15:43

LM So, can you tell us about the meteorite project?

ED So, I think the meteorite started from a conversation with my prep colleague, Chloe. Thanks, Chlo. Basically, what we decided was that we were going to stage a crash site in our gardens. We were going to dig a trench and we were going to have a smoke machine and we were going to have... We were going to have this and this, and it did get bigger than her.

RJ It was huge.

ED It was huge. And we ran it past the boss and she was okay with this crazy idea but, in retrospect, we should have got the teachers on side first.

RJ Yes.

ED Because it was a bit of a surprise to them. So, they didn't really know what we expected them to do or how to run with it. So, mathematically, we could have taken a whole lot more out of it, had we prepared them better. But in terms of just the pure engagement and the buzz that was happening...

00:16:34

RJ We were following the how far you can jump activity and were trying to show the value again of that experience before the instruction and that hooked in everybody. We had parents calling up the school Monday morning, should I be bringing my child to school, what's happened. The Facebook page was off the rails. I can't believe this has happened to Boneo, this huge crash site in the garden, which the principal wasn't exactly stoked about, when we started digging up the garden the night before.

LM That's quite funny. I can just imagine the principal thinking, what are these absolute idiots doing to my garden.

RJ Yes.

LM How big was the hole?

EM It was an unrealistically large meteorite, wasn't it?

RJ It was one of the best investigations that the senior school kids did. Because I remember Stacey, one of the teachers, said, what am I going to do when the kids say that it's fake. Then we were talking about, well, that is the investigation. Like if it's too big, which is what the kids were to discover, that if it was really that big, the whole southeast of Melbourne would be obliterated.

00:17:42

LM Ah.

RJ That was an amazing investigation for those grade sixes to go... And that started... She prompted them with, oh, okay, you think it's fake, well, prove it to me, which is another thing that we've really embraced from Clarke and co – prove it to me. You think this, well, prove it to me. But the senior school were just adamant that it was fake.

ED Only because they really wanted to believe it, the big kids, didn't they?

RJ Yes. I remember all the other kids running around saying, the aliens are here and they're looking for them and where's the spaceship and da da da da da. That wonder and that excitement just went through the roof. And it just created a buzz amongst the parent community as well, which then got them going, oh, that mass night that's coming up, maybe I will attend it because this is different and the school hasn't done these types of things before and this is a really nice way to...

Again, we tried to get the teachers on board by saying, here's a value of doing something... experience before the instruction and then the parents have like, boom, there's a crash site and then they're like, oh, this is interesting and we sent home an article about it that they could read with their kids and it led to a lot of other curriculum areas as well.

00:17:42

LM I can imagine, yes.

RJ A lot of writing, a lot of reading about it and there's a hazmat team there trying to clean it up the next day, so all the kids were standing around and there was Liz's husband and a friend had dressed up in the old Bunnings overalls and... Not the red one, the white paint suit thing with the full mask and he had a little Geiger counter thing and...

ED But it was all about creating the atmosphere whilst the boys were measuring and they were taking very important phone calls and writing down all sorts of things and... Yes, it was...

LM Your drama programme must be fairly good too.

ED But it was genuine joy that day. The kids genuinely enjoyed being at school and the conversations afterwards... Even now... My kids this week have been saying that wasn't real. Was it really real?

LM So, any great ideas planned?

RJ I suppose that's where we're working with the maths is everywhere theme is something that we've tried to embrace... What are we, week five now. Yes. We've already tried to bring that in through...

00:20:48

I know through my class and with the other grade fives, we've been trying to look at the maths that you see in games. And there's a game at Boneo that's been played since I went there called Slagball which is very... It's kickballish but it's got its own little Boneo twist. And the kids just went out with the object of... They watched one class play the game and then they just had to record all the maths they could see. There was no prompting or anything, just what do you see. What could you record? What data could you pull out of the other class playing it?

Then we swapped over and the other class played and my class observed and wrote down the maths, went back inside and just brainstormed everything you saw and it was everything from mapping, tracking the ball, timing how long the average was until someone got knocked out of the game. When they kicked it left or right, which way was more successful to get home. There was so much maths involved and I was really surprised how detailed the kids, without any prompting, with a blank piece of paper, which is something else we tried to bring in as well is, you know, less prompting, just let them put their own thoughts down. That was really cool. So, we've got a lot more to do with that.

00:21:58

Yes, just what's the maths in your games, what's the maths in...? We watched a short clip of Champion Data, that people do the statistics in footie and other sports, yes, and watching that and that really opened the kids' eyes to possible jobs in that type of career as well. So, yes, that's been a really kind of fun engaging way. So, how do we start the year off in a fun way? Well, let's play some games and get to know stuff, which everyone is doing, but then having that flip of the maths as well. They're doing this maths without realising it and now they're becoming more aware of what's...

LM Okay. So, doing the maths without realising but then making them realise it and seeing that maths is actually important.

RJ Yes.

ED And that's our job, to show them those connections or put them in situations where they can find them themselves.

RJ My very first day this year there was a real apprehension around fractions. They were very, very nervous, there was a lot of anxiety around it. So, on the very first day of school I made them do fractions, except they didn't know they were doing fractions.

They thought they were playing with Lego and they were just making these blocks and just having a bit of fun and just threw a couple of questions out there and I said, write it all down, da da da, and at the end I had this page full of all these fractions and I said, can everyone hold up their fraction work and they're all looking at each other going, what are you talking about, it's the first day of school, who are you?

00:23:26

And I said, no, hold it up, and I said that's a fraction. You've drawn fractions. That's fractions. And then we go into this huge argument about me making them do fractions on the first day. You didn't even know you were doing fractions.

LM Yes.

RJ It's not scary. It can be fun. Make sure when you go home tonight and you talk to your parents, you say, on my first day of school my teacher made me do fractions.

LM Yes, that's fantastic.

RJ And then the parents are kind of like, oh, we're stuck here. But just to show that like, what's the thing that you've got the most... What's scaring you the most? There is a fun way to do it.

LM Yes. Well, I guess your maths was implicit until the end when it was revealed this is the curriculum. This is what you have to learn and, guess what, you just learnt it. And there are other ways that we can apply it too. And that sort of leads me to a question. How do you ensure that you cover the curriculum?

00:24:16

RJ It is a very good question. So, we went from a very structured environment that term one was place, value and number and then term two was addition and subtraction, term three was multiplication and division and then everything else was in term four. Seems to be a bit of a common theme around the school trying to do all this. And, again, going back to Clarke and love it and all that and they talk about you need repetition and then that kind of led us to having conversations about why are we expecting mastery in week five of term one when it's an end of year achievement level? So, why are we trying to teach mastery when we should be coming back to it repeatedly?

So, through trying to make maths more engaging and do little investigation units, there was heaps of opportunities through the year for the kids to work on their addition and subtraction. There was heaps of opportunities. Instead of this is what you are doing today, this is what we're doing for the next couple of weeks. Here's

a game, here's a prompt, here's an activity, here's a video, here's a something. And then from that what maths...

In the planning what maths can we see as experts? What are we going to draw out of it? But then, when it starts, what do the kids do and where do they take it? And data and graphing come into it all through the year. Pretty much everything I do now, the kids could collate with graphing which in the past, term four, oh, we'll wait for that, that's coming, it's coming, it's coming, it's coming.

00:25:44

LM That's right. And it never seems to... Certainly in secondary schools...

ED It never seems to come.

LM No. It never seems to come. Or it's after the exams. So, it's not assessed and so the students don't see it as important. So, Liz, I hear you've got an interesting rock paper scissors activity.

ED We've been playing Fierce Competition with the sixes and our version of the game, it's a running game where you run from opposite sides of the basketball court, meet your opponent wherever you meet them along the line and then you rock paper scissors them. And if you win, you continue on, and if you don't, you sit down. So, we're trying to investigate... The year twos are investigating whether or not this is a game of chance and so far we haven't won a game against them but we're not sure if this is... This is why we're investigating it. We're desperate to beat them and we're trying to work out how.

LM Is it because they're better or is it because they're luckier? Yes.

ED Well, we think they might be faster runners than we are. So, we were investigating that.

RJ Cover more ground, yes.

00:26:48

ED They can cover more ground. But, ultimately, when we meet our opponents, paper scissors rock, it's a game of chance. But why do they keep winning and not us?

RJ It's been really cool, watching them out the window and a lot of my kids are like, are we doing maths?

ED Even trying to figure out how to collect the data when we've got 24 kids playing this game where we're going to use crosses or triangles or squares on this piece of paper to collect it and why are some ways better than others?

LM That's beautiful. I'm loving hearing this.

ED A really genuine authentic investigation. Because I don't know the answer. I don't know how we're going to beat them but we're desperate to, so watch out.

LM Can you tell us about the professional learning you've been doing with staff? I can see on the website that it says you've been upskilling colleagues in extending prompts and questioning to encourage students to take their learning deeper.

ED We've been really interested in how to use... how we can get better at using one task for our whole class and working out different ways to differentiate the tasks through extending prompts and enabling prompts.

00:27:55

We've really tried to get the kids working on one task and improving our ability to ask the right questions to get them thinking. We've also been experimenting with the learning journal where kids are analysing their own thinking and how their thinking has changed from the start of a task to where they're thinking at the end of a task.

[Video clip].

RJ For us there was a big discussion around trying to implement like show me one activity five times, not five activities once. And we also worked with our staff a lot, talking about what's our most valuable asset and that's ourselves and what we see and what we hear and really valuing that and assessment and how we administer assessments has been a really big change at our school. With the ability grouping that we're doing for years, there was a pre-test, you teach and there was a post-test and at first we were only doing it for three weeks. And that was the only three weeks those kids would have that exclusive teaching on.

ED And there was a really big reliance on the numbers of those tests, wasn't there, the scores?

LM Yes.

RJ Yes.

00:29:26

ED And now we're really talking about valuing your own judgement, your own teacher judgement, that an assessment is not necessarily about how many out of ten they get right. It's about what they're showing us. And what Ryan was talking about before, showing us on a blank piece of paper. Show me in your way how you understand this topic.

LM And how do teachers record that observational data?

RJ So, that's what we're still working on. It's a nothing's ever finished attitude and trying to record that observational data. So, I know we use essential assessment, and a lot of schools do. So, we've brought in that when you administer this assessment, it really needs to be done in small groups with the teacher observing how the students are working on answering the questions.

Did they misread the question? Is it a comprehension? Was there a word that they didn't understand? Was there a silly mistake that the student made that they're more capable of and they rushed it or whatever the reason was. So, in that observation data we've already got more data than I could pull from essential assessment, from just sitting there and working with the kids while we're administering this assessment.

00:30:35

Because we were talking about when you do reading you sit with the kid one on one. When you assess writing you read every piece of work. And then maths moved into this the whole class sits in assessment at once and then you just look at the results and you don't have the time to go back through the tests and we're really trying to engage with what is the kid thinking. What are they trying to do? What are the strategies they're using?

The easiest example is multiplication and a lot of the kids were just doing repeated addition. So, they're getting a tick and they're getting moved into the top group without actually multiplying. They don't know what... They're just doing the skill that they know and that's got them so far. It's kept getting them into this group but they actually aren't their multiplication skills because they're doing repeated addition over and over and over.

LM So, you're looking more at, I guess, criterion-referenced assessment as opposed to standards-based, I guess.

RJ Yes.

LM Getting the answer correct no matter what strategy they use. Because that is a very primitive strategy, repeated addition.

RJ Yes. And it's something that they learnt early years and they understood it and they go to it and that's fine but when it gets more difficult and the questions require more cognitive use of the brain, their space is used up because they're going five, ten, 15, 20 and, look, the data's spat out and it's there and you have these data meetings and you go through it and these kids can multiply but then you watch them do it and they're not multiplying but the data says they can because they've got the right answer. They can do nine times five but it's taken them 20 seconds to skip-count to it or... And then that's that value what you see and what are you hearing and then from there developing some activities to support it.

00:32:20

LM Right. So, you mentioned earlier the three goals of the school. Can you go into that in a little bit more depth?

RJ Vocabulary, comprehension and problem-solving, they're the three that... Both the literacy and the [unclear] teams have come together and said, these are our big three. Liz and I then went away and said, well, how can we embed a way of

teaching problem-solving so that it's not on top of everything that we're doing, that it becomes what we're doing but it's not all that we're doing, if that makes sense.

LM Mmh-hm.

RJ So, we came up with PETER Maths.

ED PETER Maths is an acronym and the PETER bit stands for Pose Explore Teach Elaborate and Reflect.

00:33:00

RJ So, once a week all the cohorts come together and teach maths in one group and one teaches PETER. One has the role of developing a rich engaging task for the two groups of students while the other teacher, using the data that we've caught from the assessment or from what we've seen. We'll take those students out in small, short groups and work with them at point of need and then, once they've done a little bit of... ten, 15 minutes' work, they then send them back in to keep working with the rest of the group on the problem-solving.

So, yes, for one maths session a week the whole school is working on the PETER maths where we're using the data that we've collected previously to expose into some rich tasks and talk about what they see and what's the key language and what strategy are you going to use and then collectively we'll say, right, today we're going to focus on creating a table, the strategy of creating a table, how can we use it and then let the kids go.

ED So, let the kids explore the problem first without any explicit teaching.

[Video clip]

ED So, if we were focussing on drawing a table as our problem-solving strategy, we wouldn't necessarily teach that first. We'd go and let the kids have a go at the problem and then bring them back halfway through and have a look at what they've done and then perhaps introduce the fact that here you might like to...

LM Okay. So, you would choose the problem sort of based on maybe...

ED The strategy that we were going to use.

LM Yes, okay.

RJ I know there's one this year already that we've done which was to draw a table or using a table to help solving the problem and all we spoke about at the start was today we're going to try and look at how a table can help us to solve a problem and then presented the problem and then the kids went off to go have a go and after about ten minutes I stopped them and I had gone around and I'd picked three kids. I said, can you come up and show us what you've done and one of the students is a maths anxiety I don't want to do this, da da da da da, but all of a sudden it became that student's method.

Have a look at how this person set out their table and they didn't even know what they had done but they had set out this beautifully clear table. It had the days of the week, it had the number of nuts that this monster thing/ant thing had collected and had shown that gradual increase over time and I'm like we are now going to use this student's method, talk about it, and then the buzz that that student got. I did get feedback from her parent that night that this was really... She's come home and she's talking about maths and her example was used and it's those little connections that...

00:36:36

LM Yes. I think catching someone being good at maths and naming the method after them, I love that idea.

RJ It's a really nice simple touch.

LM It actually helps children to strategize. I'm going to use Vanessa's strategy.

ED My brain works like Vanessa's and I can understand what Vanessa's done.

LM That's right.

ED I can't understand what Mr Jellie's done but I can understand Vanessa, so I can go that way and it's a valid way.

[Video clip]

LM And it sounds like what you're doing is something that's actually going to ease that anxiety.

RJ Yes.

ED We certainly hope so. And we hope that what we're doing is making a little bit of a difference. If nothing else, it's memorable for them and they're going to remember a happy fun safe maths experience.

RJ Yes, it's something that... I had a... Most teachers had a good time at school. That's why they're teachers. It wasn't an experience that pushes you away from it but if we can show the kids the value and they want to be there, then a lot of the nitty gritty stuff kind of can look after itself because the kid wants to be there, they want to learn, they want an education and they do most of the work, as they should.

00:38:38

LM Fantastic. Well, I think that's probably a good place to leave it. I'd like to thank Ryan and Elizabeth for joining me today, taking time out of what I'm sure has been a very hectic start to the year. Thank you so much.

ED Thank you for having us.

LM It's our pleasure. If you have some thoughts or questions about today's episode, or some suggestions for future episodes, why don't you get in touch? Just go to

our web page, calculate.org.au, click on the podcast menu tab and on the page you'll find a webmail option. MathsTalk's sound recording production and editing are all completed here at the AMSI schools unit.

A special thanks go to Lulu Nyrienda and the AMSI team for looking after our publicity and media. And to Cas Laurie for handling our Twitter feed. A reminder, please check our show notes at calculate.org.au as well as the links and resources we've provided. Don't forget to subscribe to MathsTalk on Apple podcast or wherever you get your podcasts or follow us on Spotify. Thanks for listening and we'll catch you next time.

00:39:44