The NCETM Podcast Episode 82

Oracy in the Maths Classroom: Part 1

Hello and welcome to the NCETM Maths Podcast. I'm Julia Thomson (JT), Communications Manager here at the NCETM. This episode of the podcast is all about oracy and will be released in two parts. In this first part, my expert guests explain what oracy is, why it's important, and what the research tells us.

You'll also hear us discuss RIWGs, or Research and Innovation Work Groups, and I'd just like to explain what these are before the episode. RIWGs run across the country through the Maths Hubs Network, and they involve experts and teachers who carry out live action research in classrooms on a particular theme, usually based on local interest and need.

There are RIWGs running on SEND in mainstream schools, assessment, technology in the maths classroom, reasoning, and of course, oracy, to list just a few of them. RIWGs give teachers the opportunity to pursue special interests they might have, and they also help to refine and improve the overall Maths Hubs' offering.

For this episode, my guests are Jane Hawkins (JH), my colleague here at the NCETM and the Maths Hubs Programme, and Kathleen McBride (KM) from Voice 21. But I'll let them introduce themselves. I really hope you enjoy this first part of the episode.

JT: So, if we can start with you, Jane. Can you tell our listeners a little bit about who you are, what you do, and how you became involved with the oracy RIWG?

JH: Hi, my name is Jane Hawkins. I am an Assistant Director for Secondary as part of the NCETM. I'm also an Assistant Maths Hub Lead for Jurassic Maths Hub, and I'm the Research and Innovation Lead for the Oracy RIWG theme. We're really pleased to work in collaboration with Voice 21, to understand more about oracy and its impact on people's education, and specifically mathematical oracy and the impact that can have on supporting students to develop deep and connected understanding in maths.

JT: And Kathleen?

KM: Hi, everyone. I'm Kathleen McBride from Voice 21. I work in our Learning Impacts and Influence Team, and my role involves me working on a range of projects that deepen our organizational understanding of oracy in different contexts. And that's how I've come to work alongside Jane and others at the NCETM through the Maths Hubs Programme.

JT: So, Kathleen, how did you come to work with the RIWG? How did you get involved?

KM: We got involved with Boolean Maths Hub around three years ago, and we were initially working to support the Work Group Lead for Boolean, Abby Cotton, on their oracy work and

working with the teachers in that particular hub. And it's kind of built up from there. So, from that project, we've continued working with Boolean hub, but then we've also got involved with various other projects.

JT: Brilliant, fantastic. So, can you explain what oracy actually is?

KM: Yes, of course: that's a really important question and I think that it entails quite a complex answer. There are many different definitions of oracy out there, but for Voice 21, we define oracy as: the ability to articulate ideas, develop understanding, and engage with others through spoken language and listening.

And I guess that's quite a long definition, but if you look in other places, you can find definitions that are quite restrictive in terms of being quite prescriptive around language. So, for us at Voice 21, it's really important that we establish a definition of oracy that avoids that more restrictive approach to spoken language.

JT: Jane, coming back to you, why is oracy so important? Why was that something that you really wanted to focus on with the Research and Innovation Work Group?

JH: I was noticing in the schools I was working with in my local area, that there seemed to be a huge language gap between the more disadvantaged students, compared to their non-disadvantaged peers. And the inequalities that those students were experiencing in terms of their language education seemed to be really detrimental on their education experiences, more broadly.

So, we were really interested to find out a bit more about that, and basically work on strategies that we could use in the classroom that would make a difference to the most disadvantaged students, but also to all students in terms of using language and using oracy to develop and deepen their understanding.

And then when I started to read a little bit more about it, the Bullock Report from 1975 was already identifying this as an issue, and then the more recent Oracy All-Party Parliamentary Group Report recognises that, 50 years later, it's still an issue and it's still the experience for lots and lots of our students in schools today that their oracy education isn't supporting them to develop their understanding.

KM: We know that delivering a high-quality oracy education in schools leads to increased attainment across the curriculum. It leads to better well-being for students, and it improves student confidence as well. There's an ever-growing body of research that tells us that there are gains to be made in maths and English. Also, in our own data capturing, we survey thousands and thousands of students every year about their self-perception and their perceptions of spoken language.

And confidence is a huge area in which we see improvement following the increased provision around oracy in their schools. So, we know that oracy has the capacity to improve

a wealth of both academic, but also social and emotional, outcomes for students. And so, it's something that every student can and will benefit from.

And yet we do know, as has been said, that it's not yet consistently planned for, and there isn't yet an equitable amount of training and access to professional development in oracy for teachers across the education system.

JH: I think it's fair to say that certainly in secondary schools, oracy gets the least kind of attention maybe in maths classrooms, or maths is a subject where oracy doesn't necessarily get the attention it deserves in terms of supporting students in secondary maths.

So, it's really something that we're keen to develop our understanding of, so that we can better support teachers working in maths classrooms, working in secondary maths classrooms to embed as part of their normal practice. This isn't an add-on; this isn't an intervention that you go out of class for. This *part* of students' experience of maths; oracy is *part* of students' experience of maths.

JT: Kathleen, if we can come back to you, what is the research on oracy? What data or studies do we have?

KM: As I mentioned, there's an increasing body of research telling us that oracy has a positive impact on a range of areas. Recently — and very accessible — are a range of EEF reports and trials. Voice 21 itself is an organisation was born out of an EEF trial into the efficacy of an oracy programme. And following on from that, we've seen other trials and reports, such as the dialogic teaching report, which showed again an increase in attainment in maths and English.

And on top of that, we know that oral language interventions are one of the tools or areas that have the most impact for the least cost in schools as. So, there's a lot to encourage schools to get on board with exploring oracy and considering how to implement an oracy education.

So, we've mentioned the Bullock Report, but more recently was the All-Party Parliamentary Group (APPG) Report Speak For Change, which was published in 2021, and is a really important document, which I think is a call to action for all of us to remember that, whilst there is this growing body of research and whilst oracy has been a term in use across the education system since the 1960s, we're yet to see the impact of these findings across the education system and within education policy.

So, I think there's no lack of evidence and research that supports the expansion of oracy within policy, but we haven't yet seen it come into fruition. And I guess that's where the work of the APPG was so fundamental in continuing to ensure that the profile of oracy is raised and is on the agenda moving forward.

JT: Why do you think that it's taken such a long time for oracy to be something that people are really focusing on? Do you think it's to do with people's understanding of oracy and what

it is? Because I must confess, when I was teaching, I probably thought oracy was like debating skills and that, if I ran a debating club or something like that, or the class had a debate in English, then that would be oracy and they'd be learning how to argue and that sort of thing.

I probably did misunderstand what it was and how it might work across the curriculum. So, do you think it is just a misunderstanding? And how do you think that can be addressed?

KM: There are a few things that have prevented it from 'sticking'. The fact that oracy can be difficult to define is definitely one of them, and that different people have different understandings of what it is. So, the need to really consolidate and clarify what oracy and what oracy education entails is hugely important as we move into the next few years.

I think also the fact that it's really difficult to assess and measure making it less tangible and making it less straightforward for policymakers to understand the impact. So, I think there's a need for clarification around what oracy education is, but there's also a need to understand that the nature of oracy, we see the impact of that, in different areas across the curriculum.

Voice 21 is, at the moment, piloting an assessment measure for oracy. So, there's some work to be done to consider how we can fairly and effectively measure and understand the impact of an oracy education on student attainment and outcome.

It's not a simple fix, and there's a lot of complexity to creating and rolling out an effective oracy assessment. But potentially, as we continue to do that work, it's something that will encourage schools, teachers, trusts, decision-makers to better understand the value of oracy.

JT: Jane, did you have anything that you wanted to add to that?

JH: Yes, I think it's fair to say that schools are experiencing lots of competing priorities at the moment. Also, that behaviour perhaps has been reasonably challenging for lots of schools. And it might just be that oracy education hasn't quite yet made it to being at the forefront, but in the schools that our Oracy RIWG Leads have been working in, they are noticing that by focusing on oracy and developing that oracy-rich classroom culture, they are really having an impact on behaviour as an unintended positive consequence of focusing on oracy, because establishing those norms of classroom behaviour as part of oracy education can really make a difference to people's expectations of normal behaviours for learning when they're in school.

It might be the case that some schools are choosing to focus on quite strict and stringent behaviour measures to bring behaviour under control, which might include silent classrooms or extended periods where students aren't able to talk about their learning.

JT: I think when it comes to the conversation around silent classrooms, schools will have their own policies, schools need to have a way for students to develop their communication

skills, even if that's controlled, if that's what they want to do, if that's the approach they want to take.

Particularly if, as you say Jane, it does improve their ability to understand how they should be behaving, because there's that development of an understanding of social norms and listening and having what you're saying respected, and also what Kathleen was saying about developing confidence and that potential knock-on impact on emotional well-being and the benefits that come with students developing confidence and feeling happier in the classroom and more able to participate. So, it's something that might have lots of positive unintended consequences.

Jane, you've been very closely involved in the RIWG on Oracy within your Maths Hub, and we'll talk a little bit more in detail about that later, but can you tell me what an RIWG is? So, what's a Research and Innovation Work Group?

JH: Research and Innovation Work Groups are really maths-specific professional development. Obviously, they're funded by the NCETM and they're a really great opportunity for people who are interested in something that's maybe a little bit new or a little bit innovative to have a forum to have a platform to come together and work on those things.

We focus on three main areas of working together, and that's, unsurprisingly, research, innovation and collaboration, and using it as an opportunity to explore how children and young people learn maths. The outcomes of these RIWGs, the things that we find out, is all teacher action research. This is classroom-based, this is all about classroom practice, and we hope that the things that we find out from the RIWGs can have an impact on the NCETM and the Maths Hubs Programme nationally. So, oracy is starting to be talked about in other projects nationally.

JT: So, Jane, we know that Ofsted can be a big driver for schools in terms of school improvement plans and what goes on in classrooms. What does Ofsted say about oracy?

JH: Oracy isn't explicitly mentioned in the most recent Ofsted subject report, Coordinating Mathematical Success, but the skills and the teacher practices associated with oracy are really intrinsically in there, as part of the report suggestions on reasoning, students being able to explain and justify their mathematical thinking.

For me, that is all part of having a really oracy-rich classroom culture, where those things are embedded and students are reasoning, explaining, justifying and thinking mathematically all the time, and being able to articulate that thinking to their teachers. And then their teachers listening really carefully to what the students are saying, listening to their thinking, listening to their reasoning, and being able to adapt their teaching to meet those students' understanding.

JT: That's really interesting. I was reading something that Robin Alexander had written, and he's a Cambridge University researcher and academic on oracy. He was saying that we don't necessarily need more talk in schools - we need a wider range of talk, and the things

he listed - explaining, proving, justifying, all of those skills that he listed - I was thinking: maths! Maths, maths, maths... So reasoning, problem solving, all of that stuff.

JH: Absolutely. We're not just advocating for more talk and noisy classrooms, that isn't this. What the Oracy RIWGs consistently find each year is that the more attention that teachers pay to developing oracy in their classrooms, the better the students understand it, and that change can be reasonably swift. As soon as teachers start paying attention to this, noticing the oracy in their classrooms, recognising it and actively working to develop it, change in practice can happen quite swiftly. You don't need any resources, you don't need any equipment, you can just embed it in your practice.

And the Oracy RIWGs find that the more students understand the purpose of their talk, the more purposeful their talk becomes. So, when students feel they are listened to, and feel that the talking that they are doing, the listening that they are doing, has an impact on their learning, then their talk becomes more purposeful with it. So, it can be a really positive spiral for students, developing, understanding more, and then their talk gets better, and then they understand the purpose of it more.

JT: So, Kathleen, if I can come back to you, Voice 21 has developed an Oracy Framework which listeners can find on your website, and there's a link to it in our show notes — can you tell me a little bit more about that framework and how it can support teachers in schools?

KM: Of course. The Oracy Framework was developed in collaboration with Oracy Cambridge, and it was created as part of the first EEF trial exploring the impact of oracy in a group of schools. It was created to help articulate the complex thing that oracy is. It attempts to distil the many skills involved in spoken language into a tool that teachers can use to diagnose the current level of students' oracy skills or for development of specific skills.

Just to tell you a bit more about the Oracy Framework. It breaks down the skills involved into four separate, but interconnected strands, the physical, linguistic, social/emotional, and cognitive strands. Within each strand sits a range of skills. It is really difficult — and we always say this to teachers — to isolate and focus on one specific skill from that framework. The nature of spoken language is that they're really overlapping and interconnected strands, but it's also a tool for raising awareness about the complexity of talk for helping teachers understand that different types of talk will channel different skills from that framework.

And those skills can and should be taught to students before we expect them to engage really effectively in the type of talk that we're asking them to. I think it's really helpful in busting the myth that some students have the 'gift of the gab', and some students don't, that effective spoken language skills are something maybe you're born with, or you're born into, and actually it makes it a much more equitable set of core skills for life that we can and should plan to teach every student to develop. And of course, it's going to look different for different students. And this is one of the things that we really do stress.

The Oracy Framework is a general tool. It needs to be thought about and adapted for age, phase and context, and of course there will be some students for whom some of the skills within that are going to look very different to others, and students who may need additional

support in adapting and developing some of those skills, and that's absolutely fine. But as with everything in teaching, it's a tool that really makes us think very consciously and critically about the talk that's happening in our classroom, and how we can ensure that in our planning we're covering a range of those skills so that students have opportunities to develop across that framework, and not necessarily limiting students to a particular type of talk.

JT: So, thinking about the primary maths classroom, because that's probably what I would be most familiar with, and thinking about the NCETM's Curriculum Prioritisation materials, you might have opportunities for exploratory, I think you would refer to it as 'messy' talk, where children are developing their ideas in an informal way, and then there's more formal ways — stem sentences to start to formulate ways to articulate their thinking and then work up to generalisations and so on.

It seems to me that there's a lot of ways that this framework and the elements in this framework can be applied within the maths classroom quite easily with just a little bit of thought and awareness of what it is you're actually doing.

KM: Absolutely, and to take one of the skills as an example, sitting within the cognitive strand, and something that's been mentioned, is reasoning. Reasoning is in the Oracy Framework, but reasoning is going to look really different depending on whether you're a maths teacher, or you're an English teacher, or any other teacher. But if you unpack the skills involved in reasoning and maths, that could be a whole other framework in itself, couldn't it?

If you think about noticing, describing, explaining, proving, and so on, that's all encompassed within that. So, it really is important for teachers to sit down and think carefully about what those skills mean in their subjects. And that's part of what's been so interesting about working alongside the Maths Hubs, because we've really begun to understand the layers that sit beneath that framework through the lens of a particular subject. You mentioned 'messy' or exploratory talk: the skills that students need to engage in effective exploratory talk are going to be really different to the skills they need for a more presentational talk task. And that's where the framework can be really helpful too, just in teachers identifying what those skills are.

And, really importantly, being transparent with students, sharing that with students so that they understand the skills, what the expectations are, and feel supported to develop those.

JT: Definitely. Another thing I was thinking of when I was looking at all of this and thinking about it was the speaking and listening goals in primary. I remember sitting down with that sheet and trying to identify which ones my pupils had acquired, and I had no clue. I had no way of thinking, when am I going to see that in the lesson? I'm quite sure that when I was madly highlighting all of those objectives, it was very hit and miss. But I think that going back to what you were saying about diagnosing what your class looks like and what your children need, and trying to think more explicitly about what kinds of objectives you can pull out in your lesson will make that so much easier for teachers.

So, another unintended benefit, is that making that whole process a lot more easy and straightforward.

JH: At the start of the Early Years Foundation Stage Framework, it says something like the number and quality of interactions that pupils have with an adult has a huge impact on their overall development. And I want to take that because it doesn't appear in the Key Stage 1 (or 2, 3 or 4) programmes of study, but just that phrase, if we could take that, it's about the number and the quality of interactions that children have with their teacher or with their peers, that makes a difference to how well they learn.

If we could embed that across the spectrum from 2 to 19, I think we would see massive changes for some of these students.

JT: One of the issues, I suppose, is that there's a big focus on oracy and communication skills in Early Years, and then it just goes, and there's less of a focus on it and then by the time you get to secondary it's all but disappeared completely, and it's still so important and essential.

KM: Just building on that point from Jane, the back-and-forth interactions that, as you've mentioned are embedded, in the guidance in the Early Years have such a high impact when we see them in action further up the key stages.

Just thinking that to develop really high-quality dialogic practice, and this is something that's come through in our Work Group, thinking and talking with teachers. The students need to be able to engage in that back and forth: they need to feel that talk is reciprocal. And I think very often - and particularly from what we've seen and what we've noticed in secondary - sometimes those interactions tend to be more tightly-formulated and don't create as much space for that back and forth and that reciprocal talk. Where there are these competing pressures, and there's the complexity of timetabling and the number of minutes a teacher has in their maths lesson, to know when and how to give over the space for talk, I think, is really important.

But it is that back and forth that signifies high-quality dialogue and what students are doing with the previous person's point or answer to a question and how they're coached and encouraged to probe and respond and to keep digging deeper, that happens best through talk, but very often we see that the interactions in classrooms you across the curriculum because we would still say that the initiation response feedback structure to talk is characteristic of lots of teaching and it's the way we've experienced talk in the classroom as educators, it's natural that we mimic those patterns and, where there isn't a lot of training and professional development around more dialogic practices, it's no surprise that's still our ‘go to’ for classroom talk.

Yet that limits or restricts the potential for really high-quality back and forth as we move up through key stages. But, as Jane said, if we could flip that and if we could take some of that best practice from Early Years, around language and communication, I think it could have a huge impact on students as they move up through school.

JT: Yes, I know in a Key Stage 2 classroom, and I'm sure higher up, it's the same, a lot of the teaching that you will see is a teacher asking a question, a child retrieving the answer, answering it, and then that's the classroom discussion. Whereas in Early Years, teachers will be saying, well, why are you doing that?

And there'll be much more back and forth with the individual child. There's much more probing and challenging and supporting the child to articulate what it is they're doing or why they're thinking that way that perhaps gets lost as we're trying to power through the curriculum, meet the demands of exams and assessments, and so on.

But it's possibly being more aware that that kind of dialogue with your pupils, your students, can have a really beneficial effect on their ability to think about their learning, their metacognition, their ability to articulate what they're thinking and develop their understanding that maybe gets lost a bit.

JH: A phrase I've heard in Early Years conversations is ‘sustain shared thinking’ and for me that's what we're talking about when we're talking about dialogic classrooms, everybody in the room engaging together with a bit of thinking that we're working on over a few minutes or more.

KM: I think sometimes that terrifies teachers: that idea that you might engage with the same student, or you might engage with a handful of students as you're going back and forth and probing into something. And I think there's potentially a sense that as a teacher, if you're throwing quickfire question and answer around the classroom and you've got wide participation, I know that every student has maybe said something, they've maybe said a word to you, then that's kind of better than staying with a thought or an idea that might mean there are fewer participants in that dialogue, in that instance, but you're potentially going deeper.

And a lot of teachers worry, well, what are the rest of the students doing if I'm doing this and I'm probing this student? And I think the answer there is they're listening that chain of thinking and that chain of reasoning. And that's just as important as speaking.

Going back to our definition of oracy, we've put listening in there really deliberately to champion it as such a core aspect of oracy education.

JH: And I think that's where listening works really well, when it's part of a classroom culture that values talk, that respects people's mathematical thinking, that is based on listening and thinking really carefully and responding and mutual respect. Then the listening is really purposeful as well.

JT: Absolutely. And going back to what you said Kathleen, I remember feeling like I really had to have every child in the room, like I was going to this child and that child and that child. And when I was being observed — you know, whole-classroom engagement, really good, all of the children are involved — but actually what was the quality of what was going on there? Children were retrieving their knowledge, but what was the learning? How are they developing their understanding? Maybe having that confidence as a teacher to say, I'm

going to focus on this question and I'm not going to worry too much if there's only a handful of students involved in this, because we need to give students the opportunity to develop their listening skills as you say.

The more I speak to people about pedagogy and so on, the more I reflect on my teaching career and think…oh dear…

JH: I know! I wish I could go back and just go, oh no, oh no! I did all of the things that now I'm saying... that's not a very good idea!

KM: I recently found all my school reports, and all of my school reports highlight that I don't speak enough in class.

I think one of my teachers even commented that I was 'a rather detached presence in the classroom'. And I just thought, I cannot imagine a teacher saying that about a student today and thinking, well, actually, as the teacher, what were you doing to bring me into discussion and to give me the tools to participate?

So, I do also reflect on my own teaching practice through the lens of oracy. But equally, I think back to my own experience of education and how you were just labelled 'the quiet student' and left to it really. No one worried too much about how or why they might want to equip you with some skills.

JT: And that brings us to the end of part one of our conversation. Do come back and join us for part two, where we take a bit of a deeper dive into the work of the Oracy Research and Innovation Work Groups. We look at what successful Oracy looks like in the classroom, and we explore different types of talk and strategies teachers might like to use.

We'd also like to take this opportunity to ask you for a huge favour before you go. If you enjoy listening to the podcast, we'd really appreciate it if you could follow the podcast wherever you listen, rate the show and hit the notification bell so you're the first to find out when a new episode is released.

It all really helps us to reach out to a larger audience. You can also follow us on Instagram @themathspodcast. Thanks again for listening.