



## Transcript for Staffroom Catch-Up

### Episode 1: “There’s always things to learn”

**Fran:** Hello, and welcome to this first practitioner podcast series from Cambridge Mathematics. I'm Fran Watson and I'm a member of the writing team and school liaison lead at Cambridge Mathematics. Part of my role is talking to teachers about products we design and very excitingly, creating new opportunities like this to have conversations with educational practitioners.

This series is called Staffroom Catch-Up and some of the things we expect to touch on are people's interpretations of the word research, how they feel about it, and how it affects the work that they do in classrooms.

As these people have all been recorded in their settings, I'm going to issue a challenge to listeners to tally the number of interruptions in each episode, and then we can see if our tallies align at the end.

Today I'm here with Julia Norman. Er, Julia, could we start with you telling us about your current role and its context?

**Julia:** Hello, I'm Julia Norman. I am a deputy head in a rural coastal primary and nursery school in North Norfolk, and I am a maths lead and EYFS lead.

**Fran:** Fantastic. Thank you very much indeed. Okay, so to begin with, I want to share with you, Julia, a line from a Sondheim musical. And it goes like this [sings] “Something familiar, something peculiar, something for everyone. A comedy tonight!” And I would like you to share something with us that is maybe peculiar or funny that you've experienced connected with your work.

**Julia:** So, I had to chat to my T.A. about this because I was like, there's so many funny things that have happened [Fran chuckles] after 20-odd years of working with children in EYFS, because they are the funniest little people. Um, and we were discussing a few different stories backwards and forwards, and she said, “Yes, but you haven't remembered the funniest one!” And I said, “Well, what do you mean, the funniest one?” And she said, “Well don't you remember that time when we were doing maths on the carpet and you were crawling around on all fours, kind of, you know, sorting out the

children's resources and making sure everybody had what they needed?" And we had a-a little, little boy with autism in the class at the time, and he was pretty non-verbal. Um, and as I was crawling around, he just jumped on my back and started riding me like a horsey saying, saying like, "Giddy up, giddy up", basically. [Fran laughs] Um, at which point, oh, it was so hilarious that we all just laughed coz um, [Fran: Amazing!] obviously it was completely out of the blue, unexpected happening.

**Fran:** Of course! And not just that he saw it from that point of view, but that it meant that he wanted to contribute in that way and to enjoy it with you. That's amazing stuff. I love it. Thank you very much indeed. Okay, so, um, let's dive straight in then. Er, I would like to invite you to share with us what you think your interpretation of the word educational research means.

**Julia:** Erm, I think my sort of experiences of being involved in educational research is where, um, you get to try something out, do something within your context, and reflect on it, feedback to-to whoever you're involved with, with the research project. And, um, you know, get to sort of have professional discussions about what you've learned and what um, you know, what things have surprised you, what things you've, um, you know, unexpected things that might have happened.

Um, and also just about having that kind of opportunity really to have that sort of professional conversation with other colleagues that you might not have met, so you might not have known, um, about how the same thing has happened in their environment and in their school and with their sort of set of children and the different responses. Um, it's kind of just a really good opportunity to learn something as a, as a, as an educationalist really.

**Fran:** Fantastic. That sounds like something definitely I identify with, that, you know, kind of curiosity to know more or certainly to learn from other people, like you say, who might be in similar settings or settings that share something in common with yours, even if they're not, you know, quite the same.

Can I ask a bit about how you found yourself in a situation to be able to do that? So, um, er, are the colleagues you're talking about, those that you work alongside within your school or are they ... they sound like they might be wider-spread than that. How did you come to have access to those as, as part of the research project that I'm going to ask you to tell us a bit more about in a minute?

**Julia:** Um, so, yeah, the opportunity came about through the early years consortium that I attend with Dr. Alison Borthwick in Norfolk, um, and she sits on the early childhood maths group and lots of other maths groups, um, and they were doing a pattern project, um, and I, there were different

sort of cohorts of people across the country, so there was different people contributing to it. Um, and in within our earliest consortium, we all, um, over different parts of Norfolk kind of led the projects within our own school and in our own context. Um, and then we all sort of shared our results and, and fed into the, into the eventual book that was produced.

**Fran:** Amazing. And just for listeners who might be interested in that book, could you tell us, is-is it available? Can people get hold of it if they want to find out more?

**Julia:** Yes, It's produced by the Association of Teachers of Mathematics, and it's called *The Power of Pattern: Patterning in the Early Years*. And it-it's available to order, I think, through the website.

**Fran:** Fantastic stuff. Thank you very much indeed. And certainly, as somebody, er, who has seen that book, er, the pictures are just delightful. And the fact that they're taken from settings like yours makes it all the more powerful when I pick it up as a, you know, an ex-teacher myself, there's a "Ooh yes, look! This is the realness of it", which is always kind of appealing.

You said you'd been a member or you were a member, are a member of this education consortium that um, Dr. Alison Borthwick runs. Have you been a member for a long time? What got you involved in the first place, Julia?

**Julia:** Um yes, I, when I became maths lead um, quite a few years ago, not through choice [laughter] as often happens in er, primary schools, um, I was kind of er, yeah, put in a situation where "You have to be maths lead!" Um, er and as was someone with an art degree, it was, it felt like a bit of a stretch. But actually, and although filled me with fear to start with, um, and I kind of thought, "Right, I need to get on some training and I need to upskill myself so that I can do justice to this role." And um, yeah, so I booked onto um, sort of training and courses that Alison was running when she was part of Norfolk County Council's sort of advisory team initially. Um, and then it's kind of evolved and I've, I've kind of, you know, maintained my relationship with Alison and, and continued to attend her things that she runs now. So that was kind of how it initially came about, um ...

**Fran:** Fantastic stuff. And I, er, please don't think I was laughing in anything other than solidarity when you said the [high pitched] "Not by choice!" Maybe, the number of times I used to um, have conversations with teachers in er, perhaps professional development scenarios where I would suggest that maybe some had volunteered to come, but others had been 'volun-told' to come and, but that felt like it put them in a very different headspace and that we wanted to, you know, make space for that and understand that maths wasn't everybody's um, choice. Er, so that people like me who would be like, "Yes, I would love to do a day of this, that would be fabulous!"

**Julia:** But yeah, I would like to add that I actually love being maths lead now and I have grown to become very passionate about it, especially on early years maths um, and, you know, just developing it throughout the school. And I'd like to think that I've made a big difference to the maths teaching here over the years, just through, you know, really immersing myself in it and learning about how we can do it better.

**Fran:** That sounds amazing. But you said, you've obviously gone on a journey from it not being a, "Oh, help! I know not as much as I would like to about this. I would like to learn more." What's meant that you now feel so differently about it.

**Julia:** I think it's just um, understanding the, the, you know, trying to learn myself about the, the better ways of doing it. And I think I personally had a lightbulb moment um, when we had some bar model training. So this was years ago, um, and they were showing us how to obviously teach, teach fractions through a bar model. And I had an, as an adult, had a lightbulb moment myself, and almost felt quite emotional because it's like, if I'd have been taught fractions like this as a child, I think it would have made my life, school life [**Fran:** Right!] a lot easier because it's always been something I've really struggled with. So, and I was like, "Right, okay, it's because this is a visual. They can, you can handle it." And for me, as a very visual person, I was like, "This is how we need to teach maths in our school. So what do we need to do differently for our young people?"

**Fran:** Amazing. So a personal journey too, in terms of subject knowledge development, and then that impact on your pedagogical responsibilities in your setting and supporting other teachers who you feel could benefit the learners more by experiencing the sorts of things that, you know, were new to you.

Okay, um, so you mentioned a-a pattern project that you were involved in. Um, would you like to tell us a bit more about that?

**Julia:** Yes. So um, the pattern project was about um, looking at different types of patterning and how children learn patterning. Um, and again, it was just really enlightening. I never knew that, I, you know, my understanding of patterning was, was very limited I think I found out; once um, we actually got to find out about all the different types of patterns and how important patterning is, not just in early years, but for all children with mathematical understanding later on in school life, and for myself with my project, it tied in with my NPQSL um, kind of work in school. I was, I was undertaking that at the time, and instead of just doing it with my early years class, which is a lot, which is what a lot of other people doing, I decided to do it as a project through the whole school. So I led it across the school with all year groups

um, which was really interesting just to see how different children responded at different ages and um, you know, all of those things we found out and the surprises that came along; through which children we thought would be really good at patterning, those children that really couldn't see it and couldn't replicate it, it was just really interesting.

**Fran:** You're talking about what was interesting in that some of it was the surprises that you encountered and that you had preconceptions perhaps about um, how certain learners would respond to certain stimuli, and maybe that didn't always bear out. You talking about um, involving other colleagues across the school, how did you choose to work with those other colleagues?

**Julia:** So I led sort of um, some CPD sessions through staff meetings um, with my teacher friends um, just to sort of share my knowledge that I'd gained about patterning with them, so that obviously enhancing their understanding of the importance of it and, and really looking at actually ... Okay, patterning in the early years might be choosing two different-coloured cubes and making a pattern with it, but actually patterning further up the school, when you're getting into year four and year six, you know, it's things about looking at patterns through timetables and how would we making those explicit to children, because we need to make sure we're encouraging our children to notice those patterns and making those connections in their learning.

**Fran:** Interesting stuff. And um, you were saying you led some er, professional development sessions. Were there any instances of um, I'm wondering about the communication being two-way. You were involved in the consortium and then presumably bringing some of that learned um, knowledge back, and working with your colleagues. Were they then reverse parts of those conversations where you wanted to [laughs, with background noise]

Listeners, you're allowed to tally one! Julia has just beautifully deflected somebody who looks like they've tried to come into the room and she's done what teachers across the world will recognise as a face that says, "Not now!"

Um, so, sorry. I, we were talking about um. Well, I wondered whether the conversation worked in both directions, whether you had questions either from your colleagues or for yourself, that you were able to take back to the consortium and continue that part of the discussion, or whether it was more about collecting stuff that you felt confident about and then just sharing it back at base.

**Julia:** Yes, absolutely. And I think um, you know, Alison was particularly interested in how the project was evolving throughout the different year groups and, um, you know, discussing around the different responses of children at different ages and, and, and actually what did that mean for them as learners in our school? You know, further up, those children that couldn't

do some of what we perceived as quite simple exercises? You know, was that indicating that there might be gaps in those children's knowledge and understanding um, that we were then highlighting?

Um, and I think the other thing as well was just, we had, I remember having, everybody had lots of discussions about staff's engagement and how we could get people on board um, if we were running it, you know, with multiple classes um, you know, how we can make sure we engage different teachers and things like that. Because I think for me, some of the key stage two teachers were very sceptical about it and felt it was very much an early years thing that you were making us do. Um, so it was about me trying to make sure that through my CPD, I um, made it really explicit as to how important it was further up the school and, we weren't highlighting how important um, noticing patterns was in mathematical teaching and learning, that, that it is going to have an impact further up.

**Fran:** Well, and that sounds really supportive to be able to kind of rehearse those conversations and anticipate those challenges and talk about them with other people in your consortium before having to, import things that you want to, you know er, then have an impact and to know how you're going to be able to do that.

Okay. So one of the things you mentioned earlier was about when you were describing your interpretation of research was very much about trying something out. And I just want to go back to you joining the education consortium and then presumably the involvement in this pattern project was voluntary? It wasn't that everybody was involved necessarily, or that they have the option to, to buy in. Okay. Um, so if that is the case, what is it that wan... that made you want to take part?

**Julia:** I think because I'm an inquisitive learner myself and I think, you know, I'm very passionate about early years and I'm a very visual learner. So the whole idea of patterning and, you know, Alison always comes to consortium with so many fabulous, practical things for us to explore and resources and everything's shiny and glittery. And [Fran chuckles] that all just appealed to me as, "Oh, I could do this in my classroom!" [**Fran:** Amazing!] And, you know, show me where the, show me where the gold beans are, um. [**Fran:** Ah!] And so, yeah so, I think that attracted me. And just because as well, Alison is very knowledgeable, extremely knowledgeable person, and if she says, "It is going to be quite exciting, like you know, who wants to do this?" I'm kind of always go, "Yeah, I will!"

**Fran:** Amazing stuff. Alright, so I'm hearing two things. Um, one, that for you, there was the engagement and the knowledge ability of somebody else who you trusted and was going to go on this journey with you and almost um, um, curating, I guess what it was that you experienced as being able to take part in this and what it meant for you in your settings.

Um, and the other bit that I had to try very hard not to just go, “Oo-oo-oo-ooh!” when you said it was about the, the visual representation, which I think you said earlier, wasn't something that was part of your own maths learning perhaps so much in school, and that you feel would have benefited you, and therefore you want to make sure that learners you have to do with have that opportunity.

And for any listeners who haven't come across gold beans, I, Julia, you'll correct me if I get this wrong, but I think these are kind of haricot beans which are painted on one side gold or are they completely gold?

**Julia:** They're only one side so that you can reverse them.

**Fran:** Lovely stuff. And if you've never played with a one-side-golded haricot bean, I can only recommend it from the bottom of my heart. I have taken part in some fantastic conference sessions that have um, involved doing exactly that in a number of different situations. And I promise you, the glee that's associated with it definitely isn't reserved just for early years children – um, grown-ups should get a look-in on this action.

Fantastic stuff. Okay, so that was a-a project that you got involved with when you um, historically or um, has now resulted in a publication from the Association of Teachers of Maths. But there's work more recently, which I think is why um, we got put in touch by somebody else that you've been involved in. Could you tell us a bit about that?

**Julia:** Yes. So um, through Alison again, another “Ooh, who wants to be involved in this?” um, kind of off, offers, offered out at our consortium was becoming part of um, the kind of working party to do with the *Spatial Reasoning in Early Childhood Toolkit*. Um, so I was part of a kind of a working group. Again, we just met via a virtual platform and, you know, the, the kind of materials were written and then it was our job... Sort of less hands on with the children, really. It was more, this project was more about us sort of looking at the materials that were written and feeding back as to how we felt they looked. Were they useful? Was it accessible for practitioners? Um, you know, thinking about the whole of the early years sort of range that the, that the toolkit is aimed at, um, and us kind of feeding back um, into um, the questions that they were asking and just looking at the-the document and discussing it with each other.

Um, and then from that I then was invited to be part of the launch for the project. So we did a, a virtual launch for it um, where we sort of delivered something online and I delivered a, some very small part just about block play in early years and the value of block play and how that links into obviously spatial reasoning.



Um, and then from that, I was then invited to do a bit of a case study um, where I was interviewed again, just talking about how I'd implemented the toolkit within my setting and feeding into um, that and sort of sharing my experience of how it's been used and how we've um, implemented it and how successful or not that that'd been really.

**Fran:** Superb stuff! I am scribbling furiously. I now have at least half a dozen things I want to come back and ask you about. Thank you very much for the outline. Um, can I go in reverse order first then?

You talked there about um, being interviewed for a case study about the implementation of it. Do you think you feel any differently or you did anything differently in the implementation because you'd been involved in the critique of the resource design in the first place, or did that not make any difference?

**Julia:** No, I absolutely was, you know, quite passionate about it. Um, and because you've been, er, you know, you'd had that level of input, so, "Oh, you know, we said that it should be like this", and, you know, we, we looked at the posters that came with it and we sort of critiqued those to kind of say, well, then maybe you should have photos, and, you know, and we kind of fed in to um, really, the kind of final product.

**Fran:** Nice. You mentioned posters. Could you tell us a bit more about those?

**Julia:** So the posters are for each different um age group, um, within the toolkit and they, they're very bright and colourful. They've got photographs on them picking out different aspects of spatial reasoning and really sort of key words, um, that are sort of pertinent to that particular level of development and then a little bit of text about it. So, they're meant for display in, in your practitioner's rooms, in your classrooms, in your nursery room, um, so that, you know, practitioners, when they're working alongside children, you know, you can have a quick glance at the poster – "Ah yes, I remember!" Um, you know, and making sure that it kind of helps to keep the document alive in the classroom, I think. Because it's all very well, isn't it, producing a really useful document, but a lot, a lot of times these things end up getting stuck on a shelf and not used. And although the initial enthusiasm for something might last a few weeks, er, things... because just working with children is such, so busy all of the time, you, you don't always remember all of the things you should be doing and saying and all the things you should be providing for. So, it's just um, a really good aide memoire, really.

**Fran:** Fantastic stuff. And like you were saying earlier, you know, for people who are visual learners, having it on display, it catches your eye, you think, "Oh yes", actually, if it's near the area – you were saying they were for different areas of the Spatial Reasoning Toolkit – um, you might have it



near the resource, I guess, that, that involves that block play perhaps. And you're then prompted to listen to the conversations or to watch what's going on and be able to, er, feed into that usefully or, you know, to springboard children's learning, er, in ways that you might not necessarily have recalled the opportunities if they were in a folder on a shelf.

**Julia:** And they, and they had also gone on to produce little keyrings now as well, um, which is sort of similar thing where they've got little prompts and things on there that are handy kind of to hang about in the classroom.

**Fran:** Fantastic stuff. Or I'm imagining them in the best kind of er, not 'jailer' sense, but you know, like a bunch of keys you would carry with you. Because certainly my experience, um, of visiting EYFS settings, because I've never taught in one myself, is that you're on the move constantly and it's all very well – game poster, better than folder on a shelf – but even better than poster thing that you can have in your pocket or attached to you, that means when you're outside or when somebody's come to show you something that they've got from the forest school area, you don't have to pause and say, "We'll pick this up later." You can instead whip out said keyring and go for the "Ooh, well!" you know, vocabulary associated with this or ...

What's on the keyrings, Julia? I haven't seen, so I'm imagining what it might be. Tell us what they actually incorporate.

**Julia:** It's a, it's sort of key bits out of the, the toolkit, things to remember, things, again, a bit like the poster, but in a different format. Um, just so little, little kind of, so multiple kind of little cards on a big ring so that you can flip through and, and, and look at them.

**Fran:** Are there pictures on the keyrings, too, or is that just on the posters?

**Julia:** There are, there are pictures, yeah, there are little pictures.

**Fran:** Because certainly I could imagine – and you are the expert here – but even to use them as a prompt, as a practitioner is one strand. But I could also imagine pointing to a picture or a child noticing the picture, and, and copying or saying, "I was doing that", and that engaging some sort of conversation to start off with.

**Julia:** Yeah, absolutely.

**Fran:** Nice. Okay. Um, could you just clarify for us (I'm going in reverse order of my notes, I made on the way through). Um, tell us what the age range is of this so that anybody listening who maybe isn't familiar with what Early Years and Foundation Stage incorporates has er, an appreciation of ages that you're using them with, perhaps.

**Julia:** Yeah, the actual t-toolkit is of, sort of from birth to seven um, because although in **[Fran: Ah!]** you know, in this country we very much just kind of seem to say that early years is birth to five, **[Fran: Yeah]** many of us early years, professional people do believe that, you know, key stage one should be part of that early years um, er, early years umbrella really, so **[Fran: Nice.]** the toolkit is aimed at, for the whole age range.

**Fran:** Okay. And I have a friend who regularly uses an implement in my kitchen and says, “Oh, and of course you can also use this for le-le-le!” And I think, “Can you? I've only been using it to core apples! I had no idea it was also useful for, you know, this!” Which wouldn't have been something I would have applied it to, instead. So nice, when teachers see the applicability across an age range of a resource that, you know, is, has been so carefully researched like this.

Okay. You talked about um, the, the joy and the curiosity involved. Has there been anything that ultimately er, surprised you, um, in either of those research projects that you t... which might be to do with the content itself or might be to do with your learning connected with it? I don't know.

**Julia:** I think um, [to self] what surprised me? I think, I don't think anything's really surprised me. I think a lot of what – through both projects really – I think it's reaffirmed for me some of those things that, you know, when I first started teaching many years ago, or 1997, um, you know, those sorts of things that I would always make sure I did with my earliest children. And I think over time things go out of fashion in teaching, and if people aren't talking about it, they get dropped off the bottom. And you forget the importance of block play, of the importance of patterning. And um, I've always had block play within my um, provision and I've always known it's something children get very involved in; they really like it.

Um, and I think the spatial reasoning project, to be involved in that is like, “Oh, actually this is quite high level thinking, some of what they're having to do!” Um, you know, seeing things from different perspectives, manipulating blocks, um, you know, the, all that kind of understanding of space and, you know, children's space within, um, the context of, of it, of it all. It's just really fascinating and **[Fran: Yeah]** I think it's reaffirmed some of those things that I know are good and useful, and let's not forget about them. When other, other fashionable things come along, let's not forget about those cool things that we need to have in our provision for our young children.

**Fran:** Lovely. So um, perhaps a nice way of surfacing things that aren't new to you, but have had new aspects added to them. So kind of extending the ideas that you were already aware of, but just a bit like with, you know, um,

using our food analogy – er, you can tell it chimes with me! – but um, in terms of menu planning and somebody says, “Ooh, you could make such and such”, and you think, “Oh, yeah, I, you know, I did that once upon a time”, but you know, it just hasn't, there hasn't been any offer, or I, you know, just forgot about it and went to the standards, but yes, nice to be reminded of those things and to see in perhaps how other people utilise them. I love going into other people's classrooms where you see things and think, “Ooh, that's an aspect! They're using a thing I'm familiar with, but I've never done it in that way before!” And taking advice and, you know, um, inspiration perhaps from that.

**Julia:** And I also think one of the things that we've noticed certainly within our, within our sort of school setting, is um, children's – over the last few years, kind of post COVID really – children's ability to kind of understand their space within a space. And I think the Spatial Reasoning Toolkit makes you realise, you know, how important it is for children to be aware of their own sort of space and how they move around and their physicality. And I, and I think, you know, because in COVID children were outside a lot less, they were probably more sedentary because there wasn't the access to playgrounds and parks in the same way. And it has, and I do think it has had an, an impact on their development, really. So I think, you know, looking at the toolkit and reading about the importance of, of that aspect and making sure that we are, you know, teaching some of those things and giving those opportunities that perhaps these children haven't had in their very early life.

**Fran:** Lovely. Well, and drawing attention to that, I remember reading um, a research paper not so long ago, and discovering that one of the aspects that I never really thought about in terms of spatial reasoning was very much what you're talking about and children being aware of their own bodies in the space in which they are. And this particular paper was talking about the fact that we don't assess, er, this particular aspect. It is um, kind of the 'spot the ball' only in real time. So, you know, those pictures where you, you've had something removed, and it says, “Where does it go?”, based on the positioning of people's bodies, footballers usually. Um, and they were saying that hand-eye coordination – so knowing where you are, knowing where something else is and if the something else is moving, being able to accurately judge, being able to catch a ball, being able to, you know, throw and hit target, those sorts of things – and they stopped being assessed in mathematics because it was so difficult to quantify what was good and what wasn't. But it's really important that those levels of development and the fact that they impact on other things, sometimes might be forgotten. Or I hadn't considered making that connection at all.

So, I guess reinforcing what we know, extending what we might have come across previously, and then occasionally left field giving us information that we might not have been aware of otherwise, is, you know, some aspects of how research can be useful in this way.

So, Julia, I wonder if there are any final thoughts you would like to share as we come towards the end of our time together?

**Julia:** I think really I would just like to advocate how, um, beneficial it is being involved in-in sort of research projects. And you know, not only do you learn a lot about yourself and your own practice, but also about, um, you know, whatever it is you're involved in. And there, there's always things to learn, I think, in teaching and in education, there was always things to learn.

And I think perhaps a lot of people might be put off by doing something like this in terms of being involved in research projects, because they would think, “Oh, not another thing!” You know, we have lots of things in primary education and I think, um, you know, some people feel like “Er, like, I haven't got the time”, but very often and certainly in my experience is, and maybe that's just because of the opportunities I've been given or because these are the ones I've chosen to accept, it is part of your normal practice.

So really neither of them have involved a lot of my additional time or anything additional to what I would normally be doing within my class practice and actually all it's brought is a lot more enrichment and knowledge to my practice moving forward. So I do, I would advocate that if you get an opportunity to be involved in something like this, then take it up.

**Fran:** That's a fabulous recommendation from you. Thank you very much indeed.

Okay. Um, we're coming towards the end of our time.

Julia, it's been such a fascinating conversation. Thank you very much indeed for sharing your experiences.

Um, I'd like to invite our listeners to engage with us on X (formerly known as Twitter), er, or in the comments section on our website, um, to share your thoughts about the conversation you heard or the ideas that we've been discussing.

Perhaps you'd like to share your story too!

We look forward to hearing from you. Goodbye until next time.