

The NCETM Podcast Episode 81

Training to teach maths with Teach First

Beth Goodliff [BG]

Hi, I'm Beth Goodliff, and I'm the Senior Comms Manager at the NCETM. Today I'm speaking to Lauren Garrigos and Emily Dixon, both of whom are teachers in the early years of their careers, and who trained with Teach First. We're going to be hearing about how they got into teaching, how they're finding it, and particularly their experiences of teaching maths.

So if you're thinking of becoming a teacher, if you're in the first few years of teaching, or perhaps if you're acting as a mentor to a new teacher, keep listening. You're bound to hear something interesting and useful from our guests today. Let's meet them. Emily, can you tell us a little bit about yourself?

Emily Dixon [ED]

Hi. Yeah, I'm Emily. I teach in the Sheffield area. I teach Year Ones and have done for the past two years. I am an ECT year one, but I have been teaching for two years now.

BG: Thank you. And Lauren?

Lauren Garrigos [LG]

Yeah. Hi, I'm Lauren. I am a maths teacher in a secondary school. I teach in the borough of Haringey in London, and I'm now in my second year of teaching, so I'm ECT one. I actually trained with Teach First. So last year I was still teaching but I was teaching unqualified, essentially.

BG: Emily, tell us a little bit about the decisions that led you to becoming a teacher and what you did before you trained with Teach First.

ED: Well as I'm a primary teacher and not specifically a maths teacher, I come from a psychology background. My degree is in Psychology, and within that, it became very evident to me, especially within developmental psychology, how important the early years of life are, and how crucial it is to get the fundamental skills that you learn within school right. My passion comes from the thought of being able to inspire and pass on my own passion for the subjects. When I've been training, again, through psychology, it's become more and more evident that it's not just a subject in school, it is a key skill for life, not just for maths jobs. It's become more and more evident to me with Teach First that your ability and your attainment and your understanding of maths does have an impact on your life later on. I wanted to make sure that children, all children, have an equal chance and have equal opportunities to experience and enjoy maths.

BG: And what made you choose Teach First?

ED: A mix of things. It was advertised on my campus at university, so that led me to first be aware of the charity. And as soon as I'd really researched that and found out more about it, I found that their values aligned with mine.

BG: Now, Lauren, you're a secondary teacher and maths is your main subject. Would we be right to assume that you are from what we would call a maths background? Tell us a little bit about your training and your background before you became a teacher.

LG: Yeah, I actually did a degree in law, not very maths-y at all. I excelled in maths when I was at secondary school. I found it, for the most part, quite easy. And then I went on to do it at A level, and to be honest, really disliked it because it was really difficult. That jump from GCSE to A level was really quite a big one. And I think part of that put me off taking it in Further Education. So I did law, which had been always what my goal was anyway. So not really a very maths-y background, but I must admit, I'm quite glad that I chose maths as my teaching field.

BG: During your training, what kind of things did you learn about the specifics of maths teaching and, linked to that, how did you think that you would approach overcoming what you found in your own experience, which was that sometimes maths could be really difficult?

LG: I do think that, from a mastery perspective, because of course or not necessarily of course, but my school adopts a mastery approach to teaching mathematics, especially with KS3, there are certain things that I'm aware of that we do differently to a school that doesn't use mastery to teach maths. You know, making sure you allow for bigger discussions and really open up the floor for students to think of ideas that

maybe you wouldn't have in a more of a rote-learning environment. And Teach First did focus on that quite a lot. They taught us about mastery within the first year of Teach First and there was a lot of focus on that.

And in terms of the challenges and how they addressed that, when it came to teaching maths, I think they have a big push or a big focus on making sure that when they choose topics that we are going to cover as a maths cohort, they choose topics that are more difficult. So they choose your grade 8 and your grade 9 topics. And they also request from us that we tell them when there's a particular topic that we want to focus on. So I think it's very much cohort-specific. And there are naturally topics that everyone finds more challenging than others, and they do hone in on that.

BG: So hopefully you feel like you left your Teach First programme feeling pretty well-equipped to teach the subject and confident that you understood some of the pedagogy and the subject knowledge behind maths teaching. What about for you Emily? Obviously maths is just one of the many things that you teach as a primary teacher. How did the course equip you with the subject knowledge that you needed to teach maths?

ED: Well, every time we met in person there was always a part of the day or about a third of the day that was dedicated just to maths. And we'd have speakers from outside of Teach First and also from within Teach First who would talk to us about maths and, like Lauren said, about the mastery of maths and making sure that children fully get to grips with it.

Also there's been quite a heavy emphasis on EAL and maths, and making sure that we're equipped for that. Even if you don't teach EAL children, it's still to teach in that way to children that speak English as a first language, so Teach First were really supportive in that. We also have mentors who help guide us through the year. And with my mentor, I did specifically look at maths when I had a particular child in mind that was struggling with it. That was very beneficial to go stage by stage through lesson plans and consider how I might teach it, and what concrete resources I can have. Teach First also really put a big emphasis on concrete resources, because maths, compared to other subjects, can be quite abstract. So making sure you've got the appropriate resources and a range of them that the children feel confident in using to support themselves has also been highlighted as a necessary component in teaching mathematics.

BG: So for both of you, getting to grips with the maths has been a really big part of your early teaching experience. Thinking more widely about just being a teacher, what would you say have been some of the biggest challenges that you've faced so far? What about for you, Lauren, in the secondary classroom?

LG: I do think that in terms of challenges in my first year, I had a support set in Year 10 which was quite challenging, both from a behaviour perspective and also from an attainment perspective when it came to maths. And I do think that to motivate these students to do something, to learn a subject, and to work in a subject that they really found challenging, and as a result they really disliked, was quite difficult. And I think being able to, and as Emily said, use the concrete resources, use those mastery skills that we were taught, and the different ways to approach one particular topic, really did help in just getting them to at least somewhat grasp a concept of whatever I was teaching them. I currently teach a Year 9 higher class, and I hope, and I don't know if this is going to happen, but I hope to take them on to Year 11 which means that I'm going to have to become very comfortable with the higher content for the curriculum. So I think my bigger focus is, now that I'm confident with that mastery scheme of work and how to teach in that way, I think actually having that subject knowledge for those higher topics, where I haven't really been exposed to that so far.

BG: What about for you, Emily? What would you say have been some of the challenges that you've come across in your early years of teaching?

ED: I guess the immediate thing that comes to mind, which I think is true in a lot of classrooms, is the difference in attainment, specifically in maths actually. I've worked with children that are probably about nursery age in terms of their mathematic attainment and children that are GDS, and pushing on into being quite comfortable, and need more pushing and challenging, all within the same classroom. So it's finding ways of scaffolding to support those that need it, and also thinking of creative ways of challenging pupils that are finding the content too easy. So that's been quite a challenge in finding a good balance for that.

Another challenge has been identifying common misconceptions and trying to plan the maths lessons in a way that address them immediately before they even become misconceptions or to stop them in their tracks I suppose. A key benefit of teaching in Year 1 is that hopefully any misconceptions that exist have only been embedded for a year, say, in maths, because they've only experienced EYFS teaching. So I do really feel that Year 1 is quite important for addressing those issues before they then go into Year 2 and access the maths throughout the rest of school.

BG: It's interesting your responses there. It feels like you both have huge responsibility – Emily, at the early part of children's mathematical learning, and Lauren, again, at that sharp end when they come to take their GCSE, so there's no easy moment for a teacher is there where you think, oh, you know, I don't have all the responsibility.

What would you say have been some of the really wonderful positive moments that you could pick out in your early years of teaching? What about for you, Lauren?

LG: I think it's just nice when you see, and I think every maths teacher I've ever spoken to says the same thing, there's something nice about just seeing students truly engaged and enjoying what they're doing. Maths is almost like Marmite: you either love it or you hate it. And you either have students who really love it – and they probably love it because they are good at it – or you've got students who really, really hate it, and they just don't want to take part. And I think when you can get those students that really dislike it to be, do you know what, I've actually enjoyed that lesson, I think there's something quite nice about that.

And one thing I've hopefully done quite well in my classroom is creating a sense of, there's nothing wrong with making a mistake, and that kind of acceptance of those things. And I've received postcards from students where they've said (we do thank-you postcards at our school) just saying you've made me feel comfortable to make those mistakes. And I think that's really rewarding for me.

BG: It's so fundamental, isn't it, to the teaching of mathematics, to be able to say it's okay to make mistakes and actually everyone can do it. Even if you think you find it hard, or you think you don't like it, it is possible for every student in your class to enjoy and succeed in maths. What about for you, Emily? What about your experiences with your Year 1 group?

ED: See, I found it interesting listening to Lauren because I think I've got the opposite end of the spectrum where I've got the age group where, if you're excited, then they're excited. So that's always quite fun when you get to teach maths, because if you are like, oh, I've got this really interesting topic, we're learning about money today, and they get really excited about that. So I absolutely adore that aspect of teaching.

For me, a standout moment is when I'm teaching a part of maths that is really hard. And they're not getting it, and you've tried a thousand different ways, and then suddenly it just clicks. For me, that was fact families. No matter how many times I made little games, I made it more visual... They didn't get it. But four lessons later, after repeating the same thing four times, suddenly it was just 'they've got it'. There was a child this year, they really struggled with the concept of near doubles. Absolutely fine with doubles, so eight and eight, 16, but as soon as you go eight and seven, you can use double eight and then subtract one. They were all just like 'Don't get it'. And I taught that a few weeks ago, but I think it was literally two or three days ago I was giving them some quick maths where they had to practise quick additions and quick subtractions. And there was an eight plus seven question and this child turned to me and went, 'oh, I can just double eight and subtract one'. And it was like, 'oh, you got it then, great. Just confirmed to me that this is why I am a teacher.

BG: So, even in your first couple of years of teaching, you've learned a huge amount. You've become very reflective practitioners: you've had a lot of support and a lot of professional development as well. Lauren, you've been working a bit with your local Maths Hub and been involved with one of their Work Groups. Could you tell us a little bit about how you came to be involved in that and the ways in which that's maybe affected how you teach?

LG: Yes. So last year I was invited to be part of a cohort for a Sustaining workshop within my local hub. And so we as a school, have been working with the Maths Hubs for, I think it's around six or seven years now, it's been quite a while. So we have a very embedded mastery scheme of work. It's very much surrounding the focus of mastery and making sure that there's a lot of those elements in there. And I think the aim of the department, in sending me there, was to say we want you to do it as well as we do it. So we're going to send you and you're going to learn from that. And this year has been quite informative, I think because I'm able to reflect on my teaching last year and also look at all of the new information with more experienced eyes, albeit only a year more experienced, but a year all the same. And the sessions are really good at just giving you other ideas about how you can teach a topic that maybe doesn't seem like a topic you can teach with mastery. There are some topics where you just think, I've just got to teach it, especially in secondary, where when you get to Key Stage 4 and you think, they've got their exams very soon. We've not got much time. And then seeing a lesson, observing a lesson at school and being able to see, oh, wow, now I can see how they've actually used the mastery methods in order to teach that.

And it was quite nice. In the last session that I went to they taught us a particular method for teaching or a method for creating resources when teaching maths. And I took that and delivered it in a department

meeting. And since then I've had two or three people come up to me, saying 'oh, I did that today. I did that'. And it was quite nice to feel like I brought something into the department from that.

BG: So even as an Early Career Teacher, you are able to help with the professional development of your colleagues. That must feel really empowering even in your early years of teaching. My final question to you both then... If anybody is listening to this and either they're thinking about becoming a teacher or they're in the early stages of training or being a teacher, what would be one piece of advice you would give to somebody to get the most out of a career as a teacher? Emily, we'll start with you.

ED: I think the biggest lesson I learned quite early on was not to be afraid to stop a lesson and reteach if children are not understanding. If they're moving to their worksheets and they're trying to do it and they're just not getting it, there is no issue with just standing, stopping them saying, right, we're going to do this again. Come back for me. In Year 1 we go 'Come back to the carpet, we're going to have another go at this'. Because even though it feels that there's a lot of time pressure, and you can feel that in school, ensuring that they have full mastery of a topic before moving on is crucial.

BG: That's a brilliant piece of advice. It takes a lot of confidence to do that, doesn't it? To pause and think, we can't keep going down this track, but you're absolutely right. I think that's a great tip for new teachers. What about for you, Lauren? What would you say?

LG: I think for me, the biggest piece of advice is to not be afraid to ask questions and ask for help because that really feeds into so much of my teaching. I think last year I must have annoyed my mentor to death because I just asked questions all the time, whether it was about a way of teaching something, about my planning, about a particular answer on a piece of work or whatever it may be. And then some school-specific stuff. You are going to have so many questions when you go into teaching and I think it can feel really overwhelming if you think you don't really know where to start, but every single person who you are working with has been in exactly the same shoes as you because they're all teachers too. And so I think just feeling confident enough to say, 'I'm not quite sure how to deal with this particular situation, can you help me?' that even feeds into when you make a mistake in front of a student and just accepting that in front of them. It's all about just saying I'm a human, I'm going to need help, and I make mistakes too. And accepting that.

BG: That's another great piece of advice and I think even teachers who've been teaching 10, 20, 30 years would say the same. As teachers ourselves, we never stop learning and there are always more questions to be asked and, and always more answers to discover. It's been absolutely fantastic to speak to you both. I'm sure everybody listening will have been really inspired both with your passion for maths teaching and, and with your passion for the, the profession of teaching. In the show notes for today's episode, we will put links to Teach First and the other information that we've discussed today. We really hope you've enjoyed listening to this episode and thank you both very much indeed.