

# First things first?

**Colin Foster** suggests rethinking the order in which we do things when supporting teachers at the start of their career...

**A** beginning teacher needs to build up an enormous amount of knowledge and skill in a very short time. How can schools best support this process and scaffold a beginning teacher's professional learning?

It might seem natural to 'begin at the beginning', and for the beginning teacher to try emulating how an experienced teacher goes about things. The first stage in the teaching process is planning the lesson, so the first thing the beginning teacher may be asked to do is to have a go at planning a lesson – and then try teaching it. But is this a sensible approach?

## Backward chaining

If you're learning to fly an aeroplane, the first thing you learn is *not* how to take off!<sup>1</sup> Taking off is extremely advanced. In your first lesson, the instructor will take off and fly the plane to a safe bit of airspace, get everything nice and level, hand over the controls and then let you try controlling the plane for a bit yourself. Afterwards, they will take over again and land the plane safely. Learning to take off – and learning to land – both come much later.

In the same way, we shouldn't assume that the best order for beginning teachers to learn in is necessarily going to be the same as the order in which those learned skills will be

performed. Learning things in chronological order is often a much longer and harder process than learning things in a more psychological order.

When teaching their students, many teachers will employ *backward chaining*<sup>2</sup>, where a multi-step task is broken down into separate elements, which are then taught in *reverse* order.

If there are five steps to a task, the teacher will therefore initially perform steps 1 to 4, with the student then completing step 5 by themselves. Next, the teacher performs steps 1 to 3, and the student does steps 4 and 5, and so on.

This way, the student repeatedly experiences the success of completing the task, as they acquire more and more of the necessary skills. Eventually, when they first attempt the task in its entirety for the first time, the new part they have to remember is performed *first*, and then they fall back on rehearsing the skills they've already developed – which can make for a much smoother and less stressful learning experience.

Apprentices in practical subjects are commonly taught in this way; an aspiring potter will learn by finishing off the master's pot first.

## Teaching first; planning later

What could this kind of approach mean for the beginning teacher? I think it means *not* starting by trying to plan a lesson! Until the beginning teacher has taught many successful lessons, they're unlikely to be in a position to plan their own lessons successfully.

When a novice teacher plans their first lesson it's

very unlikely to be a good one, and chances are it will be hard to teach from. I've sat at the back of many lessons taught by beginning teachers, with their lesson plan in my hands, thinking that the plan I'm looking at has some serious flaws, and that I'd find teaching a good lesson from it extremely difficult.

In a sense, their lesson is a bit doomed from the outset. Because they're



using a plan that has serious problems baked in, it can be hard to later tease out which problems stemmed from the plan itself, and which came about due to how it was implemented.

As well as trying to learn how to plan, the beginning teacher is also learning how to teach from a not-that-good plan, all at the same time, making for an extremely demanding task. Would you attempt learning to drive in a car with a dodgy gearbox, or learning how to cook with a temperamental oven? Some people may have to, but it isn't ideal – the job is hard enough without that extra degree of difficulty! The beginning teacher doesn't yet have the experience to adapt to using a bad plan,

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and so is doubly disadvantaged.

### Positive early experiences

Wouldn't it be much better to instead focus on one challenge at a time? The first such challenge could be 'Teaching from a sound plan' and only later – when you have a feel for what a good lesson might be like – might you take on 'Devising your first lesson plan'.

This way, the first lesson the beginner actually teaches is based on an expert-produced, tried-and-tested plan that has been used repeatedly by

beginning teachers over multiple years and 'cannot fail'. There's already more than enough to think about and try to get right when teaching your first lesson, even when working with a plan that's virtually faultless. We should be placing beginning teachers in the best possible position to have a successful first experience, and also in the best possible position to learn from that experience.

The 'curse of knowledge' means that the experienced teacher overseeing things is likely to underestimate just how challenging it is to plan your first lesson. An experienced teacher might be able to come up with a perfectly good plan in the time it takes them to

walk from the staffroom to their classroom, while *en route* asking three children to tuck their shirts in!

The beginning teacher, on the other hand, might spend hours searching the web for lesson ideas, and still come up with things that are unlikely to work well in practice. It's far better to provide them with a high quality plan and for them to spend that time unpicking the details – perhaps even improving on it, if they can – but mainly so that they can understand how the pieces fit together, and perhaps practise any tricky parts by working them through in their head.

### Autonomy and personality

At this point, some readers may be worrying that this approach doesn't respect the beginning teacher's autonomy and personality, treating them instead like a robot or a technician, merely following someone else's instructions.

However, I think it's a pity that we feel there's something undignified about teaching from someone else's plan. Doctors don't make their own medicines (unless they are quacks!); the best actors don't necessarily write their own lines, and yet they show limitless creativity on the stage. Teachers shouldn't be ashamed of borrowing from one another, and making the most of other people's good ideas and materials.

I hesitate to disagree with Julie Andrews, but the beginning isn't always 'A very good place to start'. It might seem logical to do that, even to the beginning teacher themselves, but imitating what an experienced professional does is rarely the optimal way for a novice to gain that same experience. Relying on beginning teachers to 'learn from their mistakes' is a slow and often discouraging process – and learning to teach is hard enough without this!

<sup>1</sup> Sangwin, C. (2019). The mathematical apprentice: An organising principle for teaching calculus in the 21st century. In *Proceedings of the Conference on Calculus in Upper Secondary and Beginning University Mathematics*, University of Agder, Norway: MatRIC.

<sup>2</sup> van Merriënboer, J. J., & Kirschner, P. A. (2017). *Ten steps to complex learning: A systematic approach to four-component instructional design*. Routledge.



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