Careers in teaching – some options

"Dear X, I am a PhD student/postdoc. I'm very interested in teaching. What are my options in terms of teaching in schools or universities, and how can I develop my career in this direction?" — We invite three experts to comment from different perspectives.

Michael McEwan *is a lecturer and Head of Subject in Academic and Digital Development at the University of Glasgow. For the last six years he has taught early career academics about teaching, learning and assessment and supported hundreds of academics to gain professional recognition as a teacher in higher education.*

If you are interested in teaching in a university then you should become aware of the UK Professional Standards Framework for teaching and supporting learning in higher education (https://www.advance-he.ac.uk/guidance/teaching-and-learning/ukpsf). The UKPSF is a framework that helps you unpack the job of teaching into its many building blocks, but it is also a framework for you to work towards professional recognition as a teacher – something that nearly all universities in the UK now require of their teaching staff.

The framework breaks teaching down into 15 dimensions of practice including activities that a teacher does e.g. planning and design (A1), teaching itself (A2) and assessment (A3); and knowledge a teacher should have e.g. knowledge of different teaching methods (K2). The framework also states the professional values expected of a teacher in UK higher education; values around diversity (V1) and equality of opportunity (V2). For a new teacher in HE the framework is a tool to understand and reflect on what you know and have experience of, and, importantly, what you don't.

My next piece of advice is to be proactive. Ask around your subject area for teaching opportunities – university subject areas are always looking for tutors and demonstrators! Find out who coordinates teaching in your subject area (this might be a Head of Teaching, for example) and let them know you are available. Look outside your subject at cognate disciplines also (e.g. discrete maths → computer science; statistics → social sciences). Your first teaching roles will probably be as a tutor in small groups, or as a demonstrator in a practical class or workshop, but you can get opportunities in assessment, planning and developing classes, and lecturing in larger classes (usually as a guest or cover).

Your first classes as a new teacher can be daunting so be aware that this is normal! Teaching is difficult and challenging, but rewarding. An interesting piece by Peter Kugel [1] demonstrates how the typical teacher in higher education develops from their first class to their final one. It might prove a useful read to give you some reassurance that whilst it takes time, and you do need to put in the work (more on that later), you will become a confident teacher.

My final piece of advice is to invest in your role. Becoming a researcher takes time, learning and qualification – so does becoming a teacher. Many universities offer training and support for their new teachers, tutors and demonstrators. Look around your university for an 'academic development' or 'learning and teaching' unit (e.g. within my own university we have LEADS: the learning enhancement and academic development service). These units are there to support new teachers in their professional development and usually offer courses, programmes, standalone CPD sessions and professional recognition frameworks. It is possible to gain Associate Fellowship against the UKPSF (professional recognition) through a role as a tutor or demonstrator, and some roles might afford Fellowship. Gaining professional recognition is demonstration of your reflective and reasoned approach to teaching, learning and assessment but will also give you ideas for your classes to help you stand out as an individual, give you more confidence in your role (helping you make your way through Kugel's stages) and will provide you with evidence of your teaching in a language that will help you answer the teaching questions in a future interview!

FURTHER READING

[1] P. Kugel, How professors develop as teachers, Studies in Higher Education, 18 (1993) 315–328.

Giovanna Scataglini Belghitar *is Key Stage 5 Mathematics Coordinator at Roundwood Park School. She was awarded a PhD in algebraic geometry at Durham University, and then worked as a maths lecturer at St Peter's then Balliol College, Oxford, where she developed an interest in mathematics education.*

If you are interested in teaching in schools, you should first of all get some direct experience. You can contact a couple of schools either where you study, or where you live, and ask to visit their maths department so you can talk to the teachers and see directly what school life is like: mid-autumn and early summer are usually quieter times in school. If you are spurred on by what you see, you could either offer to volunteer on a regular basis (perhaps once a week for a few hours) or you could ask if they can arrange for you to shadow some teachers over a period of a week or so.

Once you've decided that teaching is for you, there are different routes you can take to gain Qualified Teacher Status (https://getintoteaching.education.gov.uk/explore-my-options). The main ones are a postgraduate certificate in education (PGCE) at a higher education institution, or school-based training which could be either 'salaried' or with a bursary; however, there are other avenues such as the 'Researchers in Schools' programme, Teach First or training while working in the independent sector.

Whichever route you eventually select, some direct experience of classroom practice is usually a prerequisite and certainly an advantage. Additional useful experience can be gained at university, running problem classes or tutorials, or in your spare time, for example by helping youth organisations.

One more word of advice: do some research before you start, not so much on 'how to teach' as you will learn all about that while training, but specifically about how students learn mathematics. If you don't know where to start, Mr Barton Maths (http://www.mrbartonmaths.com/index.html) has a series of mathematics and education podcasts, amongst many other useful things, which you may find interesting.

Jonathan Tan *is Head of Allocation and Operations at Teach First. He has a BA in mathematics and computer science from the University of Oxford, and a PGCE in mathematics from the University of Reading.*

It's fantastic to hear that you want to teach. There's a severe shortage of maths schoolteachers in the British education system, and with a postgraduate degree in maths you'll be hugely desirable and much needed in the classroom.

There are many different teacher training routes, and it's worth considering which one best meets your needs. If you want to make a difference, think about where you can have the most impact. Not all pupils have access to the same quality of education, and a large part of this is lack of teachers. Some pupils may not ever be taught by specialist maths teachers, with schools having to use teachers from other departments or supply teachers to fill gaps. As a result, pupil outcomes across the country are vastly unequal. For example, just 26% of disadvantaged pupils make it to university, compared to 85% from independent schools.

You may want to apply to the Teach First training programme, which aims to address this inequality. We're a school-based, salaried teacher training route and we partner with schools across England to place trainees in disadvantaged communities and areas of greatest need. About 40% of our trainee teachers are 'experienced hires', who have additional qualifications or experience beyond an undergraduate degree, so you're well placed to train as a PhD student or postdoc. You'll also be well set to handle the academic rigour of our Postgraduate Diploma in Education and Leadership (PGDE).

No matter how and where you train, teaching will vastly improve your ability to communicate and to lead. You'll be putting your mathematical knowledge to great use and gaining a whole new skill-set at the same time. It's an enriching, joyous career, and you'll play an integral role in shaping the future of young people who may never have found their own love of mathematics without you.