Assessment Cover Sheet

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Programme Start Date:	September 2022	**Submission Date:**	22/05/2024

Postgraduate Certificate in Academic Practice (PGCAP)

Module	Assessment	Please tick submission as appropriate
Module 1 *Learning, Teaching and Assessment in Higher Education*	Critical Review of Teaching Portfolio	☐
Module 2 *Scholarship of Teaching and Learning*	Scholarship of Teaching and Learning Article	☐
Module 3 *Academic Identity and Professional Development*	Academic Identity and Development Assignment	☒

Teaching and Supporting Learning in Higher Education (TSLHE)

Module	Assessment	Please tick submission
Teaching and Supporting Learning in Higher Education	Practice-Based Portfolio	☐

I certify that this assessment contains my own original work and material has not been copied from any other source, either my own or that of others (published or otherwise), without acknowledgement in the text.	☒
Please check this box if you are happy for us to approach you to ask whether your submission may be used as an anonymised exemplar in the future	☒

Signature:	Andrew Mason
Date:	22/05/2024

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My academic identity and development – a reflective review

We all see university academics appear as expert commentators on the news, or leather-patched and distracted in films. So I knew this career existed, but it wasn't one I expected or aimed for. But now, seven years post-PhD and almost two years into my permanent lectureship position (Academic, Research and Teaching contract) at The University of York, it seems a career I have very definitely ended up in, and one that I enjoy tremendously, for the most part.

It is also a career where I want to succeed and be appropriately recognised for it. I will discuss my motivations and what success means to me further below. However, I find the balance between the different parts of my role, the somewhat-projected and community-reinforced vocational nature of academia, and my life outside work (including my wife and three children of 6 and under, a house and garden needing serious renovation, and running a local preschool – don't ask…) incredibly hard to achieve. I also love a side quest. I am always open to different opportunities and like to keep my workload diverse, if objectively unachievable within my contractual work day.

Reflecting, I think it is possible that my current position is the perfect job for me, at least at this point in my life. But I don't like standing still, so this Academic Identity and Professional Development module has been a useful opportunity to consider my place within the University, the wider sector, and what my academic trajectory could look like, always knowing a sideways step (or leap) remains highly likely.

Academic journey so far – grabbing opportunities when they appear

My parents didn't go to university, but both my older sisters did (in 1997 and 1999 respectively), and I was academically gifted at school. Combined, and as a child of the Labour Government's 1999 ambition to get half of young people into further education (1), attending university wasn't really ever a question for me. The subject was up for debate, and it was being inspired by my GCSE and A-Level Biology teacher which sealed the deal. He used to work for Guinness, and he was the first teacher who made a more academic career seem a reality. At this point I was still thinking that a degree would give me job opportunities, rather than for postgraduate study or an academic career. I applied to work at various biotech companies in a gap year, but in the aftermath of the 2008 financial crisis I was advised, wisely, to go straight to university.

I started my 4-year BSc Biological Sciences with intended honours in Genetics at The University of Edinburgh in September 2009. I settled into university life quickly and continued to achieve highly, but I didn't write essays in advance, I didn't revise my lecture notes until I needed to, I didn't read non-essential papers, and I definitely didn't think about the broader meaning or relevance of a set of

practicals until I was doing the assessment. Whilst I now spend time advising students to do the exact opposite of these things, the fact that I didn't adds a realistic element to my interaction with students. It's not that I say "I managed without, so you should succeed too", but that I realise and openly acknowledge to students and supervisees that there is other stuff going on in their lives. I worked throughout my degree and got involved in very time-consuming student societies; both common and important parts of the university experience for many.

That being said, for various reasons my grades (and attitude) dropped in 3rd year, and it wasn't until I refocused and changed honours programme that my grades improved again. I had been trying to focus on career options and, somewhat ironically now, hadn't really gelled with the laboratory and research-style assessments. I tried the university prospectus stereotype of counting cute animals in the tropics (coral reef monitoring in Honduras and lemur watching in Madagascar), and conservation work closer to home with the Scottish Wildlife Trust. But the more I learned about these careers, the more I realised that I wanted stability and certainty, even though working outside remains hugely enticing.

Around the same time, two major events occurred. First, I began dating my now wife, Cathy. Beyond the obvious massive positive impact on my personal life, Cathy was also studying Biology (in the year below) and was already thinking towards a PhD and beyond. I was also introduced properly to Genomics and Bioinformatics through the Genomes and Genomics module. I found this hugely satisfying, interesting and inspirational (including for the Genomics module I helped launch here in semester 1 last year). I had already, rather naively and cringe-worthily, declared that "The Genetic Revolution is here" in my UCAS personal statement (about 40 years late to the party), hence why I wanted to study Genetics, but I hadn't really appreciated the difference between Genetics and Genomics (where the "revolution" was a lot more current). The latter is much more technology-driven, has a mathematical, statistical and computer science focus (things I really enjoy), and is very broadly applicable to a range of biological questions.

This change in focus directed the rest of my BSc, altering module choices and influencing my dissertation project where I started to code. A scientific career seemed possible, but my main focus was treading water in Edinburgh until Cathy graduated and we could move wherever she needed for a PhD: family over career being a core principle. I applied for local laboratory assistant roles, with a data focus, and met: "we don't have funding for that, but there is a PhD opening…". I was already interested in the research group and thought it would be good experience, but was shocked when I was offered the position on the spot. I knew enough to realise how excellent an opportunity this was; I accepted, and loved it from the start. Another piece of luck was that a year later, Cathy found a PhD she really wanted that was still in Edinburgh too.

Periods of the PhD were tough, of course, but I was good at it, networked well and cared about the work – particularly the translational parts of my project with my industry sponsor. I got involved in international consortia and was sought out by industry. Whilst the research was good, I started taking on (non-compulsory) teaching, to both undergraduates and as a private tutor for high school students. Supplementary income was a big driver initially, but I found the teaching very satisfying personally, and I wanted to develop those skills, gaining my AFHEA in 2015.

Writing this now, an academic career should have been the obvious route to me, but it really wasn't. I even turned down the offer of a postdoc in the US. Imminent parenthood was the main focus and we decided the best move for our family was to York, simply to be equidistant between sets of (soon-to-be) grandparents. I applied for lots of jobs, including postdocs. One was at York and much more focused on laboratory work than I was really interested in; I even considered withdrawing my application. However, despite the advert, they had seen my bioinformatics and genomics skillset, and wanted me: another job offer on the spot. This was a subject change, from viruses in chickens to human bladder diseases including cancer (an area I was very interested in), but data is data, and humans and chickens aren't that different. I also kept up with my side quests, getting another postdoc (working remotely, simultaneously) carrying on my PhD work, and taking on some tutorial teaching.

I still hadn't really thought about how to make science a long-term career. Everything felt very immediate and I was (finally) starting to realise how short-term many academic contracts were. However, my line manager clearly saw my potential, and a possible niche for me at York, and mentioned a proleptic cancer informatics lectureship (with preceding 3-year research fellowship) she was organising to be advertised in the next few years. The cogs turned faster than expected, and this was advertised in May 2018, just 9 months after I had passed my viva. At that stage, I thought I lacked sufficient experience, and my colleagues and line manager didn't disagree. But, as a fantastic opportunity and for the experience, I thought I would apply regardless. I put the work into my application, presentation and research plans, and as the day felt very 'low stakes', I was very relaxed, and interviewed very well. After agreeing to delay the start date by a year (November 2019) to finish my industry-funded postdoc (and to get more experience), I was offered the job.

This was an amazing opportunity: to go from short-term, uncertain contracts, to a likely permanent position at age 27. This gave us financial stability at home (we'd just bought a house) and the opportunity for me to develop as a scientist, initially focused on research but then picking up teaching as well. Perfect. But I immediately started to feel pressure to perform. I felt surrounded by more experienced colleagues who were failing to gain similarly stable positions, an expectation that I should be able to perform at a level beyond my postgraduate experience, and a need to impress on multiple

fronts. Impostor syndrome is rife in academia, I know, but it has taken until now, 6 years later, for me to feel more confident and comfortable around my peers and what I manage to achieve.

My current role and responsibilities – can I balance everything?

One aspect of academia I find particularly interesting is the diversity of personal definitions. Many of my research-focused colleagues consider teaching a burden, or even a "necessary evil", which simply gets in the way of research. I enjoy teaching (admittedly I'm not the biggest fan of marking) and I like the diversity in my day. I love research too. There are few things better than getting new data and being the only person to know something new. The challenge then is balance, particularly as I felt moving from a Research Fellowship to a Lectureship was more about adding teaching and citizenship responsibilities on top, rather than reducing research expectations, something enforced by my still research-led PDRs.

My research – multi-omics in human and avian cancers

As a bioinformatician, I can be versatile in what I study. Collaborations are easy to come by, and questions can be targeted to different funding bodies. Traditionally, bioinformatics is interdisciplinary: the join between biology and computer/data science. However, I am firmly at the biological end of this spectrum, interested in applying technology to address biological questions rather than the creation of new tools, and bioinformatics is increasingly a required skill for early career researchers (2,3) – a great opportunity for research-led teaching in my case.

I most enjoy translational research. This can be diverse, from improving welfare and disease prevention in intensive commercial poultry, to advancing towards personalised medicine for treating cancers. Many colleagues have a particular niche in a specific disease model or particular tissue type, but this is not me. My niche in applying certain techniques to (relatively) diverse topics can seem too broad or unfocused to these researchers, and I have been criticised for that in the past. I am less excited by 'basic' research questions, and always try to collaborate with clinicians and industry. Public engagement activities with charities to improve awareness of cancer research has been particularly enjoyable, and helps to clarify "big picture" messaging.

With my limited years as a postdoc within a lab, and the self-imposed (but not necessarily unfounded) pressure to develop my own ideas and research identity as a junior PI, I have always felt like my research is on catch up. I have lots of open projects, lots of collaborations, and find it hard to say no to new projects: I find new projects and data analysis exciting. This has come at the detriment of writing up papers and grants; the currency of research in the university sector. Bioinformaticians traditionally find it easy to get mid-author publications with a "little bit" of work, and this is certainly true (4). But,

in a busy work day, it is easier to deliver a small piece of work "for" someone else (i.e. another first or senior author), rather than to spend quality, dedicated time on my own work. This will always be a risk whilst my group remains small, and a catch-22 if it impacts senior author publication rate.

Having completed my PhD at a research institute and now working at a university, it is interesting to reflect on the role of research in the higher education sector. High quality research impacts university ranking and prestige, and therefore funding and student numbers (5,6), and research-led teaching is, for me at least, much more interesting to deliver than the nuts and bolts of knowledge delivery. Fundamentally, higher education of undergraduates could function without access to researchers, although undergraduate degrees are undoubtedly enriched by research-led teaching (7). Whilst I was inspired by researchers as an undergraduate, from my own experience it seems many students at York lack the same opportunities to become inspired. Many capstone projects have moved away from the laboratory and from the group's PI, and there is a big focus (and to be fair, realistically) on transferrable skills, as many Biology undergraduates do not go into Biology-related careers. With so much incentive for universities to increase their class sizes (8,9), it seems likely this trend will continue. My ambition is to enrich and develop any trainee who joins my research group, at any career stage.

My teaching – data science and bioinformatics in biology, and student projects

I have been very proactive in choosing the teaching I do. I've seen colleagues try to avoid their teaching responsibilities for as long as possible, and then end up with material they have no interest in delivering. Consequently, I ended up with a full teaching load (although, I'm still unsure what "full" means in this context) sooner than I could have done, but all the teaching I do is interesting to me. "Semesterisation" has been beneficial in this regard, as materials and staffing were changed and updated, and data science is a cheaper option for a department which runs expensive laboratories. As a researcher, I have also been given MSc and MBiol project students to supervise instead of BSc final years, whose projects are shorter and less likely to produce research-useful output. I am very proud of the students I have taught, helped and mentored.

Whilst I'm idealistic about research-led teaching inspiring undergraduates, I am grateful that my teaching is all aimed towards the latter stages of undergraduate degrees, where some student choice has happened. I think this is particularly true when teaching coding and data science to trainee biologists, whose perception of Biology may have been that they were escaping computers and statistics. A minority of students are utterly disinterested in these topics and I have always found teaching such students challenging: my poker face isn't the best. As far back as my teaching observation for my AFHEA in Edinburgh, it was very apparent that I needed to work on balancing my time amongst students, and not just facilitating gifted students to excel; my clear preference. In the

context of coding, this can be quite demoralising, as I end up helping people find missing commas and typos rather than exploring the biology of what their data shows. This has been my biggest reflection on workshop material I've written and delivered this year for the first time, as I need to make sure there is enough (but not too much) supportive material so students can help themselves.

Students helping themselves, and us as teachers facilitating learners to learn, rather than simply delivering information, definitely feels the better way to teach (10,11). However, I have been quite surprised by how many undergraduates lack the confidence or motivation to be independent learners. During my BSc, I never contacted lecturers to clarify or explain a delivered concept, instead choosing to find the answers myself, including talking with my peers. I was therefore very surprised when this year I was inundated with requests for help, many of which would be solved with a two-word Google search, never mind checking the delivered material. Questions reflecting genuine misunderstanding, or with evident attempts to rectify any problems, are always welcome, but often it boils down to "tell me the answer". To me, this goes against the fundamental purpose of a higher education, and may reflect a devaluing of Bachelor's-level degrees in wider society, combined with high tuition fees interpreted by some as paying for a "good" degree result.

Quality, relevant teaching is, of course, essential, but I think in the most part university lecturers are committed to (and succeed in) achieving this. Constructive student feedback is of course important for developing great teaching material (12). But, to witness how anxious many colleagues were before semester 1 feedback appeared, and how dejected I felt after the department's initial response to some poor feedback to our new Genomics module, I'm uneasy with how far the pendulum has swung. University-level degrees should require hard work, yet it appears difficult to fail. Even with postgraduate research degrees, there is no clear way to part ways with students unable to meet the required standards. Who is helped when a student has to be carried to finish a degree?

My citizenship – avoiding simply jumping through hoops towards promotion

Academic citizenship presents a problem for me. I am fantastic at optimising, delivering and performing administrative tasks, but that is not what I want my career to be. There are yet to be any citizenship roles which really excite me, apart from perhaps module lead (and programme lead flips back the other way). I am, however, keenly aware that citizenship represents the third prong in promotion trident; potentially an area easier to perform well in compared with teaching and research, the latter often governed by external factors (grant outcomes, impact factor, citations *etc.*). I don't shirk responsibilities, but again I've tried to be tactical, keeping one eye on promotion.

If anything, I've found some citizenship uncomfortable. As an Academic Supervisor I've felt unqualified or unprepared to be that first support to students. At the other end of the spectrum, being an academic

which signs off work done by the Library and Archives staff, just because I'm an academic, seems pointless. They've already done their job, so is an extra layer of bureaucracy really necessary?

Conversely, I find external citizenship more enjoyable and interesting; usually involving an active choice or community recognition. I've had to turn down some opportunities, balancing ego with actually delivering. I remain unclear, however, how many internal "opportunities" it is legitimate to avoid.

How do I fit within York and beyond?

The Department of Biology is diverse in terms of research areas, but critical mass is crucial for any successful research and teaching department. My permanent employment was part of the drive to increase cancer expertise at York, and my research is part of the bladder cancer-focused Jack Birch Unit (within Biology) and within the cross-departmental York Biomedical Research Institute. As a field, Biology has long embraced interdisciplinarity. For me, bioinformatics is already a mix of disciplines, and applicable to many biological questions outside cancer, but York provides opportunities for diverse interdisciplinarity within existing structures. As mentioned above, there is still expectation to define a niche and research identity, but collaboration is seen as an essential part of that. Beyond York, I am part of active communities around Open Science and Data, at regional, national and international levels, community resource consortia, and national clinical-academic partnerships.

These communities are essential to cutting-edge cancer and 'omics high quality research and are key to my development as a researcher. Even if many of these communities were derived to support and enhance research, they've also been beneficial for my teaching practice. Through my Open Science work, I have developed materials and strategies for improved data teaching at York, and this has enabled me to better integrate with existing teaching staff here at the University. I have always felt supported to develop these interests, but as an expected part of my role.

An area of tension within my department, I'm sure non-exclusively, is between research and teaching. This becomes evident at all levels, from workload discussions to candidates for Head of Department. Personally, I dread these conversations, as they are always completed pairwise rather than with all the relevant people in one room. For my own workload, I'm yet to realistically defend how much time I have in the work week, with research and teaching (and citizenship) responsibilities stacked up. One internal conflict I struggle with is that teaching (and citizenship) responsibilities often have a strict deadline, but research tends to have timing redundancy: you could always work on the paper next week, or submit in the next funding round. Inevitably, for me, teaching gets done, because it has to, but research gets delayed, leading to personal dissatisfaction and uncomfortable conversations with my research mentors and higher ups.

A career in academia – finding a trajectory I will enjoy

During busy teaching or stressful periods, I'm often heard saying "I just want to be left alone to do some research". I'm not sure how true this actually is. I certainly want to clear the backlog of open research projects, and use these papers to apply for grants, grow my group (a little), and take some of the pressure off by delegating more confidently. This would have the added benefit of helping me push towards Senior Lecturer, where I currently lack sufficient grant income and senior author publications to confidently apply for promotion. If planned papers and grant applications come off, my plan is to apply in Winter 2025/26.

Conceptually I feel confident with the idea of being a Senior Lecturer, as the role covers the academic I currently aspire to be: delivering excellent teaching, taking on (select) leadership roles within and beyond the university, and disseminating high quality and impactful research. I think next year will be the first since starting at York where my role and responsibilities are not set to change significantly. I am intrigued to see what my workload actually looks like now my teaching material is made and I have a few people in my research team. That will be the point where I actually know if an academic career is for me. I have found the real and perceived expectations unmanageable, and have worked long hours late into the night, foregoing sleep to get work done whilst trying to impact my young family as little as possible. Cathy would say I haven't been as successful as I'd hoped, at least regarding the impact on my own wellbeing. Long term, if that is what the job requires, I don't love it enough, particularly when there are many, often better paid, opportunities beyond academia.

But what would an ideal academic career look like? I'm a good scientist, but I don't think I have enough of a creative or insightful intellect to compete consistently, particularly as writing is not my favourite activity. I have the potential to make an excellent teacher, but worry how many uninspiring citizenship roles would need to go with that in order to progress up the professorial path. I certainly don't want to stop at grade 7, but worry the balance I need is a narrow, but not unprecedented, path to tread.

I absolutely see a long-term future in an academic position, and whilst I have some ideas of a desirable or likely trajectory, I always want to remain open to novel opportunities.

Word count

3952

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