

Higher Education Bioscience Teacher of the Year Award 2023

Case Study: Developing and Embedding a Transformative Careers and Employability Strategy in Biosciences

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Background

The United Nations Educational, Scientific and Cultural Organization (UNESCO) describes Higher Education as a rich asset which “equips students with the skills to meet ever changing labour markets” and for vulnerable students, a “passport to economic security and a stable future” (UNESCO, 2023).

This case study demonstrates my belief that Higher Education transforms lives and experiences of learners and communities. It describes the strategies and approaches I developed as Employability Lead in the School of Applied Sciences to provide a transformative, student-centred, employability journey driven by innovation and collaboration.

Rationale for introducing this approach

I was appointed Senior Lecturer and Employability Lead at a challenging time; our Destination of Leavers in Higher Education (DHLE) KPI% was below the institutional average. This needed to change and the strategies and approaches I developed have provided a transformative learning process for Applied Sciences students at UWE Bristol. Radical change was needed and the difference elements of this case study highlights an approach driven by collaboration with all stakeholders e.g. working with students as partners (Boretska, 2016 unpublished). Having attended the Inside Government Graduate Employability Conference, 2017, the insights from colleagues provided context about the careers and employability landscape nationally enabling me to identify and adapt the employability framework for Higher Education institutions tailored to applied science students at UWE Bristol (Cole and Tibby, 2013).

Stage 1: Creating a shared understanding of employability with all stakeholders

The School of Applied Sciences employability strategy is designed to reflect the entire student journey; before, during and after University life. The first step was ensuring there was employability support at **Open Days** and **Applicant Days** – providing opportunities for stakeholders (prospective students and families) to be informed and for early engagement. Next in the design was embedding employability across **Induction** programme activities e.g. inspirational talks.

Stage 2. Reviewing what are we doing / not doing?

Collaborating with the Careers service and the Business Innovation team, an employer engagement analysis was performed, in addition to exploring how specific the careers provision was for our Science students. This was also informed by metrics (DHLE, NSS and Awarding gap statistical and qualitative data).

Stage 3. How do we share and enhance existing practice?

Sharing an enhancing existing practice is key to driving awareness and cultural change in learning.

(a) Monthly Employability Seminar Series

I designed a monthly employability seminar series in October 2016 inviting different stakeholders (academics, careers services, industry experts) to share experiences and career stories. This series has been successful and is a cross-School activity (in its 6th year).

“Thanks so much for the opportunity to be part of your session - I thoroughly enjoyed myself and have connected several of your students on LinkedIn.”

Guy, Head of Business Development, Wales-based organisation

(b) Exposure of students to networking opportunities and external events

Students need exposure beyond their immediate learning environment to broaden their horizons and to understand the changing labour market (Fig 1). I introduced our students to the Royal Society of Biology Bioscience Careers Day in 2017 for the first time and grew this engagement year on year. Since 2017, >250 of our students have attended the annual BCD e.g. Ciara (ex-student) blogged about her experience on her blog ([Biovibes](#)).

“The spectrum of speakers was really brilliant and led to me leaving the session feeling motivated about future opportunities.”

Year 2, Biomedical Science student, BCD 2020

(c) Embedding employability and enterprise into the curriculum

Working with colleagues across the School, we introduced several employability skills-based activities into the curriculum e.g. CV portfolios in Year 3; LinkedIn workshops (Year 2), Enterprise workshops and pitching sessions (Year 2 & Level M).

“I have been lucky enough to work with Emmanuel for a number of years on delivery of Enterprise sessions to Level 2 and Level M students. Every year we see the same initial reticence in students – “Why is this relevant to me?” and every year we receive really positive feedback that enterprise is “not what I expected”. In many cases, students have come into the session wondering if they should bother staying, and have left the session determined

to apply for an Enterprise scholarship award. Several of our Applied Science students have gone on to win the award, and created a product/service as a result.”

Dr Liz Anderson, Senior Lecturer, UWE Bristol



Figure 1: School of Applied Science students interviewed by ITN at the RSB Bioscience Careers Day 2018 (Manchester).

(d) Co-creating and Innovating to enhance employability using digital spaces

Evidence shows significant benefit to using online platforms e.g social media, blogs etc. to engage students, improve learning and professional development in Higher Education (Morris, Christie and Barber, 2019; Alalwan, 2022). Having co-created the [Aspiring Professionals Hub](#) in 2015 with a widely read blog (>180 countries), I utilised my expertise to create the first institutional employability blog [Employability in Applied Sciences](#). This blog was designed with students and has gained >3000 visitors with many students contributing as writers (Fig 2) e.g. <https://www.happyhealthyizzy.com/>

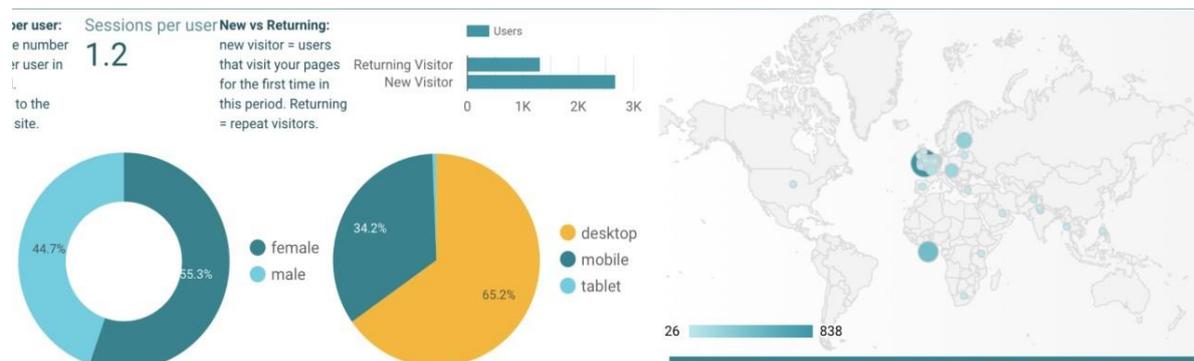


Figure 2: Employability blog web report showing the global engagement.

Stage 4. What does success look like & how can we enhance practice?

(e) Transforming the annual School employability event, Science Futures Fair (SFF)

At the start of my Employability Lead role, my Associate Head of Department, Dr Vivien Rolfe commented “*I think it is common feedback from past events that there are not enough relevant STEM employers*” - I worked with the careers team to change our approach to engaging with STEM employers through proactive stakeholder engagement and B2B networking approaches.

“Attending science future's fair opened up a whole new horizon. It was eye opening to know that my degree can be used in various sectors that serve the public and my options are not limited to healthcare. There was a range of companies such as Roche, NHS, Sciencecreates and Veon Scientific offering advice on placements, postgraduate internships, and other job opportunities. I'd encourage other students to take advantage of these employability events so that when we finish our degree, we're fully equipped to go out into the field.”

Jisa Salim, Final Year Biomedical Science Student

“Thank you for inviting us to your Science Futures Fair, what an amazing turn out and we had lots of students interested in tours and wanting to learn more about our member companies.”

Feedback from employer (SFF 2023)

The Science Futures Fair is now one of the largest employability events in the South West (UK) and one of the leading careers and employability events in the UK with >250% increase in student attendance from since 2017 and 10 x increase in the number of employers (Fig 3).



Figure 3: Delegates listening to keynote address by Dr Sabrina Roberts, at Science Futures Fair 2023 (UWE Bristol)

(f) Employability beyond graduation (Alumni programme)

The student journey does not stop at graduation thus, I established opportunities for students to connect with our Bioscience alumni. The annual alumni networking event was birthed in 2018 and is delivered in collaboration with the University Alumni team. Our students now benefit from a free CPD [Professionals Scientific Practice](#) (post-graduation).

“Thanks to Dr Adukwu, the Alumni event was a pivotal point in my scientific learning and career. Prior to this event I was unsure of my options in the industry however I learned the value of networking, I met individuals who inspired me, and looked like me. This showed me I could achieve my goals of carrying out my own research and taught me to be ambitious.”

Vikas Nariapara, Final Year Biomedical Science Student

(g) Making the design sustainable (it’s a team affair)

To embed the employability framework and to ensure employability is implemented and visible in the curriculum, I established the role of **Student Employability Ambassadors** and subsequently worked with the School leadership team to establish **Employability**

Champions across the different subject clusters embedding employability further into programmes and modules.

(h) Establishing a new employability website

Employability in Applied Sciences is now visible to all stakeholders through a new web portal which I established with a student intern/developer (Daniel Millward) and recently launched at SFF 2023.

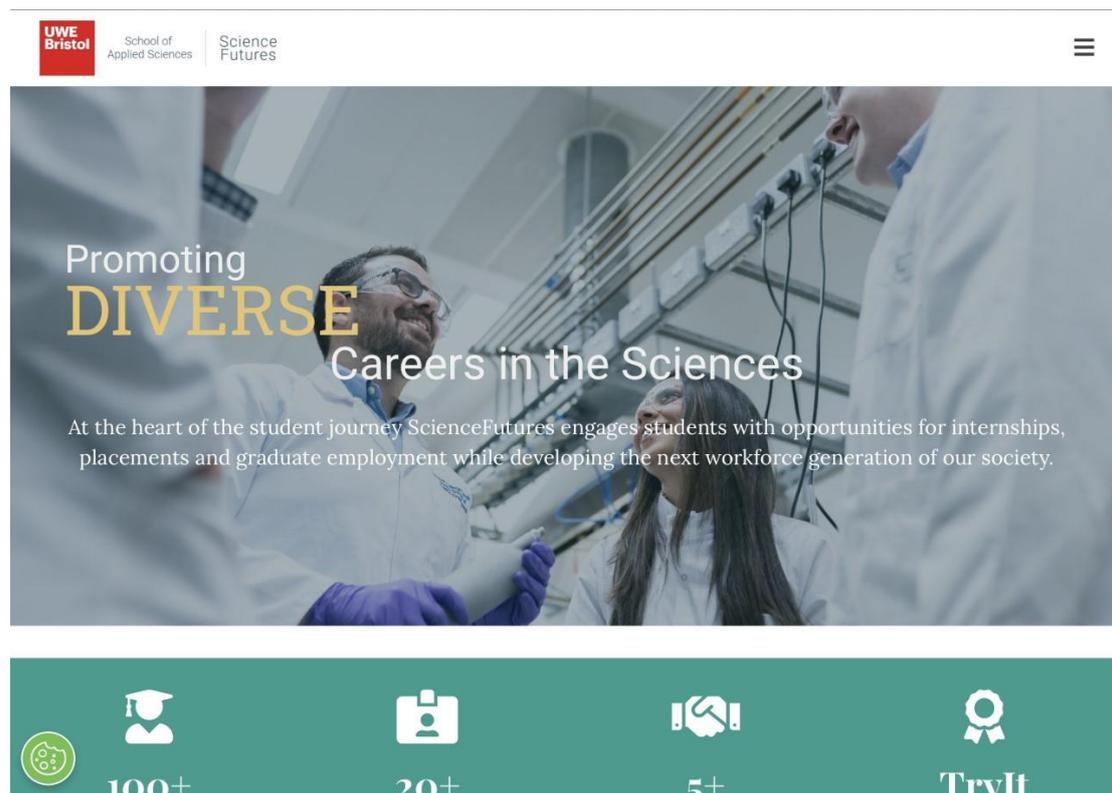


Figure 4: The School of Applied Sciences Employability Website (www.sciencefuturesuwe.co.uk)

Benefits and Wider-Impact

Within 3 years in the role of Employability Lead, we had an approximately 20% increase in KPI (DHLE); a significant increase in students securing professional and managerial roles; increase in further study from 20% to 43%. I have been invited to share at best practice learning and teaching events across the University and employability team has been nominated/shortlisted for Student experience and Staff Excellence awards.

“Dr Emmanuel Adukwu’s leadership has transformed the cultural approach to employability within the multidisciplinary scientific subject areas at the University of the West of England, with clear additional impact across both the university more widely and externally. The key strength in the

design and implementation of the step change he championed is not just in the many innovations and initiatives themselves (e.g. Science Futures Fair, post-graduation CPD, employability series etc.) but crucially in the coherence of his vision, which has successfully allowed employability to become an integral part of our students' journeys. This has helped them to realise their full professional potential (evidenced by improving graduate outcomes). Through Emmanuel's collaborative approach, his good practice has been shared and imbedded throughout the university, and beyond."

Dr Antony Hill, Dean of Learning and Teaching (CHSS), UWE Bristol

Reflections

The African proverb "*It takes a village to raise a child*" is reflective in this case study highlighting the importance of all stakeholders in enabling learning and development of students. My strategy and approaches described reflect my teaching philosophy and belief that "knowledge is created through transformation of experience" (Kolb, 1984). In my current position as Deputy Head of Applied Science, I continue to transmit my philosophy and drive to enable an inclusive, transformative, student employability experience. On the evidence of our model and successes, we have a replicable model for UK HE Bioscience departments.

Word count: 1650

Dissemination and publications

- ✚ The approaches to develop the employability strategy in the School of Applied Sciences was shared at the 2018 Inside Government Graduate Employability Conference on the panel discussion "Designing and Implementing a Successful Higher Education Employability Strategy".
- ✚ Nominated by Associate Dean of the Faculty of Health and Applied Sciences to share the School of Applied Sciences "Approaches to Engaging & Improving Employability" at UWE Bristol Learning 2020 Best Practice Event, Bristol, UK
- ✚ Presented approaches to integrate enterprise into the into undergraduate teaching (with Dr Liz Anderson) at the Faculty of Health and Applied Sciences Good Practice Sharing Seminar Series (Sep 9th 2021, UWE Bristol).
- ✚ In June 2017, I presented at the UWE Bristol Black, Asian and Minoritised Ethnicity conference on "Employability challenges & engaging ideas to improve employability for Black, Asian & Minoritised Ethnic graduates."
- ✚ Science Futures 2023 and the approach to supporting student employability in the School was discussed on the One Love Breakfast show with primrose Granville on [BCFM Radio Bristol](#) on 26th January 2023.

- ✚ Staff, and students were on BBC Bristol on 5th February 2023 discussing Science Futures 2023 <https://www.bbc.co.uk/sounds/play/p0dxcvs5>
- ✚ Employability and career stories shared by stakeholders on the Employability in Applied Sciences blog <https://blogs.uwe.ac.uk/employability-applied-sciences/>
- ✚ Rolfe V and Adukwu E (2021). Bioscience laboratory practicals, projects and placements in a Covid-19 world. *Journal of Biological Education* DOI: 10.1080/00219266.2021.1941187.

References

- ✚ Alalwan, N. (2022). Actual use of social media for engagement to enhance students' learning. *Education and Information Technologies*, 27(7), pp.9767-9789. <https://doi.org/10.1007/s10639-022-11014-7>
- ✚ Boretska, S. (2016). Analysis of the quality and volume of career information provided to third year Biomedical Science students. Final year dissertation project, UWE Bristol (Unpublished).
- ✚ Cole, D., and Tibby, M. (2013). Defining and developing your approach to employability: A framework for higher education institutions. York: Higher Education Academy.
- ✚ Kolb, D.A. (1984). *Experiential learning: experience as the source of learning and development*. Englewood Cliffs, NJ: Prentice Hall.
- ✚ Morris, N.J., Christie, H. and Barber, J., 2019. 'It's one of the first times I've felt fully engaged': developing student engagement using blogging as a form of assessment. *Journal of Geography in Higher Education*, 43(3), pp.343-361.
- ✚ Richardson, V., 2003. Constructivist pedagogy. *Teachers College Record*, 105(9), pp.1623-1640.
- ✚ UNESCO (2023). What you need to know about higher education. <https://www.unesco.org/en/higher-education/need-know>. Accessed 08/02/2023