

Working together with technology to enhance fieldwork learning

Book or Report Section

Published Version

Whalley, W. B., Mauchline, A. L. ORCID: <https://orcid.org/0000-0003-1168-8552>, Welsh, K. E., France, D. and Park, J. ORCID: <https://orcid.org/0000-0002-3430-9052> (2021) Working together with technology to enhance fieldwork learning. In: Tolston, D., Watchman Smith, N., Irving-Bell, D. and Weaver, M. (eds.) The CATE Collection: Together in Collaborative Educational Leadership. AdvanceHE, York, pp. 62-79. ISBN 9781916359369 Available at <https://centaur.reading.ac.uk/102251/>

It is advisable to refer to the publisher's version if you intend to cite from the work. See [Guidance on citing](#).

Publisher: AdvanceHE

All outputs in CentAUR are protected by Intellectual Property Rights law, including copyright law. Copyright and IPR is retained by the creators or other copyright holders. Terms and conditions for use of this material are defined in the [End User Agreement](#).

www.reading.ac.uk/centaur

CentAUR

Central Archive at the University of Reading

Reading's research outputs online



AdvanceHE



The CATE Collection: Together in Collaborative Educational Leadership

Edited by Professor Debbie Tolson, Dr Nicola Watchman Smith, Dr Dawne Irving-Bell and Dr Miles Weaver



Contents

Foreword	2
About the editors	3
Introduction	4
Professor Debbie Tolson and Dr Nicola Watchman Smith	4
1 Enhancing the employability of students through authentic collaborative learning Dr Yuli Cherdentseva, Dr Ian Cooper, Dr Wendy Ivins, Carl Jones, Dr Kathryn Jones, Dr Louise Knight, Dr Fernando Loizides, Dr James Osborne, Helen Phillips, and Dr Katarzyna Stawarz	10
2 Getting students on board: a cross-sector collaboration Dr Jacqueline Brodie and Dr Miles Weaver	22
3 Promoting excellence in employability and transversal skills (PEETS) Professor Bob Gilmour, Jantien Belt, Dr Caroline Gallagher, Tim Hoppen, Sari Horn, Juha Hyytiainen, and Dale Lyon	33
4 A tale of two CATES – improving assessment through collaboration Dr Amanda Harvey, Alice La Rooy, Dr Simon Kent, Professor Mariann Rand-Weaver, and Dr David Tree	48
5 Working together with technology to enhance fieldwork learning Professor W Brian Whalley, Dr Alice L Mauchline, Dr Katharine E Welsh, Professor Derek France, and Professor Julian Park	62
6 Understanding signature pedagogies: how film can tackle important civic issues Dr Adelle Hulsmeier	79
7 Class in a Bag: a collaborative innovation in dementia education Winnie McGarry, Wendy Wright, Caroline MacCallum, Dr Margaret Brown, Karen Ross, Dr Lousie Ritchie, Dr Bryan Mitchell, Dr Lindsay-Ann Coyle, and Professor Debbie Tolson	90
8 Time for change: approaches in community-engaged medical education Dr Arti Maini, Dr Ravi Parekh, Ms Bethany Golding, Dr Jo Horsburgh, Miss Nadia Zaman, Ms Barbara Shelton, and Dr Sonia Kumar	101
9 Ingredients for success Dr Dawne Irving-Bell and Dr Nicola Watchman Smith	110
The CATE Collection: conclusion Dr Miles Weaver, Professor Debbie Tolson, Dr Dawne Irving-Bell, and Dr Nicola Watchman Smith	128

Foreword

This new CATE Collection celebrates and highlights the transformative work of Collaborative Award for Teaching Excellence (CATE) winning teams and aims to inspire aspirant CATE Teams to be bold and ‘think CATE’ as they plan their nominations. I am delighted to provide the foreword for this inspiring collection that will no doubt exert a great impact in the sector on all those interested in collaborative ways of working and being in higher education.

Advance HE is committed to supporting the enhancement of teaching and learning in HE, to transforming leadership, and extending professional recognition and reward to wider groups of people that are influencing and enhancing HE. The CATE scheme is one of the vehicles helping us achieve these commitments. Real change in institutions is often driven by high performing teams. CATE provides a key route for acknowledging, celebrating, and making visible the transformative collaborative work happening within the complex ecosystems of contemporary Higher Education. As always, effective student involvement is key, and many of the CATE winners showcased here demonstrate how students can actively participate in positive change.

Creative individuals change things, but creative individuals rarely work alone. Dynamic collaboration, with each member of a team bringing their own skills and creativity into the mix, can be a game changer in challenging times and circumstances. This collection is being published in extremely challenging times for higher education and society - a time when the restrictions of a pandemic have tested our capacity to collaborate effectively. As this collection demonstrates, it is through learning from each other, working together and sharing good practice that we can move on and create new solutions for the future. CATE is designed to recognise and celebrate this approach and plant the seeds for a better future for our students. As the authors of the conclusion note, CATE award winners foreground ‘ideas about reciprocity in learning relationships’, and position students as learners and agents of social change. This collection highlights clearly the benefits of effective and transformative collaboration for student learning, institutional reach, and wider society.

Kathryn Harrison-Graves

Director Membership and Accreditation

Advance HE

About the editors

Professor Debbie Tolson PhD MSc BSc RGN FRCN PFHEA

Debbie is Alzheimer Scotland Professor of Dementia and Director of the Alzheimer Scotland Centre for Policy and Practice at the University of the West of Scotland. A registered nurse who has dedicated a large part of her career to progressing the care of older people and dementia care through higher education and impactful research. She has received a number of awards over the years including Principal Fellow of the Higher Education Academy, CATE2020 and Fellowship of the Royal College of Nursing. All testimony to her collaborative leadership spirit and focus on integrated scholarship that combine practice based research with teaching excellence.

Dr Nicola Watchman Smith PhD MA BA (Hons) PFHEA

Dr Nicola Watchman Smith is Deputy Director of Student Learning at Teesside University, and previously Head of the Teaching Excellence Awards at Advance HE. At Advance HE Nicola oversaw the CATE and National Teaching Fellowship (NTF) schemes, informing approaches to professional recognition in UK-based higher education. She sits on the Advisory Committee for Degree Awarding Powers (QAA) and Board of Governors for college based HE. Nicola is a published author, with research interests spanning higher education practice and the Northern Soul music scene.

Dr Dawne Irving-Bell PhD MA BSc PFHEA

Dawne is a Reader and Senior Learning and Teaching Fellow at Edge Hill University, a Principal Fellow of the Higher Education Academy, CATE2020 Award Winner and recipient of a National Award recognising her outstanding contribution to Teacher Education. With a passion for visual thinking and technology education, she established “The National Teaching Repository” enabling peer to peer support in Learning and Teaching. She is editor in chief of the Journal of Social Media for Learning, and a committee member of the International Society for the Scholarship of Teaching and Learning (ISSOTL) committed to raise the profile of the Scholarship of Teaching and Learning.

Dr Miles Weaver PhD (Aston), PG CertHE, BSc. (Hon), AGP

Miles is an Associate Professor of Sustainability and Supply Chain Management at Edinburgh Napier University Business School. He leads the Business School efforts towards PRME (the Principles for Responsible Business in Management) and at a University level, Societal Impact. Miles is passionate about empowering young people to make a difference as Trustees on charity boards and supporting purpose-driven business accelerate progress towards the Sustainable Development Goals, including the transition to net zero. He does this, in part through his research to bring about meaningful engagement between business and communities, to co-create solutions that creates value for collaborators and makes a wider societal and environmental impact.

Introduction

Professor Debbie Tolson, Director of the Alzheimer Scotland Centre for Policy and Practice at University of the West of Scotland

Dr Nicola Watchman Smith, Deputy Director of Student Learning at Teesside University and former Head of Academic Apprenticeships and Excellence Awards, Advance HE

The inaugural CATE Collection is a resource for all involved in higher education, who have a passion for innovation in learning and teaching that is evidence-informed, proven in practice and collaboratively shaped with students. The acronym CATE stands for Collaborative Award for Teaching Excellence, an Advance HE award which uniquely celebrates excellence in collaborative approaches to innovation in higher education.

Together with CATE winners, we examine the what, why, how and who of the Collaborative Award for Teaching Excellence. It is about the things that go right and the disappointments - an emotionally intelligent tale with a 'can do' spirit, written for and by collaborative educational innovators. If you are curious about CATE and interested in education and learning excellence, then read on.

To set the scene in this opening chapter, we explain what CATE is and offer a brief history. We then turn our attention to the essentials of CATE thinking and the leadership spirit required to propel innovation in learning and teaching practice.

What is CATE?

The Collaborative Awards for Teaching Excellence, otherwise known as CATE, is at the time of publishing in its seventh year. Commencing in 2016 and overseen by Advance HE (formerly the Higher Education Academy), the award was put in place to acknowledge the shared practices and team working that leads to teaching excellence. The sister award to the National Teaching Fellowship Scheme (NTFS), a CATE is awarded to teams who can demonstrate evidence of excellence in their approach to working collaboratively and those that have a demonstrable impact on teaching and learning, including beyond their immediate academic or professional area.

Representatives of CATE winning teams join the Association of National Teaching Fellows, and from these connections a burgeoning community of CATEs has been established. This community has been driven by the CATE-Net, a network led by Prof. Mark O'Hara (Birmingham City University), and supported by the Committee for the Association of National Teaching Fellows as well as Advance HE. In 2020, to mark CATE's fifth anniversary and in recognition of the growing number of CATE community members, the idea for the CATE Collection was born.

It is the Editors' hope that this collection will maintain the spirit of CATE by adding to the conversations around good practice in higher education contexts, via the sharing of experience and insight from a range of voices. Each contributor will talk to their expertise on achieving impactful, meaningful and effective collaboration. Chapters 1-8 note the hurdles experienced on the path to a CATE win, but equally highlight the well-earned benefits and opportunities for the recipients and their institutions. In Chapter 9 we focus more closely on ingredients for success, drawing upon illustrative mini case studies provided by other CATE winners.

CATE: A Brief History

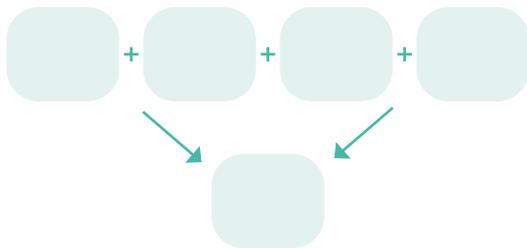
CATE began life as the National Collaborative Award for Teaching Excellence, an award offered by the Higher Education Academy (HEA) that sat underneath the NTF umbrella Teaching Excellence Awards scheme. In its first iteration, the CATE scheme awarded up to six CATE winning teams; now each year, Advance HE awards a CATE to up to 15 highly-deserving teams and CATE has been established as an award scheme in its own right. As we near the milestone of 100 winning teams, the focus of CATE remains the demonstration of excellence in team working practice in a higher education context for the betterment of the student experience.

As this publication is testament to, CATE winners have throughout the years delivered excellence within numerous and far-reaching contexts. Always with students at the core of (the outcomes of) this team work, CATE evidence often demonstrates exceptional student-staff partnership working and/or collaboration with external partners. By extending institutional reach and impact for teaching, CATE initiatives have achieved positive change on a national or international scale. Key outcomes have included creating exceptional student experiences, and tackling priority areas such as sustainability, inclusivity, and student and staff wellbeing through educational practices.

In 2020, focus was placed on evidencing the reach, value and impact of collaborative working. This directly challenged aspirant CATEs to consider the scale of their influence, the benefits derived to students and staff as a product of their collaborations, and the difference that has been made to policy, practice and/or student outcomes as the result of their team work activity.

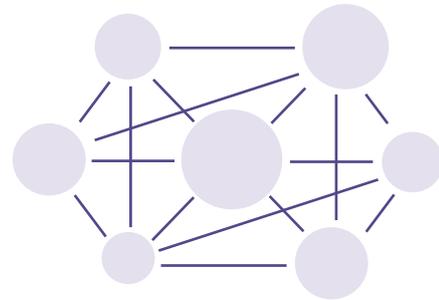
Drawing upon the distinctions between cooperative vs. collaborative team working to support nominees to more directly address the CATE criteria, nominees have been asked since 2020 to explore how their team's scope and outputs go beyond the day-to-day job role, noting that collaboration is a state of interdependence that is likely to be much deeper than simply co-operating as members of a team. As John Spencer's diagram below demonstrates, CATEs have an established, inter-aligned and empowered working methodology which leans into an ethos of mutual trust, shared vision and values, and evidence of reaching - often creative but always impactful - goals. Collaboration occurs when there is a shared vision and values, often aiming to address common issues/concerns of interest.

Cooperative vs Collaborative



Cooperation

- + mutual respect
- + transparency
- + shared goals
- + independant and dependant
- + loose network
- + short-term
- + sharing of ideas as a group
- + engagement



Collaboration

- + mutual trust
- + vulnerability
- + shared vision and values
- + constant state of interdependence
- + tight culture
- + long-term
- + generation of new ideas as a group
- + empowerment

Adapted from 'Cooperative v Collaborative' by John Spencer, available at spencerauthor.com/can-you-force-collaboration/

CATE Thinking and Doing

In essence CATE is about recognising and valuing collaborative initiatives that improve both the student learning experience and outcomes, with societal impact. Structures within academia organise and place us within functional groups and teams, designed to make the machinery of higher education work effectively on a day-to-day basis. The organisational ecosystem is multi-layered and multi-functional. Some features are about uncertainty avoidance and other parts feel more permissive and progressive. Individuals and teams need to navigate this complex ecosystem to thrive and ensure a state-of-the-art educational experience. Wenger-Trayner et al (2015) use the metaphor of 'landscapes of practice' to recognise that we belong to multiple communities. It is perhaps the space where different communities meet and intersect that is the most fertile ground for innovative educational practice. For students, Jascha de Nooijer et al (2021) contend that inter-professional learning that draws upon landscapes of practice, equips students to collaborate in their future professional practice through alignment, engagement and imagination. Interestingly these three elements often feature in CATE evidence of outcomes and impact on students.

What we have learned through scrutiny and reflection on CATE awards is that there is something special in the way that CATE teams move within the areas of the academy that they inhabit to achieve their goals. In other words, there is something special in CATE Doing and Thinking which transforms them into high performing teams. Much has been written about team working and it is clear that high performing teams don't happen through chance. There is something special in the team dynamic, organisational culture and values that turns capable academics into tenacious award winning CATE collaborators.

Collaboration in the context of CATE is about going beyond the everyday, it involves running with new ideas and getting others to run with you. CATE is about harnessing collaborative energy to think and do things differently in small and sometimes bigger ways. Although collaboration is generally recognised as key to quality and coherence in contemporary higher education programmes, there is little research to help us understand what this means in practice (Newell and Bain 2018). It follows that there is much to learn about collaboration from the experience of CATE winners who have clearly done something very special in practice with, and for, their students.

The route to collaborative innovation is not linear. It involves idea generation and selection, compromise, trying things in practice, refining and adjusting. Borrowing from John Kay's (2011) concept of obliquity, it is about knowing where you want to go but not having fixed ideas about how you will get there. If this feels a bit risky, don't worry as the CATE awards have shown us, collaboration is happening across the UK HE sector. It is definitely something that is both possible and desirable, and there are external partners keen to help and engage with you. Providing of course, that you are committed to working within the collaborative space with an idea of what you hope to achieve. This could be for example about improving student employability, entrepreneurial skills and professional attributes to name but a few priority areas.

Collaboration is about working with others to explore, grow and do things differently. It is about changing expectations of staff, students, academic, industry and other external communities about what is possible and desirable with and through higher education. It is about a willingness to have a go at something different that others agree is worthwhile. We bring about impact, through our meaningful engagement with stakeholders, on shared vision and values.

In early writings on communities of practice, it was recognised that great ideas often grow from informal conversations (Andrews, Tolson and Ferguson 2008). Engineered or forced change orchestrated through formal processes is less owned and arguably less exciting. Creative spontaneity, that occurs when colleagues who are passionate about their practice have an idea about how to make it better, is energising and builds change momentum. It also builds confidence and organically nurtures future leadership potential. Which is a great reason to co-create with others, particularly with students and partner organisations.

Leadership within communities of practice is seen as a shared enterprise, and a shared team leadership spirit stands out in the CATE award winner's chapters (chapters 1-8). Importantly all members of CATE teams demonstrate a shared commitment to making a positive change, that has tangible benefits for both the student and others involved in the enhanced learning experience.

What Follows

Chapter 1-8 authors are award winning academic and student CATE champions from across the UK. They are passionate leaders and change agents with inspiring stories to share. The shared leadership spirit and trust evident in their accounts, align with the adaptive culture and localised collective leadership embraced within ecological leadership discourses (Kutsyuruba and Walker 2015). Importantly this type of leadership involves creating connections, building alliances and networks across and beyond organisations. Importantly working with students as partners and 'partners as co-creators' of connected knowledge amplifies societal impact.

Qualities that define CATE teams include connectivity and timeliness. Team members with shared values seem able to accept ideas of emergence and continual improvement, and are simply driven by the pursuit of excellence in learning and teaching. They are pioneers who somehow manage to deliver amazing interventions despite the business of everyday and the inevitable stumbles involved in grassroots change.

References

Andrew, N, Tolson, D and Ferguson, D (2008) 'Building on Wenger: Communities of practice in nursing', *Nurse Education Today*, 28: 246-252.

de Nooijer, J, Dolmans, D H J M and Stalmeijer, R E (2021) 'Applying Landscapes of Practice Principles to the Design of Interprofessional Education', *Teaching and Learning in Medicine*. Available at: doi.org/10.1080/10401334.2021.1904937

Kay, J (2011) *Obliquity: why our goals are best achieved indirectly*. London: Profile Books.

Kutsyuruba, B and Walker, K (2015) 'The lifecycle of trust in educational leadership: An ecological perspective', *International Journal of Leadership in Education*, 18 (1): 106-121. Available at: doi.org/10.1080/13603124.2014.915061

Newell, C and Bain, A (2018) *Team based collaboration in higher education: A review of the literature*. Cham: Springer. Available at: doi.org/10.1007/978-981-13-1855-9

Wenger-Trayner, E and Wenger-Trayner, B (2015) 'Learning in a landscape of practice. A framework', in Wenger-Trayner, E, Fenton-O'Creevy, M, Kubiak, C, Hutchinson, S and Wenger-Trayner, B (eds) *Learning in Landscapes of Practice: Boundaries, Identity, and Knowledgeability in Practice-Based Learning*. Abingdon: Routledge, pp 13-29.

1 Enhancing the employability of students through authentic collaborative learning

Year of award: 2020 (second attempt)

Dr Yuli Cherdentseva, Lecturer, Cardiff University

Dr Ian Cooper, Lecturer, Cardiff University

Dr Wendy Ivins, Senior Lecturer, Cardiff University

Carl Jones, Lecturer, Cardiff University

Dr Kathryn Jones, Senior Lecturer, Cardiff University

Dr Louise Knight, Lecturer, Cardiff University

Dr Fernando Loizides, Senior Lecturer, Deputy Director of Data Science Academy & Industry Engagement Lead, Cardiff University

Dr James Osborne, Senior Lecturer, Cardiff University

Helen Phillips, Senior Lecturer, Cardiff University

Dr Katarzyna Stawarz, Lecturer, Cardiff University

Mathew Turner, Industry and External Engagement Manager, Cardiff University

Keywords: project-based learning, authentic collaborative learning, enhancing employability, collaborative scholarship

Introduction

The National Software Academy (NSA) team works collaboratively with numerous industry partners to deliver our innovative project-based learning (PjBL) approach and meaningful opportunities for student-industry interactions. This provides authentic collaborative learning opportunities to enhance our students' employability as they build a portfolio of client-facing projects to showcase their skills.

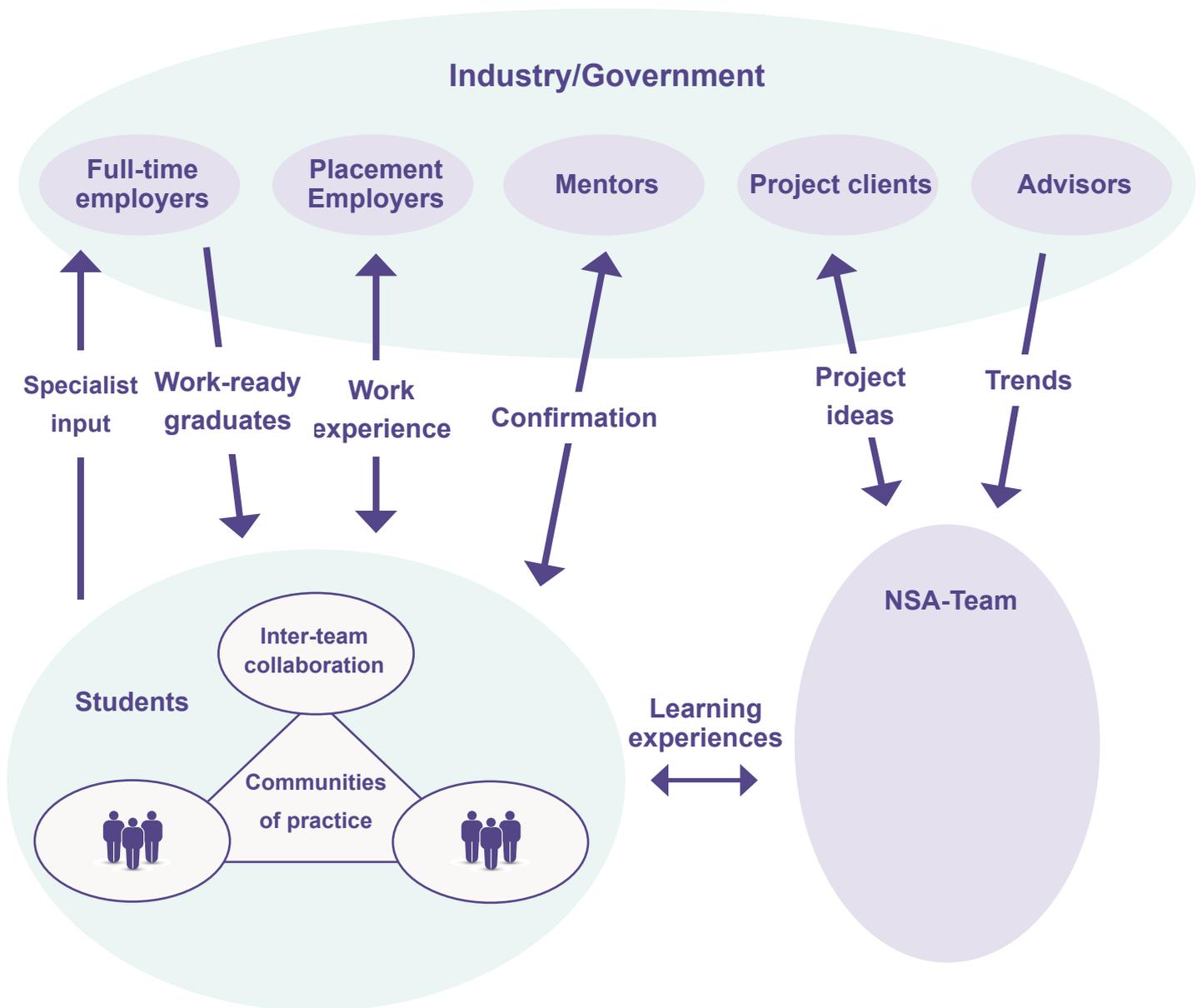
Within this chapter, we will discuss how we developed our collaborative approach to PjBL to provide authentic learning experiences to enhance student employability. We will highlight the challenges to collaborative working, including the current issues with working remotely due to Covid-19, and how we have worked collaboratively to address these challenges. We will discuss the impact of collaborative working on the student experience and the benefits of engagement for our industry partners. We will also discuss how the team has engaged in collaborative scholarship and how we have disseminated our work. This includes winning the CATE award in 2020.

Context

The National Software Academy (NSA) is part of the School of Computer Science and Informatics (COMSC). It was established by Cardiff University, the Welsh Government and industry leaders to address the national shortage of qualified, industry-ready software engineers. It does this by working closely with industry and local businesses to produce graduates with industrial experience. The NSA team formed in autumn 2015 to develop and deliver the BSc Applied Software Engineering degree (BSc ASE), initially to 23 students. It originally consisted of six university staff and an industrial tutor. It was supported for three years by an industry advisor with input from the Welsh Government and a panel of industry engagement experts. The team grew incrementally to deliver the rollout over the next two years of BSc ASE, the MSc Software Engineering (MSc SE) in 2018/19 and Cardiff University's first degree apprenticeship in 2019/20. We currently have 15 lecturers and eight teaching assistants, delivering 24 different modules to 150 undergraduate students (including 10 apprentices) and 35 MSc students. Three professional services staff manage industry engagement and student administration. The School's Director of Teaching and Assessment and Feedback Lead play significant roles in supporting programme development. Our diverse team includes 10 international members. Over half of the lecturers are women, which is notable for the digital sector where representation of women in the workforce is under 20%. Most of the team have significant industry experience or established research links with industry.

COMSC has a strong tradition of delivering research-led degrees, but the NSA takes a different approach (see Figure 1). The BSc ASE's curriculum was developed in close collaboration with industry with support from our industry advisor. Two key differentiators were: embedding PjBL throughout the programme; and providing students with meaningful opportunities to engage with industry throughout their degree in the form of projects, talks, workshops, case studies, visits, mentoring or summer placements.

Figure 1. NSA's collaborative approach



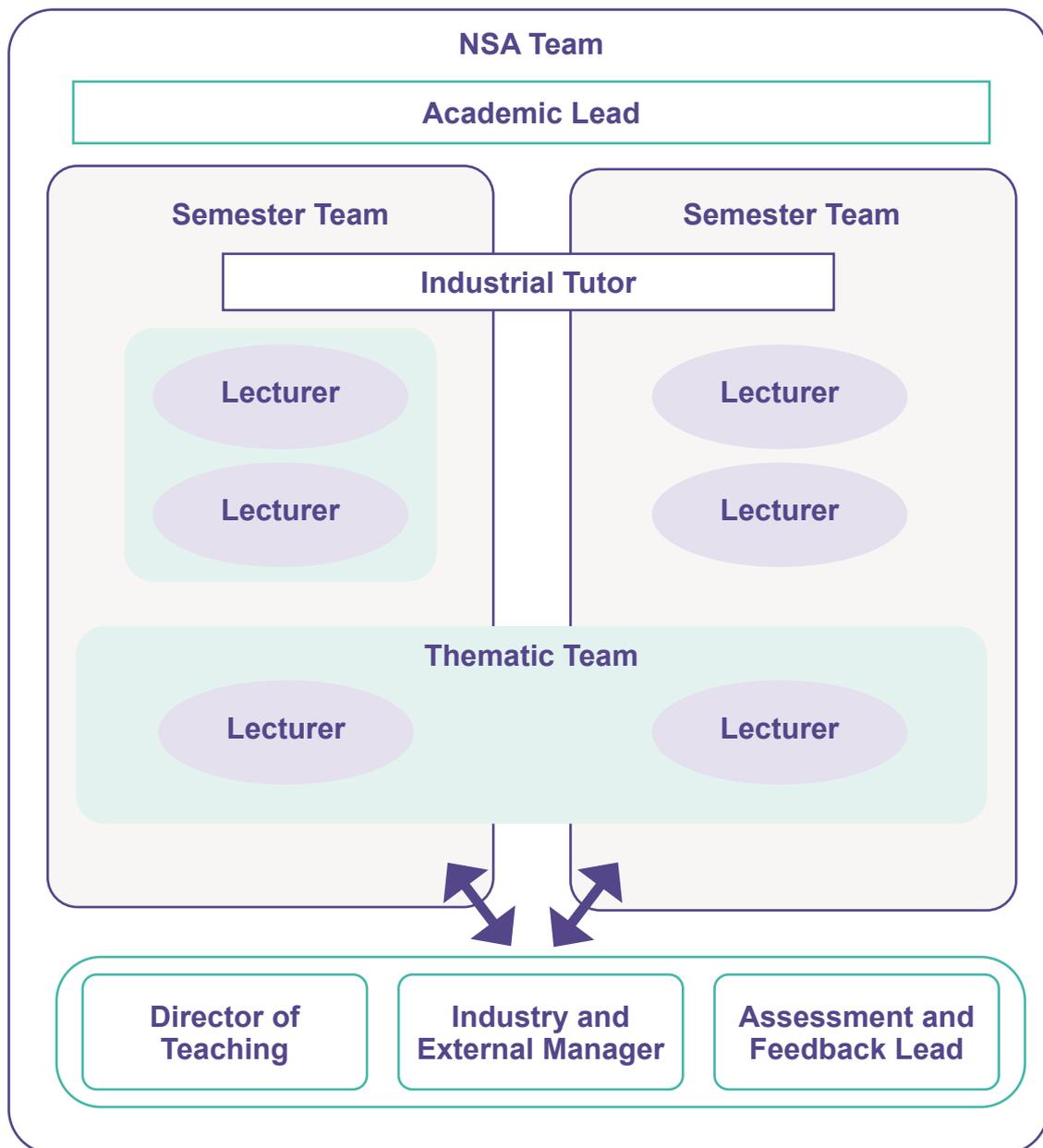
Project-based learning

The Shadbolt Review of Computer Sciences Degrees (2016) highlighted the importance of students gaining work experience during their degree but noted that a year placement is not feasible or desirable for all students. The Review recommended finding ways to transfer the benefits of work placements directly into degree programmes. The NSA addresses this by enabling all students to build client-facing experience throughout their degree, including 26-30 weeks of PjBL across five to six different projects for BSc students, and 14 weeks of PjBL across two different projects for MSc students. Degree apprentices gain their project experience through work-based learning.

PjBL requires close collaboration between staff, students and our industry partners over a range of activities:

- + Semester planning: module leaders collaborate in semester teams to schedule and deliver teaching, coordinate and scope projects that span across modules, while ensuring all learning outcomes are addressed.
- + Practice-informed learning: all semester teams have at least one team member with several years' experience as a practitioner. We arrange numerous talks and workshops with practitioners from organisations such as IBM, BT, Dyson, Capgemini, RedHat, NHS and local start-ups and SMEs, which gives students insight into how software engineering is applied in practice across a wide range of organisations.
- + Collaboration on client-based projects: students collaborate in teams on projects for real clients. Projects are student-led and use agile principles to develop and demonstrate working software to meet client needs. Teams meet with the client every two weeks and lecturers provide guidance and formative feedback on the team members' progress.
- + Students collaborating in learning: students work with other team members who are struggling with a problem, provide peer reviews to improve software quality, and collectively reflect on team experiences to identify improvements in team practices. Regular student feedback also informs improvements to the curriculum, delivery and student experience.
- + Collaboration on work-based learning: the semester team works with apprentices and their line managers to ensure that apprentices have suitable projects. They undertake regular reviews to ensure the learning outcomes of each module are met during periods of work-based learning.
- + Collaboration across themes: lecturers teaching similar themes form 'thematic teams' to share experiences and materials, and to discuss ideas. For example, lecturers teaching agile practices work collaboratively to develop a spiral curriculum across four modules (Osborne, Ivins and Jones, 2019). Over the last year, themes have widened to share experience with lecturers teaching similar modules across COMSC. Figure 2 shows collaborations across the NSA team.

Figure 2. NSA team collaboration



Collaboration gained through PjBL is valued by students and clients:

“I most enjoyed working with different people. You definitely learn how to collaborate and handle different situations...now I feel more confident when approaching clients and have the confidence that I can produce something that the client wants.”

(Year 3 BSc ASE student)

“We were taken aback by how lecturer and student interacted, with staff getting directly involved in student work-group meetings happening in an open plan work area.”

(CEO, App Lingua)

Challenges with collaborative working

The NSA's programmes have focused on multiple forms of collaboration. For the students, the focus is on collaboration with their peers in teams and with external clients. For the NSA itself, the collaboration with industry is a driving force in the curriculum, with the programme's PjBL approach also necessitating collaboration between module leaders and programme leads.

Developing students' skills

As noted by the Shadbolt Review (2016), computing students tend to lack the people skills that employers desire, and technologies they are taught are out of date. NSA addresses these issues directly. The people skills are practiced via several modules that teach skills to enhance client interaction, planning, sharing of programming artifacts (eg code) and process improvement. Students develop these skills by working in teams on client-based projects. The technology issue is addressed by teaching on recent versions of modern technology.

We have discovered that students' team collaboration requires effective design skills. We focus on good design practices that identify components in the overall system. Teams apply design techniques that decompose the solution into discrete components. Team members each take responsibility for developing components and then integrate these components into the solution. These skills are particularly important for the final-year team projects, and for the intensive three-day Emerging Technology hackathon that requires collaboration and design thinking.

A PjBL approach builds in resilience to technological and societal change; a prime example being the adaptation to remote working due to the Covid-19 pandemic. NSA has always taught that developing in isolation was something to avoid and have provided teaching in techniques that allow students to decompose the work into small steps and to combine those frequently and safely while still being able to collaborate in teams. Breaking problems down into component parts with good communication between them also provides a useful analogy for effective team working.

Rather than teaching design principles as strategies to improve quality and reuse in the finished product, they can be taught as enablers of collaboration ie the focus shifts from the output to the outcomes. This necessitated some subtle changes to the modules that cover planning and people skills to allow students the time to invest in design activities, thus changing some of the assessment activities performed over the project period. Collaboration needs a blend of teamwork (to agree goals and standards) and individual work that requires personal decisions that align with the goals and standards of the collective.

In terms of our industry collaboration, there may be a case for working with industry on the core behaviours or skills that are desired by employers. These can be people behaviours, planning skills or design skills and are more foundational and persistent than skills in the latest version of a technology. By investing more time in identifying and explaining these persistent concepts, there will be less opportunity to invest time in learning every new update to every taught technology, but if the versions remain recent (and many organisations remain on older versions for stability), the employability of graduates should not be negatively impacted.

Individual versus team assessment

At the NSA, project work is achieved using a blend of individual and team-based tasks. Individual tasks allow students to apply their knowledge and understanding in a controlled environment, and to make individual decisions without needing to consider other students' opinions. However, in the real world, software developers often work in teams in pursuit of a common goal. Therefore, team-based tasks add another layer of challenge to work ie the status of the project is being continually changed by the actions of others in the development team. We encourage students to apply their knowledge and understanding in a dynamic environment to enable efficient progress towards the team's objectives. This means that technical skills must be complemented with behaviours that value communication, respect, mutual support, courage, compromise, discipline and focus. In these team-based tasks where students are working on features for a common goal, each individual student should demonstrate that their feature works as expected without negative impact on features already developed by others, any work-in-progress features or the ongoing productivity of the team.

As with most team-based assessments, students worry about the fairness of the marking structure (Phillips et al, 2021). This concern impacts heavily on the ASE programme and its large amount of team-based work, as evidenced by feedback from students highlighting the challenges they often have in understanding the proportion of individual and team marks for an assessment. To help students improve their assessment literacy, specifically associated with team-based assessment, we have undertaken work within semester teams to address this. However, each approach has its trade-offs (team assessment versus individual assessment of teamwork, consistent assessment techniques versus a diverse range of assessment techniques). Semester teams each adopted their own agreed approaches to address this challenge, leading to varying communication about assessment provided to students over the different semesters. To complicate matters further, modules migrate and module leaders change over time, making it more difficult to maintain consistency.

To help both the management of the programme and the students to understand what is expected of them, we recently developed a snapshot document of the whole programme which shows the proportions of team-assigned marks and other styles of assessment throughout all three years of our BSc, and our MSc programme. This process was a catalyst for staff to review, reflect and, where necessary, realign assessments. This allowed us to focus on assessing the learning outcomes associated with team working that enable students to gain people- and process-based skills while hopefully reducing the stress and anxiety associated with team-based assessment.

Impact of move to flipped learning

Over the past academic year, we have had to deliver more teaching remotely due to Covid-19 restrictions. We have embedded flipped learning into our teaching model and used synchronous sessions to focus on activities. Challenges have emerged from using flipped learning, both for PjBL and through general activities used in online synchronous sessions. For PjBL, we have found that although students are largely still collaborating online when they are completing client projects, the focus on all-online (or mostly online) sessions may have exacerbated issues when students do not engage – it is easier for a student to ‘hide’ online through changing their status to ‘Appear offline’, for example, than to physically hide if they are in the building.

We have learned lessons from our students’ feedback regarding our approach to flipped learning. Any team-based activities need to be well-structured – if you build in optionality (“here’s an activity, you’re in this team, you may speak to each other about it”) then certain teams may not speak to each other at all. Conversely, not every activity needs to be a team-based activity. We have received feedback that students enjoy a balance of individual and team-based tasks, because working in teams for too great a percentage of a session is intense. In cases where all activities designed are naturally individual, a team aspect can be worked in through encouraging students to show their solutions to others (again, this task itself must be well defined). This is a noticeable difference to pre-pandemic collaboration. Collaboration between students would naturally happen even in individual tasks pre-pandemic, as students would form friendship groups and ask each other questions and compare solutions even without prompting. Now we must rethink how the format in which we are teaching (online or offline) impacts on the types of activities we use and how often we use them.

Moving to flipped learning has impacted on how semester teams collaborate. Due to the dependencies often inherent between modules being taught during a semester, it is often necessary to know what is being taught concurrently by other module leaders. When working in-person, this would be done through casual conversations. However, while working remotely, we have instead been using group chats to ask quick questions and to make sure we are all up to date (for example, on the process we will be taking to do team reviews). This has been especially helpful in cases where issues have arisen within student teams (issues which are more likely to occur when you lose a lot of the context and body language you get from interacting in-person), where a team supervisor can quickly contact other members of a semester team about the team’s issue.

Impact of collaborative working

Our collaborative effort towards learning, teaching and scholarship has enabled us to realise Professor Simon Gibson’s vision for a National Software Academy that could “bring long term benefits with ramifications within and beyond Wales” as a result of our “unique model of workforce development in the United Kingdom for an industry whose capacity for employment and wealth creation will be sustained throughout the twenty first century” (Kelsey 2015).

A key objective was to develop qualified, industry-ready software engineers. In the first two years we organised summer placements, which gave us reassurance that our approach was preparing students for the workplace:

“Within the first two weeks it felt as if they were long-standing, valued members of the team.”

Director, Living Data @ McLays (on two Year 1 students)

“Getting industry experience on the course with client projects really helped me when applying for summer internships. Both of my internships were with companies I met at a networking event hosted by the NSA. My last internship developed into a graduate position.”

Year 3 student

The majority of our first two cohorts of graduates quickly entered the digital sector (see Table 1).

Table 1: NSA graduates entering the digital sector

Year	Cohort size	% Professionals in digital	% Postgraduate study	% Unknown
2018	17	13 (76%)	2 (12%)	2 (12%)
2019	48	35 (73%)	4 (8%)	9 (19%)

Our extensive collaboration with a wide range of industry partners is key to the success of our approach. Partners have a range of opportunities to meet with students, including projects, talks, workshops, networking and showcase events, curriculum development and summer placements. Our partners keep us up to date with trends and skill shortages in industry, which informs our teaching and syllabus. Students gain numerous, meaningful interactions with our industry partners and gain a better understanding of the range of opportunities in the digital sector. Our industry partners engage because they want to be involved in developing the students as software engineers and it can help them identify potential placement students and employees.

“The NSA’s focus on industry is evident. They listen to what skills are needed in the industry today. They provide talented, work-ready graduates. They even put theory into practice by collaborating on real-world industry projects.”

Director, Talkative

The high level of industry engagement would not be possible without the leadership of the School's Industry and External Engagement Manager. He works with the team to promote our collaborative approach to potential partners, with the goal of providing a sustainable stream of opportunities, projects and placements that enable students to engage with industry. Around 400 different organisations have visited the NSA since its launch.

Projects are the main catalyst for learning and are key to enabling our students to benefit from work experience embedded into their programme. It is important to maintain a project pipeline. We run an annual call for projects and a project networking event for prospective clients, which typically results in more than 50 proposals. Projects span the modules delivered in each semester, so semester teams identify suitable projects that can meet the learning outcomes.

Students gain an authentic learning experience through working in teams on real client projects. It enables students to build a portfolio of their work to showcase their skills to potential employers. Students gain a better appreciation of how PjBL enhances their employability.

“I really enjoy the practical aspects of this course. We get to meet and work with clients, who present interesting challenges, which there is not often a ‘right’ answer to. You just have to solve the problem working as a team to the best of your ability, others may solve it differently and that’s part of the fun, you get to learn from your peers and improve. This much better prepares you for a real job, because then you are not just sitting down taking exams”

(Year 1 student)

Over the last six years we have run more than 60 smaller four-week projects (with up to five teams on each project), and 45 larger 10-week final projects. We have produced solutions for a wide range of organisations such as Fujitsu, BT, Admiral, NHS, local councils, Welsh Rugby Union, and numerous SMEs and third sector organisations. We are also working with communities to create team projects that will have social and ethical benefits in society.

Collaborative scholarship

Continuous reflection of our teaching practices and the team spirit fostered at the NSA has seen the emergence of collaborative scholarship that has resulted in outputs disseminated at university, national and international level. For example, the team gained valuable insight into our PjBL approach by reflecting on our practices after our first year of delivery and writing up our findings in our first conference paper (Cooper et al, 2017). It helped us gain a deeper, shared understanding of our PjBL approach as we framed this in the wider pedagogy, and to gain insights from our experiences that helped us to evolve our practices.

Additionally, we have received institutional funding from Cardiff University to enable us to work with students as partners through summer placement programmes in research and teaching. This has helped us develop teaching resources and carry out research with students to help improve the student experience. For example, we encountered problems in some student teams with

collaboration, particularly regarding team conflicts, freeloading, blocking contributions of others and inappropriate behaviour. When this was raised at the School's Teaching and Learning Committee, we realised this affected project modules across COMSC. A placement student surveyed students and staff to determine difficulties and expectations of teamworking and then developed a Code of Conduct and Guidelines for Teamworking, which included advice for developing team agreements. These have been adopted across the School for project-based modules. This work was extended through collaborative scholarship with lecturers from Northumbria University and the study and findings were presented at Computing Education Practice 2021 (Phillips et al, 2021). This enabled us to reflect on the similarities and differences of our findings across two different HEI contexts. The findings will influence practice in supporting teamwork across both institutions.

Concluding thoughts

Collaboration is at the heart of everything we do at the NSA. Our PjBL approach and working closely with our industry partners provides students with a range of authentic collaborative learning opportunities that enhance the student's employability. Our students have felt the impact of the NSA programme in their successful graduate endeavours with an increasing alumni cohort returning to contribute to the dynamic course structure with their experiences.

Our collaborative scholarship has enabled us to become more effective reflective practitioners. Our collective reflection on practice, informed by feedback from students and industry partners, leads to scholarly activity that results in changes to our practice and scholarly outputs that contribute to the body of knowledge. This is helping to establish our reputation and impact. We have been visited by other universities and organisations who are interested in our PjBL model, such as Imperial College London, University of Highlands and Islands, and the Edge Foundation. We have had, and continue to undertake, collaborations through publishing work with universities such as Northumbria University, Bristol University, Cyprus University of Technology, University of Rennes, France, and University of Waikato, New Zealand.

Over the past few months we have been collaborating with the University of Wyoming and community colleges across the state who wish to adopt our approach.

“We're grateful for this collaboration with Cardiff University and excited about helping bring it to the people of Wyoming. This partnership with external partners such as Cardiff, Wyoming community colleges and industry is an example of the type of program that can make a real difference in workforce and economic development in the state.”

(University of Wyoming President Ed Seidel)

Our first application to CATE in 2017 was unsuccessful but writing the submission helped us reflect on our collaborative approach and how we could plan on improving our dissemination and impact. Applying for CATE raised our profile in the university and the NSA team was recognised in Cardiff University's Celebrating Excellence Awards later that year through winning the Excellence in Teaching category. We also received feedback from our CATE submission that helped us focus our

subsequent successful application in 2020. Collaboration is embedded into the ethos of the NSA and our CATE award is a fitting recognition of what we can achieve as a team when we work collaboratively with students, industry partners and other academics.

References

- Cooper, I, Gwilliams, C, Ivins, W, Jones, C and Turner, M (2017) 'Developing work-ready software engineers using real-world team-based projects as a catalyst for learning', *GSTF Journal on Computing*, 5 (2). Available at: dl6.globalstf.org/index.php/joc/article/viewFile/1780/2312 [accessed 6 August 2021].
- Kelsey, C (2015) 'New Software Academy will Plug Gap in Number of Skilled Software Engineers Needed by Businesses in Wales'. Wales Online, 12 October. Available at: www.walesonline.co.uk/business/business-news/new-software-academy-plug-gap-10237606 [accessed 6 August 2021].
- Osborne, J, Ivins, W and Jones C (2019) 'Developing a Spiral Curriculum for Teaching Agile at the National Software Academy', in Parsons, D and MacCallum K (eds) *Agile and Lean Concepts for Teaching and Learning*. Singapore: Springer, pp 303-323. Available at: doi.org/10.1007/978-981-13-2751-3_15 [accessed 6 August 2021].
- Phillips, H R, Ivins, W K, Prickett, T, Walters, J and Strachan R (2021) 'Using contributing student pedagogy to enhance support for teamworking in computer science projects', in *CEP 21: Computing Education Practice 2021*. Durham, UK, 7 January. New York: Association for Computing Machinery. Available at: doi.org/10.1145/3437914.3437976 [accessed 6 August 2021].
- Shadbolt, N (2016) *Shadbolt review of computer sciences degree accreditation and graduate employability*. London: Department for Business, Innovation & Skills; and Higher Education Funding Council for England. Available at: www.gov.uk/government/publications/computer-science-degree-accreditation-and-graduate-employability-shadbolt-review [accessed 6 August 2021].

2 Getting students on board: a cross-sector collaboration

Year of award: 2020

Dr Jacqueline Brodie, Associate Professor Entrepreneurship and Innovation, Edinburgh Napier Business School, Edinburgh Napier University.

Dr Miles Weaver, Associate Professor Sustainability and Supply Chain Management, Edinburgh Napier Business School, Edinburgh Napier University

Keywords: cross-sector collaboration, trustees, students, board governance

Introduction

This chapter discusses the development and impact of Edinburgh Napier's intervention on young governance leaders in Scotland. Traditionally, UK board trustees have been 'male and stale' with an average age of a trustee being 61. In 2013, Dr Miles Weaver and Dr Jackie Brodie began offering a hands-on experiential programme called Get on Board to Edinburgh Napier University students to address this documented lack of diversity and empower up to 20 students a year to transform board representation in their local community (Brodie and Weaver, 2017). The pilot was recognised in 2015 as a Herald Award Winner for its creative and innovative approach to enhancing student learning with an impact on supporting growing social capital in the community. In 2017, following the growing success of the programme, the Charity Board Initiative (CBI) was launched with corporate partners Anderson Strathern (legal), Santander (banking) and RSM (accountancy) and Inspiring Scotland (charity partners). This larger training initiative uses the Edinburgh Napier-developed Get on Board competency framework to support Scottish-based students' knowledge, skillsets and attitudes around trusteeship and supporting them to become young professionals in governance roles. At the same time, the collaborators from RSM, Santander, Anderson Strathern and Inspiring Scotland are deeply connected to third sector organisations, being able to provide matching opportunities and networking far beyond what was possible through Edinburgh Napier University's initial programme. The CBI pilot initially engaged with three universities in Edinburgh, with 136 students taking part in taster experiences and progressing through the Bronze-Silver-Gold competency pathways. In 2018/19, the CBI was extended across six Scottish universities, engaging 218 students, with more than 30 charities directly benefiting. The charity board initiative is unique – the first programme to engage students as trustees in Scotland using a competency pathway and highlights the third sector's value for employability. The collaborative team was awarded a CATE in 2020 on the first application attempt.

Why was the Get on Board intervention needed?

Scottish Government-funded research, undertaken by Edinburgh Napier University, highlighted that achieving boardroom diversity supports more effective decision-making and governance (Dutton and Raeside, 2014). However, boards often struggle to identify and recruit diverse members and, in Edinburgh alone, an estimated 90% of 1800 voluntary sector organisations had vacancies for board trustees by 2013. The Scottish Council for Voluntary Organisations had highlighted that, to achieve more diversity on boards and lower the average age of trustees, a young governance talent pipeline was needed, one that offered opportunities for young professionals to get more involved in the third sector and harness their passion, interests and competencies to benefit a board. After establishing that no talent pipeline exists for young professionals as trustees, the importance of diversity on boards, the critical role trustees bring to well-governed and effective boards, and the opportunity for students to make a real and lasting impact in our communities, this extra-curricula programme was born. The development was student led, by the newly formed Young Trustees in Scotland with support from the Association of Corporate Governance Practitioners.

Get on Board – the early years

The Get on Board initiative was originally established to empower students to “Get on Board” and “make a difference in the communities they serve”. The initial founding team member, Miles Weaver, was an experienced board member of Birmingham Leadership Foundation and had been trained in governance skills at a young age. He sought to create a similar training experience for the students at Edinburgh Napier University. From the very start of the Get on Board programme, the Napier academic team worked in partnership with a student-led society, created by Edinburgh Napier students. This initiative was led by Elena Pershina, then a final-year undergraduate student, who had developed a keen interest in governance during her undergraduate dissertation studies and would go on to undertake a PhD influenced by this intervention.

The Get on Board programme was the first university-based scheme to train, coach, support and place university students as trustees on the boards of local charities and voluntary-sector organisations, where they could help make key decisions that positively impact on their local communities. The programme gave students the opportunity to:

- + contribute to the decision-making process of an organisation at board level
- + gain experience in leadership and board governance
- + network with leaders in Edinburgh and Scotland and those who wish to give back to their community
- + support diversity in the boardroom by taking a leadership role, make a real difference in their community and have a demonstrable impact on people’s lives
- + receive student membership of the Association of Corporate Governance Practitioners (AGCP).

During the initial years of the scheme, the main team comprised 10 interested students on a Get on Board steering committee and two academics, who worked closely with the university careers service. The careers service helped recruit and then support students while they were engaged on the programme. The careers team's collaborative input was vital, as their expertise helped ensure that students could identify their own unique and valuable knowledge, skills and understanding, which they could bring to benefit a third-sector board.

The development of the Get on Board competency pathway for trustees

Following a series of research projects in the initial years of the programme (see Brodie and Weaver, 2017 and Weaver et al, 2017), the Get on Board competency pathway was developed. Aside from the teaching team of Get on Board, this competency pathway had input from a legal specialist, Julie Hutchinson, now a visiting professor at Edinburgh Napier University.

Table 1. Get on Board competency pathway

Level achieved	Specific Criteria			
	Knowledge	Skills	Mind-set	Experience
Bronze Evidence of a foundation level of knowledge, skills and mindset in board governance.	Awareness of key board-level roles in a variety of sectors in different contexts.	Appraise the skills that you can bring to a board-level role and identify gaps for development.	Awareness of your own attitudes and motivations to get on board and readiness to develop a growth mindset.	Demonstrate in an interview evaluation your relevant knowledge, skills and mindset in board governance.
Silver Evidence achievement against each criterion to demonstrate at least 14 hours of professional development.	Demonstrate the appropriate theoretical and practical understanding to fulfil a board-level role in a relevant sector and context.	Evidence of relevant expertise that could be brought to a board-level role, including an ability to build good networks and relationships.	Reflect on the attitudes and disposition that shape the individual contributions, behaviour and their influence on board decision-making.	Active engagement in a relevant sector that utilises your knowledge, skills and mindset to add value to an organisation's purpose.
Gold Professional recognition in a board-level role over a sustained period.	<ul style="list-style-type: none"> – Evidence of an active engagement in a board-level role in at least three board meetings – Written personal evaluation and reflections on experience and peer feedback to date – Commitment to ongoing professional development and networking* – Mentoring of others in board governance <p>*Further opportunities exist as part of a professional pathway with the Association of Corporate Governance Practitioners.</p>			

Through the development of this competency pathway it was envisioned that students would participate in a three-stage award and have the flexibility to leave the programme at a stage that was suitable for their needs. During the Bronze stage the students are asked to identify what matters to them, recognise their own strengths and challenges and attend governance-related information and training events. During the Silver stage they set their own learning objectives and are paired with a charity for work shadowing. This supports their understanding of the governance of boards, committees and senior management. Finally, in the Gold stage, they become a regular board member and reflect on the experience of being on a trustee board.

Meaningful collaboration – shared vision and values

The competency pathway was developed and validated with feedback from students, charities and umbrella bodies. It became apparent that a competency pathway could be scaled to other institutions with localised support and training. Particularly, that the Silver award could be open source with participants identifying and pursuing training that would be relevant to closing the gap identified in the Bronze award. Thus, our efforts moved away from offering a formal programme over a defined period of support, to one that offers a personalised pathway dependent on identified skill gaps. At Bronze level, this included an introduction to governance and trusteeship, the vibrancy and impact the charity and third sector make in society and empowering the individual to consider what they could bring to a board. The former is generally offered in most cities by voluntary sector umbrella bodies and corporates with an interest in governance, law and diversity. At this point, the team began to collaborate with other stakeholders on what would become a much more ambitious endeavour than originally conceived and opened up the competency pathway to other universities and places in Scotland. Firstly, as a pilot to other Edinburgh-based universities with collaboration involving high-profile external corporate partners – RSM (accountancy) and Santander (banking) and Anderson Strathern (legal) and a charity partner, called Inspiring Scotland. The academic team were now part of a wider implementation working group and could be the ‘knowledge partner’, bringing expertise on competency development, training materials, and later developing an online learning environment to support the initiative. This collaborative endeavour worked because our external partners shared the same values as the originating university-based team:

“Currently charities in Scotland, and across the UK, do not generally reflect modern society and the communities they support. We know that the majority are made up of men, and a high percentage are over the age of 66, with only a small percentage under the age of 35. Ultimately, a diverse committee brings different skills and viewpoints, and better reflects the communities that a charity is looking to serve. This, in turn, will equip a charity with better tools to effectively carry out their responsibilities, which is why we hope to engage a younger generation to get involved to help shape the charities of the future.”

(RSM partner member)

Similarly, a relationship manager at Santander explained their motivation to be part of the initiative:

“The sector is making small steps to move towards increased diversity, which is good to see, but a significant cultural shift, including changing attitudes and recruitment processes, is needed to transform the sector. Our training and accreditations programme will not only support students to take an active role in the future strategy of Scottish charities, but it will offer the chance to gain key employability skills alongside academic studies – providing a comprehensive learning programme for students.”

(Santander partner member)

Bringing different strengths and contexts to the initiative

The steering committee of the Charity Board Initiative worked closely to guide and support the rollout of the Get on Board competency pathway. Initially, our collaboration took the form of several set-up meetings where each interested party identified what they could contribute to the initiative and a discussion around our common interests and shared values. Building collegiality and an effective steering group did not happen overnight. Initial conversations focused on identifying the strengths and acknowledging the constraints of each partner in the collaboration. For example, the university-based team possessed governance expertise but did not always have sufficient time to speak to potential charities, which were key to successful placement experiences. Conversely, the partners spent time relationship-building with charities as part of their day job and so were well-positioned to identify possible placement charities but did not have the same expertise in galvanising university students to take part in student activities. The university-based team therefore took the lead in community building, setting up a vibrant Facebook community to facilitate student interaction on the programme and an open Moodle site to share co-produced training materials, making them available for all.

By 2018 the partners contributed to training and recruitment events for six Scottish universities, enhancing students' knowledge, skillset and attitudes around trusteeship across Scotland. Throughout the academic year, each collaborating partner worked together to support the initiative. For example, representatives of all the external agencies attend the yearly launch in each university and explain their roles in the project to students at these events. Furthermore, the initiative is directed by a steering committee involving representatives from each of the partner organisations. This means that, when assessing students' Bronze awards, the collaborating parties all take part. They also play a valuable role in identifying the relevant organisations that the students could spend time in as part of their learning experience. Each of the partners also contribute significantly to the student-training activities that are offered throughout the year.

A partner at RSM, and leading member of the CBI steering group, stated in 2018:

“Our initiative aims to engage a younger generation in charity work to enrich the impact they have on our communities; while learning valuable skills they can use in future employment. It's particularly pleasing to see that we have matched 32 students with local charities; and two have already joined charity boards – demonstrating a real success story.”

(RSM partner)

Over the years, the team has gradually evolved to work effectively with an impressive range of external stakeholders. For example, 30 charities have worked with the team so far, including Marie Curie, Hostelling Scotland, Car Gomm and National Trust for Scotland.

The team were committed to capturing the reach, value and impact of the initiative since the beginning to share this information with other interested parties. In terms of the impact on wider stakeholders in the charity sector, Julie Hutchinson (Hutchison, 2018) and Miles Weaver gathered data to offer a Twitter hour in which anyone interested in board governance could participate. This provided regular opportunities for students to network and pick up tips and ideas. By the end of 2018 this account had seen 122,600 monthly twitter impressions and some of the sessions run were particularly popular, such as 'let's talk digital leadership and digital inclusion for trustees'; 'due diligence before a trustee role' and 'when to stop being a trustee'.

Student involvement and student voice

In each of the six participating universities links were formed with the students' union. This collaboration helped promote and disseminate the benefits of undertaking the learning experience. The original Get on Board steering group explicitly fostered strong student engagement as partners within the team. Students co-chair board meetings, attend and organise events to persuade other students to participate and, importantly, secure institutional buy-in. For instance, it was the students from Young Trustees in Scotland who lobbied the Business School for seedcorn funding to establish the initiative. This funding was used by the academic-student team to co-create the initial programme curricula and seek support from a host of speakers from within the university (eg academics in law, strategy, board behaviour, careers team) and outside networks (eg the Chair of the Association of Corporate Governance Practitioners, US Consulate in Scotland, Scotland's Governance Forum), recognising the vast amount of expertise and passion to bring the initiative into being.

In the years following conception, the students' role as partners and co-producers of the programme (Bovill and Felten, 2018) were enhanced. The student-led governing body would organise an annual trip to the TrusteeWeek conference, ensuring young voices were heard and their contribution to board governance showcased. This young voice was given a platform at the inaugural Trustee Week conference in 2014, when Dr Weaver offered the keynote on 'the benefits of young trustees'. In later years, alumni of the initiative would lead table discussions at Trustee Week conferences and showcase their experience at national events and talks (eg The Gathering, SCVO; Third Sector Interface Conferences). Alumni would later also return to deliver sessions, provide mentoring support, sourcing opportunities, promoting trusteeship and effectively managing a student society. The competency pathway, localised support with interested parties and students as partners and co-producers has led to a sustainable programme with potential to scale.

The impact of collaborative working: enhancing the student experience

This initiative has measured impact in various dimensions (Weaver, 2018b). First, we gauged positive impact of the scheme on participants' ethical development, who valued, for instance, opportunities to give back to society:

"I found the Get on Board programme – really, really fantastic, in being able to give my own part to society."

(Business finance undergraduate student, Edinburgh Napier University)

Additionally, the initiative has equipped the students with a range of transferable and valuable employability skills and knowledge:

"As part of the Get on Board programme ... I attended the finance committee, board induction and development days, as well as a formal board meeting, giving me a sense of the wide-ranging and dynamic stewardship required of the board...the more I get involved the more I want to do!"

(Get on Board student, nursing school)

Similarly, students perceive they have helped transform the host charities' boards in relation to diversity:

"The reason that young trustees are beneficial is because they introduce fresh viewpoints to issues and I believe that a broader range of experiences results in effective solutions."

(Edinburgh University, Silver award student)

We have evaluated the effects of the learning experience on the participants using a host of qualitative as well as quantitative instruments, including programme review surveys and interviews, students' reflective logs and keeping in touch with our alumni. Some of this data has been discussed and peer-reviewed at academic conferences, with outputs appearing relevant industry sector publications. For instance, Third Force News (Hamblin, 2018) highlighted the initiative's positive impact on the third sector, and the initiative was commended at the Scottish Parliament and Business conference in Holyrood (Weaver, 2018a). We presented our findings to the QAA Enhancement Theme conference in Scotland about the ways in which Get on Board supported the students to be active empowered citizens who are generating, bonding and bridging social capital in real-world situations (Brodie and Weaver, 2017). One expert trustee, who worked alongside a student on his board recognised the value, added:

"I'm hugely keen on this whole process and...I... envisage a student, supplying this vital link to younger people and possible being creative as to how to develop that link."

(Trustee expert)

Another trustee highlighted the mutual benefit for trustees and students:

“The input from our Get on Board student has really sharpened our focus at meetings. He brings huge enthusiasm and has quickly understood the complicated environment a small charity like our works in. He is truly benefiting from seeing first-hand how a smaller public/privately funded charity operates.”

(Trustee, participating charity)

Get on Board has helped students feel empowered to enact change:

“My motivation for joining the board is through respect for the individuals that I work with and desire to be a positive force for hope, acceptance and change. My mantra is “be the change you want to see” – not always easy, but worth striving towards”.

(Get on Board, nursing student)

Valuing diversity

We have noted the positive effect of the programme on the female students at Edinburgh Napier in our qualitative data and the engagement of BAME students in the programme. For example, one female BAME student indicated that she now realises:

“It’s OK to be who you are, and it’s OK to be young, and it’s OK to have a voice, and be a girl, and it’s OK to say what you want to say, and have an impact wherever you are in the world”.

(Business management postgraduate student, Bronze award, Edinburgh Napier University)

Similarly, academics spoke warmly of the diverse range of participants at our events:

“Well done on everything this evening – amazing turn-out! I have never seen such a nationally, racially, ethnic and gender balanced attendance at anything before in my two years in Edinburgh. I felt very inspired by the students I chatted to.”

(Professor, Edinburgh Napier Business School)

Due to the impact of the Get on Board programme in the school, in terms of supporting positive student outcomes and supporting the main goals of the school in terms of empowerment and enterprise, it was featured in the Chartered Association of Business School’s impact factor video series, showcasing excellence in how business schools can support students to make an impact on their communities. Again, in line with the collaborative ethos of the initiative participating, students helped construct the material that was shown in the impact video to support the team’s strategy for maximising reach and impact. A quote from a female European student in the video notes:

“It actually brings out only its best in me and in working with other people.”

(Festival and events undergraduate student, volunteering experience with Edinburgh Fringe Society Board, Edinburgh Napier University).

Concluding thoughts

It is evident that the Get on Board competency pathway developed at Edinburgh Napier University has been successful in supporting an effective ecosystem and community of practice in Edinburgh and beyond. It directly supports participants and third/charity sector organisations in their aspirations, influencing policy in board diversity and community empowerment. There has also been a clear impact on the partners of the initiative. As noted by an employee of Inspiring Scotland:

“A hallmark of Inspiring Scotland’s investment model is to build the capacity of the charities we work alongside making them more resilient and sustainable. Many of Inspiring Scotland’s supported charities work with young people under 25 yet the boards do not reflect this dynamic. This was the very simple rationale for collaborating in this initiative. As opposed to older trustees who serve on boards ‘to give back’, young trustees want to create social change and it is this dynamic that changes the debate in the board room. A board that is truly focused on the vision and values of the organisation is much more likely to be effective and survive.”

Our collaboration has meant that we can achieve much more than the sum of our parts. We now represent an ever-broadening constellation of academics, students, industry-based professionals and agencies, which has currently benefited over 30 charities, with the potential for far greater future development. The competency pathway allows the potential for wider rollout – directly influencing the diversity on boards, leading to better decision-making, providing a transformative learning experience and providing further opportunity for universities to be deeply connected to our communities – empowering our students as real decision-makers.

The initiative did not stop because of the pandemic; the team took some time to pause and reflect on how we could transit to a different delivery model. The positive is that the Bronze session has been recorded as an on-demand webinar and placed on the virtual and open learning environment. This has now developed into a MOOC (massive online open course) available to anyone with an interest in board governance and getting on boards. Although contextualised for Scotland’s charity sector, the MOOC has potential to be further developed with localised support in regional place-making hubs. In terms of Silver, the open-source architecture design enables participants to identify and pursue training relevant to closing their skills gap, made easy due to more online and on-demand webinars and virtual networking opportunities. Our efforts have now shifted to building up the MOOC to support each of the stages. This includes more explicit alignment to the reflective exercises in the workbooks and three end-of-stage questionnaires to gather the data required to assess competency levels against the competency pathway criteria (useful for end of stage interview) and feedback to improve the experience for students, partners, and beneficiaries. Combined with the innovation of the

competency pathway with its open-source architecture, localised support and the MOOC with on-demand learning materials and reflective exercises, the team have a renewed passion for the initiative's sustainability and opportunity to roll-out across HE and beyond. It provides an opportunity for participating HEIs to reach out into their communities and empowers students to leave a legacy in terms of the more diverse boards that are recognised as key to better decision-making.

Finally, our advice to other academics engaged in a collaborative learning and teaching project who are thinking about applying for a CATE is to focus on collecting tangible evidence of the impact of your project alongside ensuring the roles of the different collaborators in the CATE are effectively articulated. Beneficiaries are not just the student and collaborating partner(s) but there are benefits to wider employability and the community beyond the campus boundary (social and environmental impact).

References

- Bovill, C and Felten, P (2016) 'Cultivating student–staff partnerships through research and practice', *International Journal of Academic Development*, 21 (1): 1-3. Available at: doi.org/10.1080/1360144X.2016.1124965
- Brodie, J and Weaver, M (2017) *Getting on Board: Supporting HE students' transition to employment*. QAA Scotland's 3rd International Enhancement in Higher Education Conference. Edinburgh: Edinburgh Napier University. Available at: researchrepository.napier.ac.uk/output/824286
- Dutton, M and Raeside, R (2014) *Overcoming Barriers to Equality and Diversity Representation on Public, Private and Third Sector Boards in Scotland*. Edinburgh: The Scottish Government. Available at: www.gov.scot/publications/overcoming-barriers-equality-diversity-representation-public-private-third-sector-boards-scotland-executive-summary/documents/
- Hamblin, J (2018) '2018: what's in store for Scotland's third sector?'. Edinburgh: Third Force News. Available at: tfn.scot/opinion/2018-whats-in-store-for-scotlands-third-sector
- Hutchison, J (2018) 'Social media savvy trustees turn to Twitter for the answers', *TFN Guide 2018 to Running a Charity or Social Enterprise*: 31. Available at: storage.googleapis.com/tfn-uploads/old/articles/TFN_GUIDE_2018_FOR_WEB_2.pdf [accessed 3 August 2021].
- Weaver, M (2018a) 'Workshop 4 - Young People on Boards: Creating a Diverse Talent Pipeline of Young Board Members', in The Scottish Parliament, *Business in the Parliament Conference 2018*. Edinburgh, The Scottish Parliament, 26 October. Available at: doi.org/10.13140/RG.2.2.16417.12644
- Weaver, M (2018b) 'Making Boards More Inclusive for All', in *Women on Public Boards: Preparing for Equal Representation*. Available at: www.napier.ac.uk/research-and-innovation/research-search/outputs/making-boards-more-inclusive-for-all
- Weaver, M, Brodie, J and Hutchison, J (2017) 'The 'Get on Board' Competency Pathway'. Edinburgh: Scottish Council for Voluntary Organisations. Available at: scvo.org/policy-research/evidence-library/2017-the-get-on-board-competency-pathway [accessed 8 July 2021].

3 Promoting excellence in employability and transversal skills (PEETS)

Year of award: 2019

Professor Bob Gilmour, Environmental Civil Engineering Programme, Glasgow Caledonian University

Jantien Belt, Senior Lecturer, Marketing Programme, the Hague University of Applied Sciences

Dr Caroline Gallagher, Senior Lecturer Environmental Management Programme, Glasgow Caledonian University

Tim Hoppen, Senior Lecturer, Marketing Programme, the Hague University of Applied Sciences

Sari Horn, International Relations Coordinator, LAB University of Applied Sciences

Juha Hyytiainen, Senior Lecturer, Information Technology LAB University of Applied Sciences

Dale Lyon, Director, Concrete Scotland - ExpLearn Ltd, UK

Keywords: interdisciplinary, international, intensive study period, student/staff development

Introduction - aim and focus

The primary aim of this chapter is to share our journey from a working group of like-minded individuals into a high-performing team. We will focus on the key components of our unique, multi-award winning Promoting Excellence in Employability and Transversal Skills (PEETS) initiative that created inspirational and transformative learning activities. The importance of self-reflection, of student feedback and co-creation throughout the initiative will be emphasised and we will highlight the broad-ranging reach, value and impact of our activities to our key stakeholders.

The second part of the chapter will outline how we have continued to collaborate since the original funding ceased. This will include using the collaborative principles of PEETS to secure additional funding for related initiatives, repurposing some original plans and outputs and sharing our knowledge and experience to develop others within and outwith our organisations.

While we did not develop PEETS with a view to applying for and being awarded a CATE in 2019 (our first application), there is no doubt about the added value of completing the CATE application process as it encourages you to really scrutinise, evaluate and further enhance your collaborative activities.

The key outputs/outcomes from PEETS are continuing to have a positive impact on improving student and staff learning, performance and expertise as well as enhancing institutional and industry partner facilities and reputation. These are captured at the end of the chapter in a concept map (Figure 4) which illustrates the reach, value and impact of both PEETS and the process of preparing a CATE application. Overall, we aim to share some of our key learning points and enhanced understanding from our journey.

Our context and the development of PEETS - our journey to CATE

PEETS is a multidisciplinary, international/industrial partnership built on a number of longstanding relationships involving 'real-life' managed simulations, short-term international study trips or winter schools. We comprise Glasgow Caledonian University (GCU), Scotland; LAB University of Applied Science (LAB) [previously Lahti University of Applied Sciences], Finland; The Hague University of Applied Science (THUAS), The Netherlands; and ConStructEd (Scotland) Ltd – our industrial partner (rebranded from Constructionarium (Scotland) Ltd).

We are 'new universities', with student populations from 5,000 to 25,000, and offer four-year degrees, including computing, engineering, marketing and business. Supporting widening participation students is a priority (eg GCU recruits 40% from disadvantaged backgrounds [Scottish Index of Multiple Deprivation SIMD]). These students are less inclined towards, but have the most to gain, from study abroad (Allinson, 2018). Our industrial partner (now rebranded ConstructEd), provides hands-on learning in civil engineering and construction management.

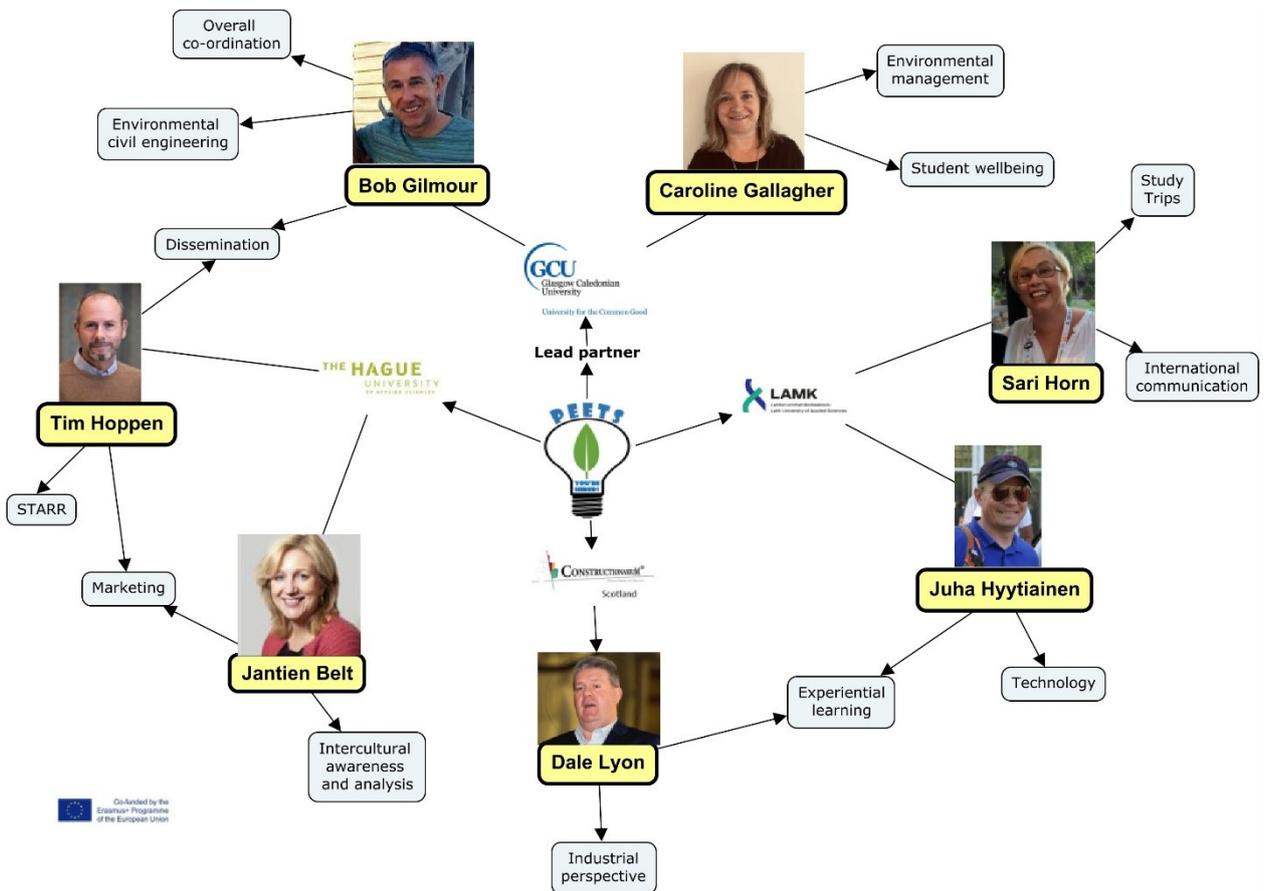
We wanted to develop an approach to teaching and learning around the concept of 'global citizenship' using a sustainable development initiative that inspired our students and supported their graduation and employment. Central to this is working across disciplines and borders necessitating students developing transversal skills (skills learned in one area but applied in another) and engaging in teamwork and industry challenge. We recognised the complementary range of knowledge, experience and perspectives provided by each of the partners could produce a unique and very rewarding initiative for our students. What we underestimated were the wider benefits in terms of staff development and enhancement of profile for our organisations.

Our focus on global citizenship and our concept arose out of informal networking across our universities with our industry partner, and led to the formation of our multi-disciplinary and international PEETS team (Figure 1). Led by GCU, the 'University of the Common Good', we created an Erasmus+ bid in 2015. We revised/enhanced this unsuccessful bid and successfully resubmitted in 2016, securing funding for three years. We operationalised PEETS by implementing some clear objectives including:

- 1 Develop innovative learning approaches and resources to interdisciplinary and multicultural participation in a 'real world' renewable energy project where students could develop transversal skills including communication, team working and leadership.
- 2 Deliver an industry-informed, 10-day intensive study period (ISP) for 42 multidisciplinary/international students (repeated and enhanced annually).
- 3 Evaluate the effect of these learning activities on students' graduate job search strategies etc.

The main roles and responsibilities of our core team are shown in Figure 1. We were well supported by a wide range of professional service departments including careers, student wellbeing, equality and diversity etc across our institutions. Without their valuable input, there is no doubt PEETS would not have developed the way it did, nor achieve the impact it has.

Figure 1. PEETS core team and our main responsibilities



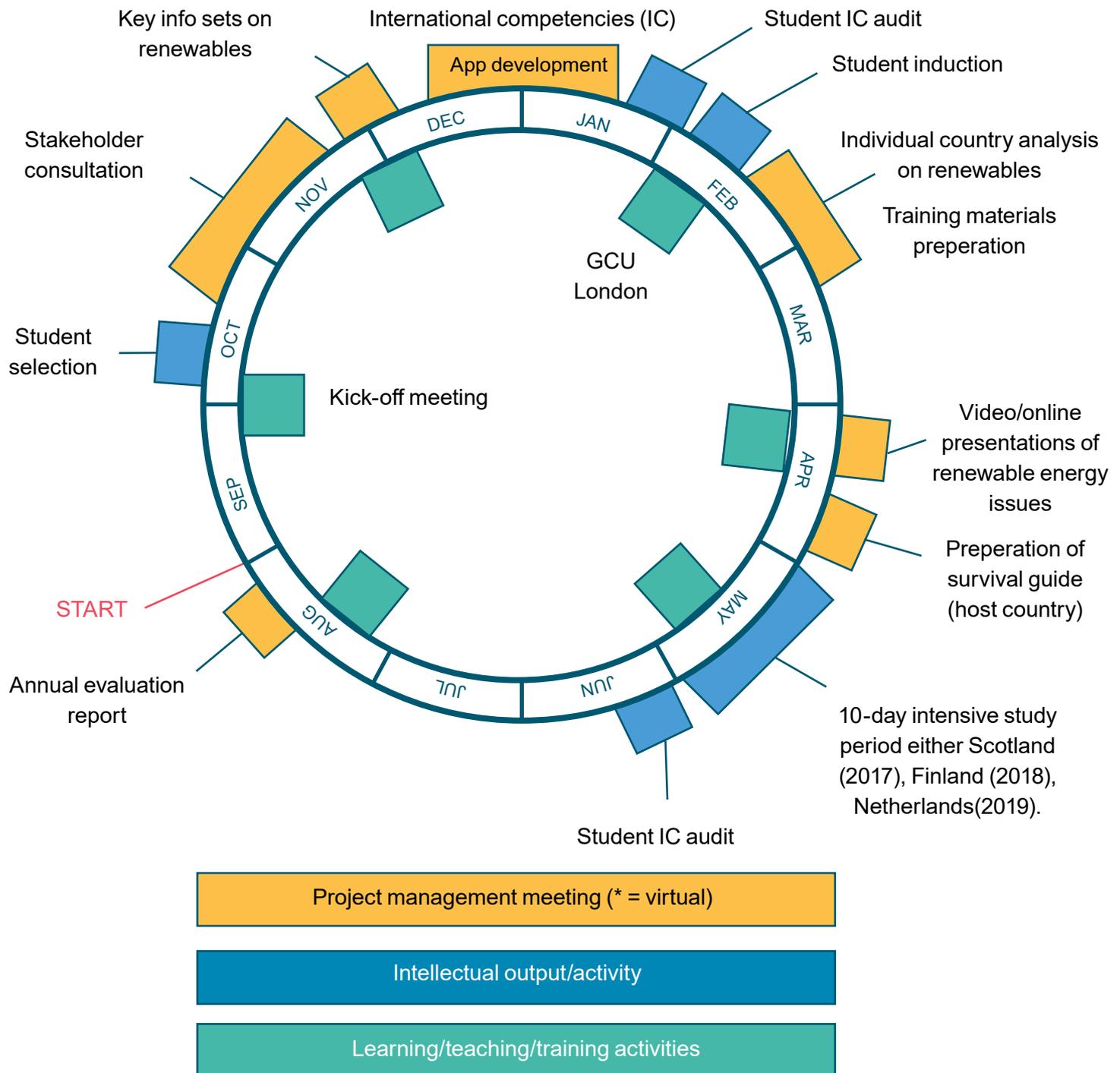
What we did in PEETS

We developed a broad range of teaching/training/learning and management activities (Figure 2), highlighting the variety of collaborative opportunities in such initiatives. Clarifying each of these activities at the start helped us to identify any potential pinch points, which was very important for implementation when we were dealing with multiple stakeholders, HEI regulations, trimesters, holidays and time zones.

Successful delivery of the intellectual outputs (eg producing the International Competence App (ICApp) and renewable energy reports) culminated in the design of the ISP and acted as milestones in achieving our overall objectives. Annual enhancement is incorporated using feedback from students, staff and independent external evaluators (eg monthly virtual and three times a year face-to-face meetings).

Students apply to attend PEETS by submitting a short form explaining how they will develop from the initiative and what they will do to support its success. We ask successful students to complete the ICApp to benchmark their intercultural competence and again after the ISP to measure distance travelled. Students complete a range of research/activities, such as researching renewable energy in their country, and share new learning with all students online before the ISP.

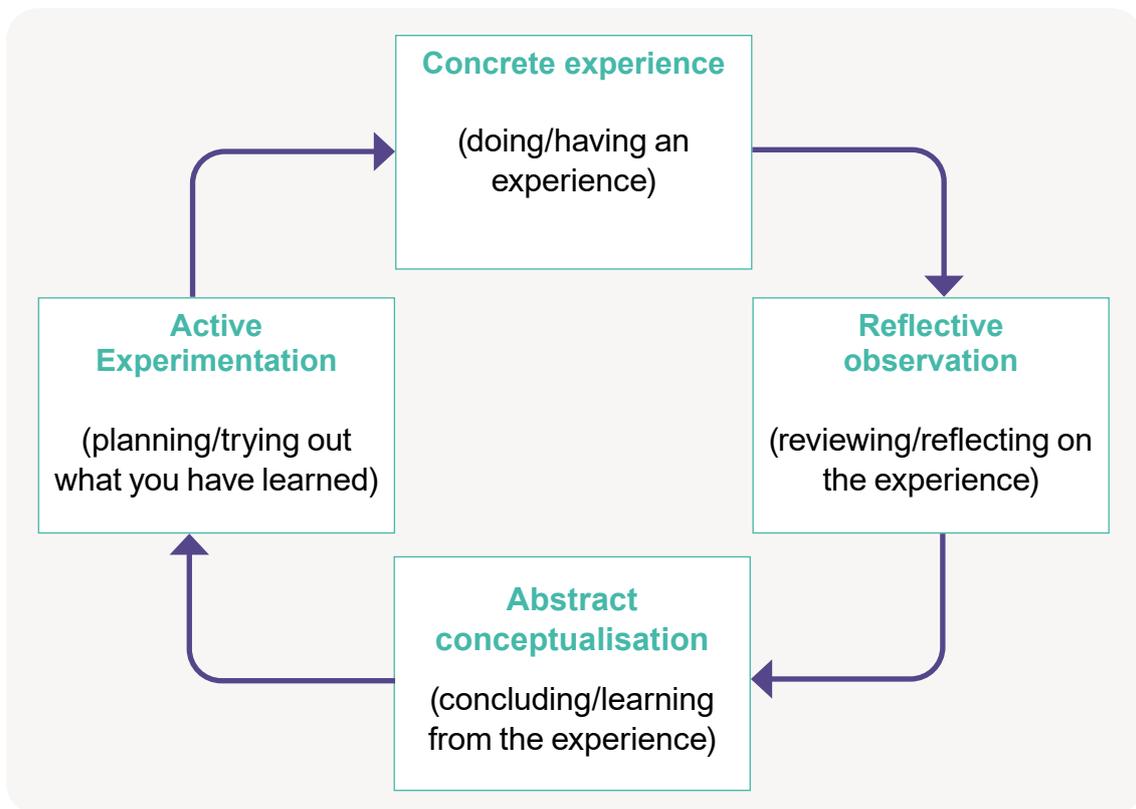
Figure 2. Indicative annual collaborative cycle



Our activities were designed to be inclusive and developed in close liaison with the disability, diversity and wellbeing departments of all HEIs. Each cycle has attracted a diverse range of students (eg disclosed disability, LGBT, widening access/participation background, refugee status) thereby adding value in a range of perspectives, cultures and experiences, but, more importantly, in inclusivity.

Many of our activities follow Kolb's experiential learning cycle (Kolb, 1984) (Figure 3) and we literally provided students with a 'concrete experience' with student teams creating 5m-tall wind turbines with concrete foundations.

Figure 3. The experiential learning cycle (Skillshub.com after Kolb, 1984)



Student voice

Our collaboration with students starts at the beginning of each new cycle where we review student feedback eg students confirmed the importance of time, space and opportunity for reflection, conceptualisation and experimentation in their overall learning. This is then used to enhance the ISP through incorporating appropriate 'free time' for students.

It has extended through their engagement in mentoring new students during subsequent ISPs eg guiding/assisting/supporting students and suggesting new activities in ISP. This collaboration is maintained through membership of a LinkedIn group that ensures wider dissemination and sharing of the continuing successes of the students – it has the added benefit of tracking career development of students.

“PEETS allowed me to develop my interpersonal skills and gain a greater appreciation for other cultures. ... I gained the confidence to look beyond the boundaries of Scotland for future opportunities. Returning to the project for a second year consolidated my knowledge of how to be an effective team member and team leader while being involved as a participant allowed me to gain an understanding of other disciplines and develop my knowledge in areas that were not covered in my degree.”

Jo McKenzie, PEETS 2017 student, PEETS 2018 mentor, Environmental Consultant at Go Contaminated Land Solutions Ltd, 2019

What our award-winning initiative adds to student experience and student success

Analysis of the student self-reflective data (pre- and post-questionnaire evaluations, ICAApp) and student evaluations indicates a high level of satisfaction particularly around the development of transversal skills such as teamwork, communication and negotiation.

“I feel this was a great learning experience and I have really developed my skills. I have put myself in new situations that I would not have done before and have enjoyed being in this new environment....”

Scottish student, PEETS 2019

We cannot claim direct causation with all student outcomes such as degree classification. However, there is good correlation between graduation/employment success and participation in PEETS:

- + >80% of PEETS graduates gain 2.1 or first class honours (or equivalent) (compared to >70%)
- + >95% of PEETS graduates are in appropriate high-level jobs or studying for a postgraduate qualification (several students now outside their home country).

While these figures are very satisfying for our team, perhaps a greater reward is the knowledge of the ‘holistic development’ of the students. The variety of learning opportunities and environments provided by PEETS encouraged students to explore new subjects and consider solving problems in different ways than they were used to. For some students, this resulted in transformational experiences with immediate impact, whereas for others there was a gradual realisation of development over a period of time and reflection. A sample of the wide range of benefits for students is illustrated in the following quotes:

“PEETS offered a multinational, diverse experience... exposing myself and fellow students to a glimpse of international business and engagement. It offered the opportunity to work on projects outwith our field of studies; which pushed us beyond our own expectations and provided a springboard to greater transversal skills for employment in the future. This has provided me with confidence in my role today working on international projects across the world.”

“The intensive nature of this programme provides an environment for students to gain so much in such a short period of time. Therefore, the time taken out to do something like this is paid back 10 fold, for the skills and experience you get back. What you learn in this short time, stays with you a long time.”

Kieran Murray, PEETS 2017 student, Senior Applications Specialist, BRE

The impact may also depend on the original level of expectations of the students – and it also can increase with time, as indicated by one of our Dutch students:

“PEETS exceeded my expectations. Before participating in PEETS, I found myself being unsure about what I wanted to do after graduating. While in Finland I discovered my passion for the environment and sustainability. Because of PEETS, I pursued my newly found interest and got my master’s in environmental entrepreneurship. It is safe to say that the job I have today, as an Environmental Specialist at Royal BAM Group, is for a fairly big part thanks to PEETS.”

“The impact has become more memorable and more obvious for me with time. During my career I’ve noticed that the skills I’ve gained and improved while at PEETS are so valuable, I always had this idea that having those skills are common but in reality, they’re not and in addition, they’re also not easily learned. So, having the opportunity to learn and improve those skills while working on such a great project, with amazing people and fun activities is something I am grateful for.”

Senada, PEETS 2018 student, Royal BAM

In initiatives such as PEETS, we recognised it would be worthwhile gaining an external perspective on what we were doing, how it was being implemented and how it could be enhanced. To that end we appointed independent evaluators from the host country for each annual cycle. They reviewed the datasets (eg pre- and post-ISP questionnaires; self-reflective reports etc) and interviewed students and staff.

“The project is an excellent way of developing students in terms of understanding global skills and knowledge, through real-life experiences. The students are developing excellent employability skills through their innovative experiences of working with industry.”

Professor M Bramhall, Sheffield Hallam University (independent evaluator, 2017)

Wider thematic priorities

We designed PEETS to cut across a number of thematic priorities and deliver numerous benefits associated with intercultural learning and education for sustainable development.

Employability skills development was a focus with careers expertise input from planning to implementation and review. Industry visits and presentations, combined with jobs and skills development information accessible through the PEETS LinkedIn group complemented practice activities such as STARR (Situation, Task, Action, Result, Reflection) used in interview situations.

“I doubt that there are few situations where a university programme has achieved so much for career and employability skills, including a transversal dimension.”

Audrey Sullivan, careers expert

Staff development

While PEETS was primarily created to produce learning resources and opportunities to develop students, we also intended to use the outputs to support the development of the staff in our team. For example, this has resulted in revising old and developing new modules to include a greater focus on experiential learning and ensuring internationalisation is incorporated more explicitly into the curriculum. What we underestimated was the broader value and impact it would have on each of us in terms of not just the level of understanding, but also the way in which we approached things.

“Before PEETS, I thought I was a world citizen.... During PEETS I was confronted with unknown customs, norms and values and I had to learn how to deal with them. I realised that the term ‘world citizen’ had a different, deeper meaning: not a casual passer-by, but someone who is able to communicate effectively and behave appropriately in the eyes of others, someone who feels at home anywhere in the world!”

Ms Jantien Belt, Dutch lecturer

Each of our core team contributed and led in their own areas of expertise. Perhaps more importantly, we each stretched ourselves, adapting and applying our new knowledge or skills to the task at hand. The growth in confidence was visible throughout the team, as was the development of capability of each team member.

Wider reach, value and impacts for staff, HEIs and industry partner

Our diverse team provided access to wider and occasionally new resources eg multiple perspectives including cultural, subject and political. These in turn added value in terms of the way we had to adapt approaches to communication, tasks and overall problem solving. It also exposed us to new networks and the creation of additional school/university/European projects.

“PEETS has been the inspiration for the successful strategic partnership application for the Glasgow School of Business and Society. The collaboration between the schools and having an active Mentor from PEETS has been invaluable.”

Dr Lindsey Carey, GCU

PEETS brings together staff at different stages in their careers, ranging from 15-32 years in HEI or industry. We have all developed and improved as learners, teachers and learning facilitators. The involvement of students as co-creators adds different dimensions/perspectives in developing the team with student mentors supporting, leading or guiding learning activities (eg home city survival guide). These positive developments are already influencing support for student learning for the future.

“PEETS has been very valuable to LAB. Intensive weeks organised by project partners in turns has given our students and teachers an excellent opportunity to learn about employability and transversal skills. Good practices like pre- and post-tests developed in the project will be applied in our operations, which makes outputs of the project sustainable.”

Dr Silja Kostia, Dean of Faculty of Technology, LAB (Finland)

“For our students, the most remarkable cross curricular experience, and for our lecturers an indelible experience how to work together crossing border and disciplines.”

Simone Fredriksz, Dean of Faculty of Business, Finance and Marketing, THUAS
(Netherlands)

“Being involved in the PEETS management group allowed us to learn from our academic partners from diverse faculties and has enhanced the delivery of our own projects through a better understanding of how students are challenged more and more to self-reflect on their experience during and after learning activities.”

Dale Lyon, Director, ConStructEd (Scotland).

The significance of these wider organisational benefits should not be underestimated. When organisations (or your managers) cannot or do not see the benefits and the reasons why we should participate in such initiatives, it is up to us to provide the evidence to convince them otherwise. Having experts in our team for us to develop a dissemination plan and share our outputs, outcomes and successes through a variety of channels certainly helped our cause. This in turn has enhanced the likelihood of future support for spin-off initiatives.

Our CATE experience

We became aware of CATE in October 2018 (the second year after it was introduced to Scotland) when our Academic Development Unit in GCU circulated an invite for expressions of interest to apply for the award. We knew from our student, staff and independent evaluations that we had a 'good initiative'. This, together with being shortlisted for the finals of the Scottish Renewable Energy Awards, gave us the confidence to prepare a draft application and were fortunate to be selected from a number of drafts that were submitted.

The structure of our application followed the guidance documentation provided by AdvanceHE with most of the application written by GCU (principle partner) and supported by extensive evidence from our international and industrial collaborators.

Critical friend

We felt our initial draft(s) applications were strong but, undoubtedly, they were enhanced significantly by the introduction of Professor Peter Hartley (one of the early National Teaching Fellows) as a critical friend. His insight, knowledge and persistent probing questions helped clarify what we wanted to say and how we wished to illustrate the linkages between impacts. It further highlights the value of appropriate external input.

Do not underestimate the time and effort required to prepare a winning application.

More importantly, do not underestimate the value you can gain from an honest and robust attempt at the process!

Our 'growth' from CATE 2019

We had planned to extend PEETS into a self-funded summer school type of activity but were limited by the Covid-19 pandemic. Undeterred, we adapted our plans and repurposed some of the PEETS outputs and activities into the LAB virtual summer school in 2020 and 2021.

Our industrial partner, ConStrucEd Scotland, has been able to build on our windfarm project as a model for Women at ConStructEd – a female-only three-day 'mini-PEETS' to raise the confidence of women looking to enter the STEM sector. Feedback from participants confirmed the importance of such activities in a male-dominated sector. Our industry partner (Dale) has also now initiated the STEM working group in BUSINET (international network) and grown his business through the development and delivery of a range of PEETS-related online activities.

Applying for additional funding

A key aspect that was realised from PEETS was the importance of 'hands on' experience that promoted professional respect for different disciplines. To this end a 30-credit compulsory module was developed that is core to the enhancement of MUrCS to MUrCS2 (Erasmus Mundus MSc programme worth €4.4 million) and allows for a cross-disciplinary approach to solve a real-life problem that has been identified by an industrial partner.

We also recognised that the PEETS model could be applied to different disciplines and partners and supported a colleague in GCU to develop a similar type of initiative (Sustainable Fashion Employability Skills [SFES] Erasmus+ Strategic Partnership €300K) with universities and industry in Scotland, France, Spain and Portugal. Although the mobility activities related of SFES have been curtailed by the Covid pandemic, it has already created some intellectual outputs (reports etc) and is anticipated to produce similar types of impacts to PEETS over the next few years.

Supporting and developing others considering applying for CATE

"In a world of finite resources, knowledge is a resource that, if used and shared appropriately, does not diminish, but increases."

One of the key impacts that our entire core team felt through our PEETS journey was how far we had each developed professionally and personally from our experience. In true 'CATE fashion', we were keen to share that knowledge and experience with others. Winning CATE in 2019 provided both enhanced profile and confirmation of our team's impact and effectiveness, which in turn provided the impetus. Indeed, we felt a responsibility to do so.

Mentoring the second team from GCU to submit an application for CATE resulted in a second successful CATE application in two years. Although in a completely different area, 'Agents for the Common Good – health promotion in easy to ignore communities' used some of our lessons learned through PEETS and the exercise was considered rewarding for both mentees and mentors.

Likewise, we have used our experience to support the teams developing CATE applications from the University of Aberdeen and the University of Highlands and Islands – both of which were successful.

“Bob’s clear articulation of the benefits of the process of preparing an application and of the award itself helped to motivate our team to apply for the award. Bob also provided extremely useful advice and suggestions throughout the process, for example helping us to understand what reviewers needed to know to understand our context and inspiring us to think creatively about the presentation of complex details.”

Sarah Cornelius, Aberdeen University

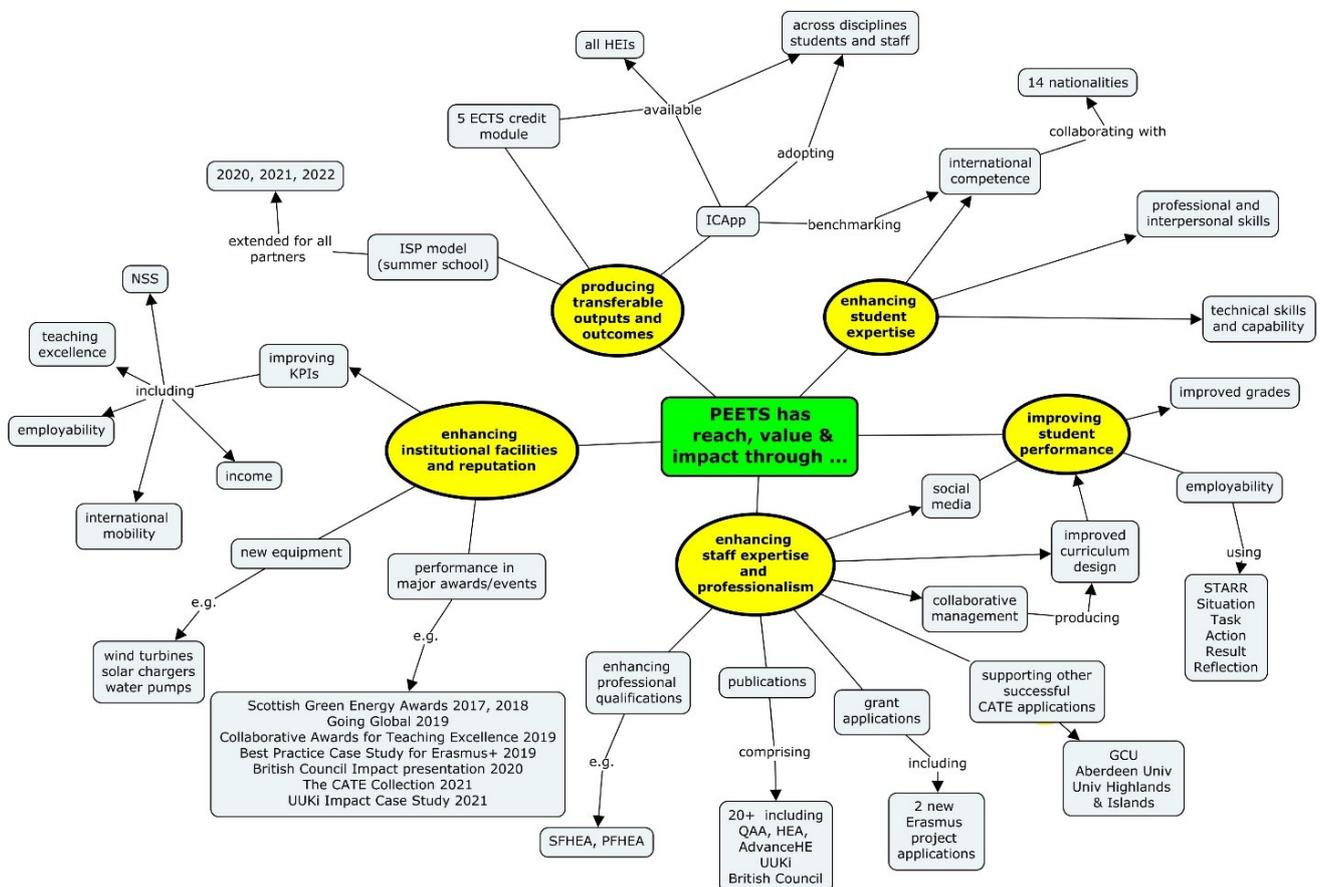
Capturing and tracking the benefits of our activities

We initially prepared our Reach, Value and Impact Concept Map (Figure 4) for our CATE application in 2019. (It is best to start at the yellow impact category ‘Producing transferable outputs and outcomes’, following the linkages outwards and then work clockwise through the other impact categories.)

We visit and update it periodically to include the additional impacts over the two years since CATE 2019. This serves as an indicator to track the reach, value and impact over time.

Figure 4. The reach, value and impact of PEETS

The inclusion of PEETS as a good practice case study in the UUKi report Short term mobility, long



term impact (Allinson, 2021) is a recent accolade bestowed on the initiative. It has also been used as evidence for the UK Government to encourage the introduction of funding through the Turing Scheme (the Erasmus+ replacement in the UK) to support staff mobility and shorter term mobilities (less than the current minimum four-week period). We need to develop and provide the experience for the new (staff) ambassadors who will encourage our students and, at the same time, develop their own capabilities. We also need to support students, from whichever background or socioeconomic group, to explore how they may develop through greater engagement with international activities, be they actual or virtual.

Concluding thoughts

When the early seeds of PEETS were taking root, little did we know the journey it would take all of us on and how much it would grow. It was not always straightforward and it entailed a lot of planning, reflection and enhancement by our excellent team to produce the initiative it turned into. Undoubtedly, applying for CATE has made us scrutinise all of our actions, outputs and outcomes and helped us to significantly extend the reach, value and impact of PEETS for a wide range of beneficiaries.

Undeniably, at the outset, we underestimated the breadth and depth of our learning and the impact PEETS and our CATE would have – especially on our staff and the organisations we work for. This is important, particularly when staff and organisations are considering the ‘what’s in it for me?’ question prior to embarking on such initiatives.

The potential to influence government policy on supporting international teaching and learning such as through the Turing Scheme has been an added bonus. Likewise, we hope, through further work, to clarify the ‘wider impact’ of PEETS on the employers of our graduates.

Take-home messages

- 1 Fully involve your entire team – each team member has a valuable skillset/perspective to offer.
- 2 Ensure students feed into your continuous enhancement process.
- 3 Plan data collection from all stakeholders at the outset and ensure this is monitored and evaluated regularly.
- 4 Prepare a dissemination plan to share your outputs and successes.
- 5 Do not underestimate the amount of work this may take.
- 6 More importantly, in our experience, it has been so worth it in so many different ways that we did not foresee.

References

Allinson, K (2018) '*Widening participation in UK outward mobility*'. London: Universities UK. Available at: <https://www.universitiesuk.ac.uk/sites/default/files/field/downloads/2021-07/widening-participation-in-uk-outward-student-mobility.pdf>

Allinson, K (2021) '*Short term mobility, Long term impact: Inclusive international opportunities of less than four weeks*'. London: Universities UK. Available at: www.universitiesuk.ac.uk/policy-and-analysis/reports/Pages/Short-term-mobility-inclusive-international-opportunities.aspx

Kolb, D A (1984) *Experiential learning: experience as the source of learning and development*. Englewood Cliffs, New Jersey: Prentice-Hall.

4 A tale of two CATES – improving assessment through collaboration

Year of awards: 2016 and 2019

Dr Amanda Harvey, Deputy Dean (Academic Affairs) / Reader - Biosciences Brunel University London, UK¹

Alice La Rooy, Head of Digital Education, Brunel University London, UK²

Dr Simon Kent, Associate Professor, University of Nottingham, UK²

Professor Mariann Rand-Weaver, Vice Provost - Education, Brunel University London, UK¹²

Dr David Tree, Reader (Education) in Biosciences, Brunel University London, UK¹

Keywords: Integrated programme assessment; programme-level assessment; synoptic assessment; learning outcomes; digital assessment

Overview

This chapter describes how two strategically created teams undertook innovative, transformative assessment projects which acted as a catalyst for culture change within the institution, and how recognition of this work through the achievement of two CATE awards facilitated engagement with the wider higher education (HE) sector to influence change in other institutions.

Introduction

Effective assessment is a key driver of the student learning journey. Over- assessment, programme-level design and authentic assessment are recognised sector challenges. Assessment is also an important consideration with respect to awarding gaps and impacts on student wellbeing. Additionally, the administrative arrangements and quality processes around assessment take up a lot of academic and professional staff time, often within tight deadlines.

For several years, Brunel University London's strategic direction has been aimed at changing the culture of assessment and introducing approaches that are more flexible and efficient, less onerous on staff and students, and more authentic in nature. Achieving change is challenging when work is required in the short term and there is no answer to the question 'what do other institutions do?' The reluctance to implement pioneering change is understandable given that assessments are high stakes activities that can lead to reputational damage if things do not go as expected. In this context, changing assessment practices is one of the most challenging projects institutions undertake.

¹ CATE 1: Integrated Programme Assessment

² CATE 2: Digital Examination

Box 1

CATE 1: Integrated Programme Assessment (IPA) offers an approach to curriculum design that reduces over-assessment, links learning outcomes and assessment in a transparent way and creates a focus on authentic assessments. De-coupling study and assessment removes the constraints of a modular system and facilitates synoptic and authentic assessments, achieving Boud's definition of sustainable assessment: "...assessment that meets the needs of the present without compromising the ability of students to meet their own future learning needs" (Boud, 2000, 151).

CATE 2: Digital Examinations provide opportunities to implement authentic assessments in exam settings. This project demonstrates how getting the right people together is key to success; a small but diverse team of academic and professional staff implemented a department, college and then university wide approach to BYOD (Bring Your Own Device) Digital Examinations.

Further information on Team Academy can be accessed at:

akademia.org.uk/team-academy-degrees/

Our two CATE awards relate to two different assessment projects: Integrated Programme Assessment (IPA, CATE 1) and Digital Examinations (CATE 2) (Box 1). The composition of the two teams that delivered the projects was very different but were linked through one of us (Mariann Rand-Weaver) being involved in both. We did not set out to achieve CATE awards from the start of the projects, but what we learnt from winning the first CATE helped make the second project successful and, as a result, secure a second award.

CATE 1: IPA

Sector context

Assessment in HE is a perpetual topic of discussion, and research suggests that existing assessment practices may not always be appropriate and may be preventing students performing to the best of their abilities (Elkington, 2016; Jessop and Tomas, 2017). The use of learning outcomes to describe what students should be able to know, do and achieve at the end of their programmes of study are now widely accepted across many educational systems. However, there is often a lack of clarity around how assessments (and students' performance) relate to the programme-level learning outcomes. Pervasive modularisation of UK higher education means that assessment can often relate to individual modules rather than to the programme (Jessop and Tomas, 2017), and has resulted in over-assessment, restrictive assessment practices, a compartmentalised approach to learning by students, and a subsequent failure to promote deep learning (Warburton, 2003).

Institutional context

The broader problems identified in the literature applied to Brunel's Biomedical Sciences BSc programmes. These had seen a near doubling of student numbers between 2007-8 (n=83) and 2010-11 (n=140) without a corresponding increase in academic staff. Additionally, the programmes were 'assessment heavy' with an average of three pieces of summative assessment per module, with students typically taking six modules per year. The resulting assessment load presented an issue not only for staff, but also for students who found it difficult to devote sufficient time to individual assignments and would often have clashing deadlines. Learning was confined within module silos, with the consequent failure to integrate information across the programme, and the programme structure, in particular assessments, were not assisting students in developing the attributes necessary for successful employment and lifelong learning.

As an academic staff group we wanted to address these issues, which led to the project that ultimately became known as IPA and received CATE recognition. There were 16 people in the CATE 1 winning team.

Creating a successful team

At the time of development, there was little evidence as to how IPA might be approached, and a scarce evidence base to support realisation of the intended benefits. We therefore developed our own approach, which relied on coming together as a staff group to collectively agree a shared vision for the programme and a holistic approach to assessment.

Key to our success was the ability of the core team (CATE 1 authors) to bring the biosciences staff group together, ensuring that everyone contributing to the programme was fully engaged throughout the process (Box 2). We also used a backwards curriculum design approach, which meant that the starting point was what programme level assessment could look like and our thinking was not constrained by existing practice.

Although students were not part of the project team, extensive engagement with students was integral to shaping our assessment approach. Meetings were held with level 5 and 6 students to understand their assessment experiences, and their suggestions fed directly into proposals presented to student cohorts. The proposals were revised based on their comments, and all students were subsequently involved in determining that IPA should be introduced for new level 4 students from September 2011.

Box 2

The team is critical to success, and therefore careful thought should be given to how the staff group can be brought together. We found the following helpful:

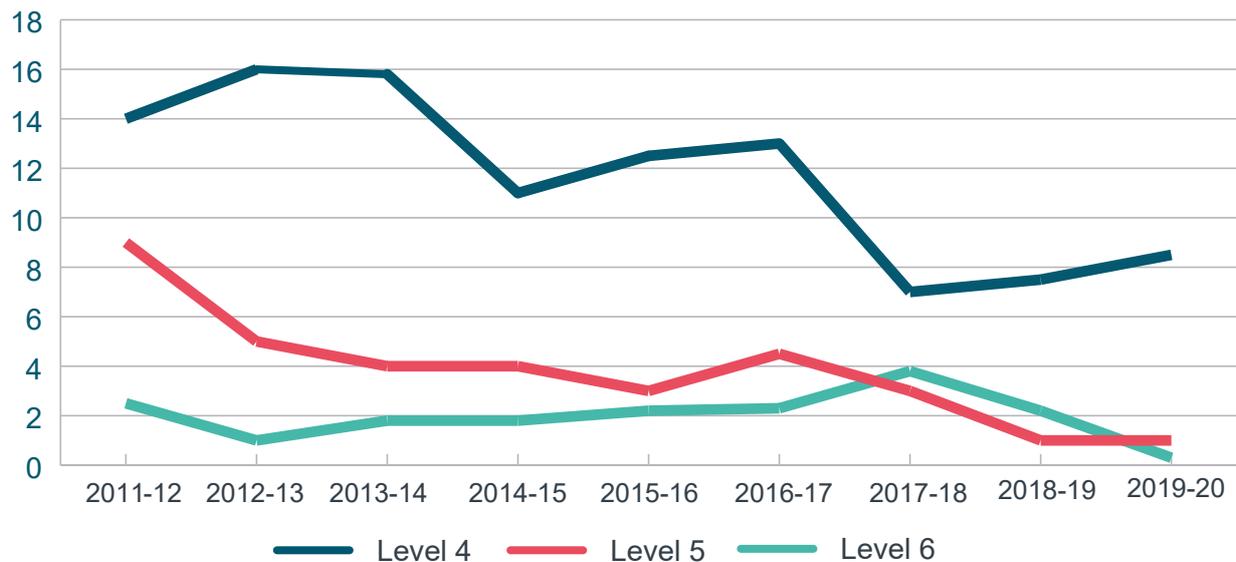
- 1 Engage everyone currently contributing to the programme. IPA is a team-based approach, and ongoing success relies on collegiality and team working. Making sure that everyone has a voice throughout the process is therefore important and ensures that you travel the journey together.
- 2 Be open minded and inclusive; while you may know what you want, there may be different ways of achieving that goal. So, listen, even if the message is couched in negative language!
- 3 Share responsibilities with colleagues by giving others specific tasks to ensure staff are engaged.
- 4 Be an inspiring leader who is able and willing to take decisions and make tough calls.
- 5 Set a challenging timeframe to ensure that progress is visible. This avoids going round in circles and revisiting decisions (except where reiteration is required), and momentum is not lost.
- 6 Have a critical friend who can give an external perspective on how things are going; ideally someone with expertise in curriculum design.
- 7 Return frequently to the shared vision and remind everyone what you collectively agreed to aim for.

What we achieved

Identifying programme-level learning outcomes and how these were best assessed was key to moving from a modular to an integrated assessment structure. At each level, assessments were designed so that students had to draw on their learning from across all teaching activities to demonstrate achievement of the learning outcomes. IPA has resulted in a more consistent and authentic assessment experience, and we are now confident that all students, irrespective of option choices, have demonstrated the same skills and the ability to integrate information from a range of sources.

Introducing IPA facilitated a two-thirds reduction in the number of assessments that students needed to complete, with a concomitant fall in marking from ~10,000 pieces in 2010-11 (pre-IPA) to ~3,000 pieces in 2011-12 (post-IPA). As a result, staff have more time to produce better quality feedback, which in turn improves students' outcomes. There has been a steady reduction in level 4 attrition from 14% (2011-12) to ~8% (2019-20), and from 8% to 1% for level 5 attrition (Figure 1). We believe this reduction is a consequence of the teaching team understanding how best to support the IPA approach, eg clarifying assessment tasks and highlighting the importance of the formative activities, and students becoming more confident with the authentic assessment format. We have also observed a sustained increase in the attainment of first and upper second-class honours degrees. Based on feedback we attribute this in part to students being able to spend more time on each assessment, which means they can perform to the best of their abilities.

Figure 1. Effect of IPA on attrition



CATE 1 impact

Students

On-programme students most often cite the benefits of having time to complete assessments, and with fewer assessments students have a greater opportunity to engage with feedback and seek support before the next assessment is due. In our experience, this seldom happens on modular programmes where submission deadlines are often bunched in a short window at the end of each term/semester.

Graduates confirm that they see direct relevance of assessments to their employment:

“I have to deliver presentations, communicate with clients at face-to-face meetings, and deliver training – all of which require good oral presentation skills and some degree of confidence. Posters and presentations were great practice for that, as well as being able to present information visually in an easy to read and attractive manner. Talks and the ‘conference style’ poster presentations were also really good for developing networking skills, something that’s come in really handy being in a client-facing position.”

(2016 graduate)

Staff

A major benefit of IPA is the ongoing collegiality this approach engenders, with staff having a collective responsibility for the programme as well as more awareness and understanding of what others are teaching. The IPA approach is fundamental to Brunel’s only multi-disciplinary programme:

“The BAsc Global Challenges programme has an emphasis on thinking systemically. All the core study at each level is combined into a single compulsory study block the whole team co-design and deliver. This not only promotes communication and understanding between team members who take a programme level view rather than a modular one; it also ensures synoptic assessment tasks integrate materials explored with students.” (Programme Leader)

The external examiner for the programme has commented that: “I have never had the pleasure of being an external examiner on a programme that is so well designed and conducted – and the assessments are a big part of that.”

Sector

In 2016, CATE awards were contingent on a credible sector engagement strategy, and as a result we have connected with around 1,000 individuals across all disciplines through a variety of approaches (Box 3).

Box 3

Our outreach approach included:

- + project website to disseminate information on IPA
- + workshop for 39 delegates/18 institutions in November 2017
- + conference attended by 56 delegates/19 institutions in September 2019
- + presentations, seminars, and workshops in other institutions (16)
- + presentation at national (5) and international (1) conferences
- + hosting visits to Brunel by UK and international institutions (11)
- + production of an IPA Practical Guide (September 2018).

The feedback has been overwhelmingly positive:

“Many thanks for organising the events and generously sharing across the sector. The Brunel example has served to inspire Nottingham and one year on from your visit we have top level buy-in to pursue a programme level approach to design of our assessment/curriculum. We are only starting this at institutional level now, but really without the example from Brunel and your visit this might not have happened. I think it is very important that your work continues! And also you have made a difference across the sector (in my view).”

(Associate Director, Educational Excellence, 2019)

A number of universities have adapted IPA to their own context and demonstrated that the approach is applicable to different disciplines, eg journalism (Sheffield); nursing (UEA); civil engineering (Nottingham); and computing (Newcastle). Others are just starting their work on programmatic assessment (eg QMUL and Southampton Solent).

CATE 2 – Digital Exams

Context

Digital assessment in some form has played a significant part in the assessment strategies adopted in HE from the beginning of the 21st century. Initially this was through the submission of coursework or completion of quizzes and tests in virtual learning environments, and less frequently through students completing traditional examinations in electronic form on a university-owned machine in a controlled environment (Fluck and Hillier, 2017). In the early/mid-2010s there was a move towards Bring Your Own Device (BYOD) digital exams where students complete examinations on their own laptops. This evolution coincided with several assessment related drivers within the university (Box 4):

Box 4

Assessment authenticity – in a digital world, students no longer routinely use handwriting. However, we were continuing to ask students to complete their high-stakes examinations using a format that they rarely practice and will probably never have to use again.

Assessment administration – traditional paper-based examinations required significant resource in terms of paper, manual handling, storage space, and time for set-up and distribution of completed assessments.

Assessment inclusivity – increasing numbers of students required the use of computers during traditional examinations as a reasonable adjustment under the Equality Act (2010).

BYOD digital exams presented a potential opportunity to address these issues by allowing examinations to be created, delivered and assessed without the need for paper.

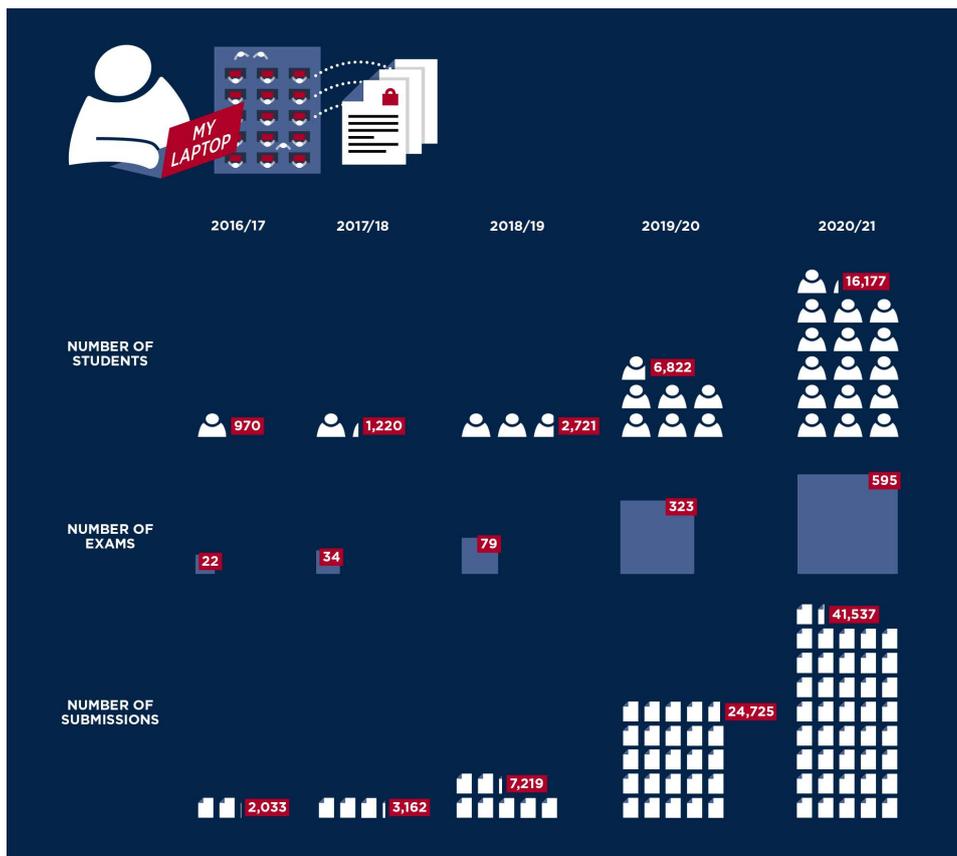
The team and what we achieved

A serendipitous event resulted in three of the authors partnering with UNLwise³ in 2015 to undertake a proof-of-concept study of WISEflow, which proved to students, academics and professional staff that a traditional paper exam could be successfully delivered through a digital platform.

³ A software-as-a service company based in Denmark and the UK

The first pilot highlighted that BYOD exams could not be delivered by academics and learning technologists alone; it also required commitment from estates (for space and power), information services (for IT support and network infrastructure), examinations office (for scheduling and invigilation) and programme administrators (for setting up exams). With support from key individuals, a successful capacity building pilot in the Department of Computer Science followed in 2016-17 with around 900 students submitting over 2,000 individual exam scripts across 22 exams. Based on the success of these pilots, WISEflow BYOD examinations were adopted across the institution in a staged, three-year roll-out. During the 2018-19 academic year, 2,721 unique students had taken 79 exams, resulting in 7,219 unique submissions. It was anticipated that this would double in 2019-20. However, as shown in Figure 2, progress was accelerated by the Covid-19 pandemic.

Figure 2. The adoption of digital BYOD exams at Brunel University London



Implementation was overseen by a steering group that represented the interests of all stakeholders, including senior leadership. Everyone involved in the implementation absorbed the work into their various day jobs, and a significant role for the group therefore involved managing the planned growth of the project (particularly after receiving the CATE 2 award!). It was important to embed digital assessment across the organisation relatively quickly to avoid a lottery for students as to who would benefit from the implementation. However, this needed to be balanced with the capacity to provide adequate support to students, professional staff and academics in preparing for digital exams to minimise the risk that exams would not be conducted successfully (eg due to device problems). We were fortunate to secure Hefce Catalyst funding to part-fund a Digital Exams Officer, who provided full-time support for the implementation from 2017.

There were 18 people in the CATE 2 winning team, reflecting the cross-institutional collaboration necessary to deliver high-stakes digital exams. It was especially gratifying for colleagues from professional services to be recognised in this way – it is not often their importance is recognised. They have also reported being contacted by people in their sector networks who want to find out about digital exams and feel proud to be associated with something that enhances the reputation of Brunel.

CATE 2 impact

Students

Students were involved from the beginning of the project. Students' union officers were represented on the steering group, but we found direct engagement with students experiencing digital exams particularly beneficial, as we were able to tailor preparation for assessments and directly respond to feedback, ensuring they felt supported. There were few concerns and students readily accepted digital exams, recognising the benefit of producing legible and well-structured answers. One student volunteered the following unsolicited feedback:

“WISEflow is honestly the best thing for me! Although I can write pretty fast in exams, it is often not clear what I am writing and it can be hard to read. Having WISEflow for exams is so much better because I am even faster at typing than I am at writing. WISEflow has allowed me to type out my answers quickly and then go back to proofread my work to make sure it makes sense, and also go back to questions I wasn't confident in answering at the start of the exam.”

We also employed trained postgraduate students as Student Assistant Learning Technologists (SALTs) to provide technical support during live examinations, complementing the casual invigilator workforce who were not always sufficiently competent with technology. In addition, they developed resources and supported WISEflow training events for students and staff. The experience of engaging PhD students in this way has been incredibly positive and something we will consider for future projects; it increased our support capacity during implementation, and the students benefited in terms of personal growth and confidence.

Staff - beyond paper exams

There is an argument that traditional paper examinations do not always offer authentic assessment, and that making the transition from paper to digital is just: “adding 21st-century technologies to 20th-century teaching practices” which “will just dilute the effectiveness of teaching” (OECD, 2015).

We have noticed that, as the implementation of digital assessment matures, academics move from an electronic paper format to ‘beyond paper’ exams which fully exploit the opportunities offered by technology. Questions can be based on video content, for example a medical consultation; refer to online content; or large reference documents that could not have been provided in a paper exam. It is also possible to use web-based applications such as spreadsheets or programming environments or give access to specialised software. The use of technology in this way results in more authentic assessments, including within a controlled examination setting.

Sector

From the beginning of the project the core Digital Examinations team took an open approach to sharing our work (Box 5). The biggest impact we have had is to dispel any perceived barriers for other institutions. As a first mover in UK, we have proven that the approach works and have shared what we have learned with many other institutions from the UK and internationally. This has included those institutions that have recently adopted WISEflow Digital Examinations such as UCL, Imperial College London and the Open University, and institutions adopting Inspira Digital Examinations such as the University of Bath and University of Oxford.

We believe that it is through collective effort we can influence development of digital assessment platforms to ensure that pedagogy remains at the heart of technological developments and their use.

Box 5

Our outreach approach included:

- + project website to disseminate information as project progressed
- + workshop for 40 delegates/20 institutions in March 2017
- + conference attended by 100 delegates/40 institutions in April 2018
- + invited talks in departments and national conferences (10)
- + keynotes at international conferences (2)
- + hosting visits to Brunel from 23 UK and international institutions
- + contribution to sector working groups, news websites and two Jisc publications on digital assessment.

Adapting to Covid-19 challenges

The biggest challenge faced by the higher education sector in the last 18 months has been Covid-19. Like other institutions, Brunel had to adapt quickly to online learning in spring 2020 but having an assessment platform that staff and students were familiar with made this challenge easier. WISEflow is used for complete assessment workflows (question release, submission, marking), is integrated into the student record system, and is structured so that external examiners can easily access students' work. Many of the May 2020 exams had been designed as BYOD assessments, and just needed adapting for the open book 'at home' environment. This task was made easier for disciplines using IPA as there were fewer assessments.

With all exams online, the digital footprint provided an opportunity to analyse outcomes for specific student groups, and as a result we improved support for students with disabilities in the August 2020 exams based on data which showed disabled students were less likely to have taken their exams in May. However, our final review of the 2019/20 assessment period suggested that students were not disadvantaged by online exams.

Benefits of CATE awards

Receiving sector recognition in the form of two CATE awards has been a morale booster, not just for the teams involved but for the whole university. It demonstrates unequivocally that Brunel has practice that is valued by our peers, and staff (including professional staff) are often asked about IPA or Digital Exams by colleagues in their networks. The interest from the sector has been far greater than we envisaged, and 'word-of-mouth' is creating new opportunities to reach out to discuss IPA and Digital Exams with other universities in the UK and abroad.

The CATE 1 requirement to disseminate IPA encouraged us to engage with the sector in a variety of ways, and this influenced our approach to sharing our Digital Examinations project (CATE 2). Both projects adopted a similar model, first running early sector workshops to establish communities of interested institutions and gather input which would subsequently inform the applicability of the IPA model and the Digital Exam implementation. Later, each CATE team hosted conferences to disseminate Brunel outcomes, but also invited others to share the results of their own work in integrated assessment and digital assessment. For IPA, sector engagement took place after receipt of the CATE award, while for Digital Examinations we ran the workshop and conference before receiving the award. The benefits of early sector engagement were such that we would adopt this approach in future projects.

The success of the Digital Exam project and achievement of a CATE award contributed to one of the authors (Simon Kent) being able to move from Brunel to the University of Nottingham. He continues to champion IPA and Digital Exams, further spreading their reach and is now adopting IPA on a Level 6 Data Science Apprenticeship programme on which it is useful to assess the knowledge, skills and behaviours learned across multiple modules together in a more authentic way which is applicable to the workplace and the apprentices' jobs.

Concluding thoughts

Being a recipient of two CATE awards has given us the impetus to engage more widely with the sector than we otherwise would have done. The Brunel academic culture has been one in which good practice is implemented locally, without necessarily being shared within the institution or externally. The CATE awards have given us confidence that we have things to contribute to the wider HE community, and we are now actively encouraging other colleagues to share their practice and contribute to the pedagogical discourse nationally and internationally.

Reflecting on the last five years, both IPA and Digital Exams were timely innovations – they are now both becoming mainstream, and the pandemic has only helped! Our championing of these approaches and engagement with colleagues across the sector have stimulated conversations, but we also feel enthused and inspired by the ways in which other institutions are adapting what we initiated – creating a virtuous cycle of innovation.

The success of IPA and Digital Exams reflect the power of collaborative working and demonstrates what can be achieved by teams of academic and professional staff with input from students, and that significant and lasting change can be achieved with little additional resource. The sense of achievement felt by the authors of this paper is shared by the wider CATE teams and sustains the collaborative approach and common purpose required for continued success – both IPA and Digital Examinations depend on ongoing collegiality.

IPA breaks modular silos and allows the assessment of knowledge, skills and behaviours in the authentic way in which they are used in the real-world. Meanwhile the UK Government focus on modular education, with a promise of associated funding, is intended to fulfil a commitment to lifelong learning. While this should be good news for learners and for employers, there is a risk of re-emphasising an approach that teaches discrete skills in a fragmented education. This opens a new debate on how the benefits of IPA and modular education can be achieved simultaneously when on the surface they would appear to be in conflict.

Digital exams are an enabler of authentic and flexible assessment whatever the study mode. The pandemic has acted as a catalyst for reimagining assessment in a digital world, and we welcome the renewed focus on pedagogically driven assessment approaches. We owe it to our students!

References

- Boud, D (2000) 'Sustainable Assessment: Rethinking assessment for the learning society', *Studies in Continuing Education*, 22 (2): 151-167. Available at: doi.org/10.1080/713695728
- Elkington, S (2016) *The case for transforming assessment in higher education*. York: Advance HE.
- Fluck, A and Hillier, M (2017) 'eExams: Strength in diversity', *IFIP Advances in Information and Communication Technology*, 515: 409-417.
- OECD (2015) 'Foreword and Acknowledgements', in *Students, Computers and Learning: Making the Connection*. Paris: OECD Publishing.
- Tomas C and Jessop T (2019) 'Struggling and juggling: a comparison of student assessment loads across research and teaching-intensive universities', *Assessment and Evaluation in Higher Education*, 44 (1): 1-10.
- Warburton, K (2003) 'Deep learning and education for sustainability', *International Journal of Sustainability in Higher Education*, 4: 44-56.

Further Reading

- Brunel University London (2021) *'Integrated Programme Assessment'*. Uxbridge: Brunel University London. Available at: www.brunel.ac.uk/about/awards/integrated-programme-assessment
- Fitzharris, R and Kent, S (2020) 'Adoption of bring-your-own-device examinations and data analytics', in Ifenthaler, D and Gibson, D (eds) *Adoption of data analytics in higher education learning and teaching*. Cham: Springer, pp 327-348.
- Jisc (2020) *'The future of assessment: five principles, five targets for 2025'*. Bristol: Jisc. Available at: www.jisc.ac.uk/reports/the-future-of-assessment
- Pauli, M (2021) *'Rethinking assessment'*. Bristol: Jisc. Available at: www.jisc.ac.uk/reports/rethinking-assessment
- University of Agder (2017) *Assessment in Higher Education - National Conference*. Kristiansand, 16-17 October. Kristiansand: University of Agder. Available at: www.uia.no/en/conferences-and-seminars/assessment-in-higher-education-national-conference

5 Working together with technology to enhance fieldwork learning

Year of award: 2018 (First Application)

Professor W Brian Whalley, University of Sheffield

Dr Alice L Mauchline, Senior Research Fellow, University of Reading

Dr Katharine E Welsh, Senior Lecturer, University of Chester

Professor Derek France, Deputy Head of Department & Professor of Pedagogy in Geographical Sciences, University of Chester

Professor Julian Park, University of Reading

Keywords: mobile devices, fieldwork, active learning, personal learning, future educational system

Introduction

Enhancing Fieldwork Learning (EFL) is a multidisciplinary team across three institutions working together with the aim of identifying, evaluating and disseminating good teaching practice in fieldwork environments. We focus on the integrated use of mobile technologies within pedagogic frameworks to develop innovative teaching and learning approaches for students. This chapter sets out our history, team development, achievements and view for the future. Inter-institutional and multidisciplinary working has allowed our project to have broad relevance and impact on higher education (HE). We provide some insight into how informal learning spaces can build confidence for students and staff to enhance fieldwork learning with mobile technologies.

How it all started

In 2008, three of us (Derek France, Julian Park and Brian Whalley) were awarded National Teaching Fellowships. At the celebratory dinner we talked about fieldwork in our respective institutions and subject areas and how we might enhance our students' learning experiences. Subsequently, we proposed a three-year project to the Higher Education Academy (now Advance HE). This project, Enhancing Fieldwork Learning (EFL) was funded in 2010. Katharine Welsh joined as a full-time researcher in 2010 and Alice Mauchline in 2011. Over the project we also employed three student partners for research assistance and Dr Victoria Powell (for maternity cover). After the initial three-year project, we continued to operate EFL under the auspices of the British Ecological Society (BES) as part of its educational programme. EFL has facilitated regular dissemination of resources and case studies of good teaching practice via our website and helped to subsidise annual Showcase events.

Why fieldwork?

Fieldwork is an essential form of learning in many subjects, including geoscience (geography, geology) and bioscience subjects such as ecology and environmental science. It provides an interesting and active part of the student experience. Fieldwork provides the opportunity to develop and reinforce subject knowledge and a wide range of specific and generic skills, which enhance student employability. As a form of experiential laboratory learning, fieldwork is often seen as expensive and time-consuming. Hence it is important that maximum learning benefits are gained by students. Similarly, staff participants (lecturers, tutors, postgraduates) need to use their time efficiently and maximise their involvement with students – although this is a form of teaching that tries to minimise face-to-face time. Rather, in fieldwork mentors encourage students' individual and team involvement in learning. In the EFL project we evaluate a range of technologies (hardware and software) to enhance learning and pedagogic developments so that students are well prepared for departmental fieldwork. EFL's contribution helps staff and students to make full use of their fieldwork experience for subsequent dissertation (keystone) projects and employment.

Fieldwork is a 'learning space' and we elevate the importance of this 'out of classroom' activity. It provides time and space for learning by facilitating active and collaborative learning, using skills and knowledge bases to promote solving authentic, real-world problems (France et al, 2019). Learning spaces can incorporate information and communications technologies (ICT) into 'knowledge networking' that helps to facilitate feedback. For example, students often work in small groups and discuss findings and results with tutors in the field or at evening review sessions. Fieldwork also provides an excellent opportunity for linking to academic research via the practical application of techniques, the collection and analysis of data and the involvement of 'citizen science'. Work by Jisc in e-research suggests that technology is an important, but under-exploited, aspect of fieldwork teaching/research. It is this potential we have been investigating and implementing.

The technology available to students and staff creates new ways of incorporating digital technologies into education, thereby enhancing students' digital wisdom. Universities and colleges have been challenged by advances in web technologies but further and higher education should embrace, rather than be threatened by them. These challenges continue into the second decade of EFL's work, not least in post-Covid-19 teaching and learning. Fieldwork spaces allow learning to take place in environments less pressured by lecture theatre note-taking and examinations.

Our aim and objectives

Our aim is to identify, evaluate and disseminate good practice in HE fieldwork by:

- + promoting the effective use of digital technologies and mobile devices to enhance student active learning and tutor participation
- + enabling and encouraging students to use their devices effectively in diverse learning environments
- + promoting and disseminating the use of personal and group learning activities alongside employability and skills development.

These have remained at the core of the project as we have engaged with an ever-increasing number of student and tutor practitioners by being responsive to new trends and educational opportunities via themes at our Showcase events and published research.

Collaborative research and networks

We are based at three institutions but are not formally part of their teaching development initiatives. Hence, teamworking is significant in our collaboration and effectiveness. The original project facilitated team and steering group meetings and, while face to face events are undoubtedly effective, they are expensive, time consuming and can be difficult to arrange. With technology and the environment at the heart of our project, regular team meetings increasingly took place using Skype, thereby reducing costs, travel time and carbon footprints. This flexible, collaborative approach has enabled the project to continue far beyond its funded duration and meant that we faced little difficulty in moving to 'remote' meetings because of Covid-19 and we have easily adapted to other VoIP (Voice over Internet Protocol) platforms both for keeping contact and organising and running our Showcase events.

connections to other HE projects involving the bioscience and GEES (geography, earth and environmental sciences) communities promoted the cross-disciplinary nature of the team, enabling us to engage with colleagues in these areas. Our Twitter feed now has more than 1,000 followers and our website has recorded visitors from more than 100 countries over the length of the project and engaged with colleagues from over 52 HE institutions in the UK and Ireland.

The following summarises some benefits for the sector:

- + technology-enhanced learning has been more efficient, saving students time and reducing departmental costs
- + transforming educator attitudes to technology and pedagogy
- + students are more engaged in fieldwork
- + fieldwork has become more inclusive through using mobile technologies
- + Showcase has fostered new collaborations between organisations outside HE.

“I can’t praise the project highly enough - it created a community ... and collaborations that would not have happened otherwise ... Their project raised the profile of fieldwork learning and the use of technology to enhance fieldwork experiences.”

(Trevor Collins, Open University, 2018)

Showcase dissemination events

A key component of shared experiences has been our annual September Showcase events. These have been collaborative and field based (except for 2020 and 2021 under Covid-19 limitations), multidisciplinary and multi-institutional. We focus on practical experiences during the events by demonstrating that enhancements to fieldwork can often be very simple interventions. Showcase events provide participants the time and space to experiment with new ideas. They leave events with tangible enhancements to take back to their own practice and our community is always generous in sharing their ideas and helping one another.

“The EFL team has worked with the BES’s Education and Careers committee since 2014 to deliver a series of workshops at our annual meetings and Showcase events for good practice in field teaching and using technology to enhance field teaching inclusivity and ... networks within the GEES and bioscience communities. Our relationship with the EFL has helped the BES demonstrate and build support for.... teaching-focused members ... supporting early career researchers and lecturers in developing their teaching practice.”

Karen Devine, British Ecological Society (2018)

Our first Showcase was at the Field Studies Council (FSC) Margam Discovery Centre near Port Talbot in South Wales and subsequently at several other venues. These events were two-plus days and provided participants time to try ideas and problem solving in fieldwork environments. Fieldwork can also be in cities. For example, we experimented with a mapping app in the rain at Leeds University campus and have been involved in various projects in urban geography. Formal collaborations have arisen from the connections made at these events such as the Field Network System project involving the FSC, The Open University and the geospatial-GIS firm ESRI.

After the initial funding, we decided to reduce operating costs but to keep the Showcase events accessible to all. The British Ecological Society and some institutional support helped to subsidise the Showcase in 2020 and offered free online attendance. 'Showcase online' in 2020 and 2021 maintained our activities during Covid-19 restrictions. We witnessed (Table 1) a significant increase in the number of participants and contributors from around the world. As we move beyond the pandemic, we hope to develop a hybrid approach for future Showcase events to make them more accessible, both in terms of geographical location and personal circumstances, but also to involve in-person elements and facilitate deeper discussions and networking where possible using mobile technologies.

Fieldwork trends

Our Showcase events have evolved since 2011 and increasingly reflect trends across the HE sector. Key themes from the invited and submitted talks from each year are summarised in Table 1.

Table 1. Attendance and themes at EFL Showcase events 2011-2021 (full details of each Showcase is archived on our website with many the talks on SlideShare.

	# Attendees	# Unique institutions	Hardware	Apps	Concepts
2011	24	15	Gigapan Wireless networks	Concepts	Podcasts Video
2012	34	18	Real-time data loggers	Fotobabble	Mission Explorer
2013	28	17	Field networks	FieldtripGB GPSLog	Digital stories Virtual field guides
2014	18	14		Social media Wikis	3D models Internet of Things
2015	27	15	iPads	ESRI Collector Evernote	BYOD Open Data Inclusive fieldwork Virtual fieldtrips
2016	35	13	Drones iPads Microscopes Camera traps	360o video	Accessibility Citizen Science Virtual fieldwork
2017	29	19	Drones	ArcGIS Online	Collaboration

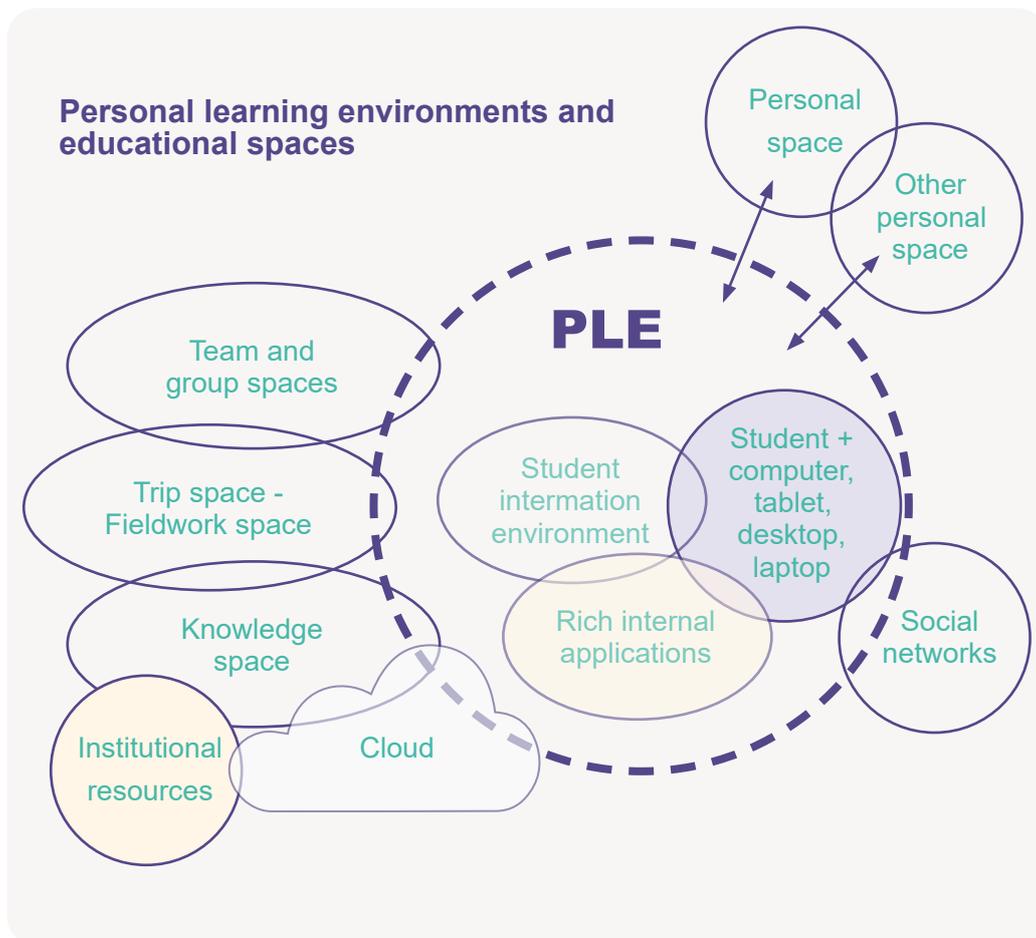
	# Attendees	# Unique institutions	Hardware	Apps	Concepts
2017	29	19	Drones	ArcGIS Online	Collaboration Open Data
2018	29	19	Drones	ESRI Collector Storymaps	Living Labs Accessibility Inclusivity BYOD
2019	44	17	Camera traps		Student-led fieldwork Virtual fieldwork Accessibility Inclusivity Skills development
2020	140	75+			Virtual fieldwork Inclusive field kit Self-directed fieldwork
2021	78+	TBC			Virtual fieldwork Immersive fieldwork Online scavenger hunts Employability Inclusivity & Diversity Accessibility

Table 1 shows there has been a shift from discussing novel technologies towards broader concepts of how they can be used to enhance learning. As mobile technologies (tablets and smartphones) have become more ubiquitous, there has been a move away from early discussions around institutional provision and support for students in using devices and apps. Discussion has moved towards Bring Your Own Device (BYOD) to support field learning where practitioners have become increasingly confident and creative in developing online and virtual resources to support their field teaching activities. We now describe some of our research that has reflected and accompanied this movement by developing ideas in 'e-learning' and fieldwork enhancement in mobile (or m-)learning.

Personal learning

Since EFL started, technology has grown apace. The iPhone emerged in 2007 and the iPad in 2010. These devices have moved from being 'pure' communication and media players to having greatly enhanced functionality, along with the development of applications, now firmly identified by 'apps'. The notion of the personal learning environment (PLE) had been in the HE sector from the mid 2010s but was related to institutional virtual learning environments (VLE). VLEs are institutional responses to the provision of 'e-learning', and tend to be top-down, using applications provided by the institution. Part of EFL's progress has been to promote the PLE based around personal devices (such as the iPad, iPhone) alongside 'connectivist' approaches (Figure 2). Indeed, the power and sophistication of computing power and functionality means that the iPad, ranging from the Mini, for field use, to the Pro, makes laptops redundant and enables ubiquitous use for personal learning, even without broadband connectivity.

Figure 2. The role of a personal learning environment (PLE) reflecting tools and applications relevant to students' studies and integration into their own work and social spaces.



Ideally, fieldwork should involve ‘real world’ environments, problem solving and project planning from design to reporting. We might call this ‘investigative fieldwork’. A ‘scene of crime officer’ provides a good model. We know that students need guidance in how to use appropriate computer applications for many educational and vocational tasks. Tutors may also need assistance in developing the best practical and pedagogical use of hardware, software and approaches. Our project is designed to investigate these ICT aspects of fieldwork and to provide guidance to both parties, for example to provide authentic learning opportunities that the classroom, or even laboratory, cannot easily match.

Most students use VLEs from the start of their tertiary education so developing PLEs on personal devices is particularly beneficial in Covid-19 lockdown conditions. Accessibility and inclusivity may be aided by personal mobile and devices that have on-board affordances that a laptop does not have. Aids – that should be better known – for hearing, visual and other impairments, as well coping with neurodiversity, are illustrated in some of our recent publications (Whalley et al, 2020, 2021).

Group learning teamwork, working with others and BYOD

Good fieldwork involves real-world environments, problem solving and project planning from design to report presentation. Yet students need guidance in how to use appropriate computer applications (device-centred or web-based) for many educational tasks. Tutors may also need assistance in the best practical and pedagogical use of hardware, software and approaches. This project is designed to investigate these ICT aspects of fieldwork and to provide guidance to both parties, for example in authentic learning.

Group learning environments (GLEs) are PLEs linked in a dynamic way appropriate for many tasks (Figure 3). Although group activities are available via Facebook and similar tools, academic interactivity is preferably realised through networking applications where tutors and students can organise their own PLEs as a GLE. Web 3.0, which integrates Web 1 and 2 technologies with existing knowledge bases; the iPad can be used as a vade mecum (Whalley et al, 2016) so that appropriate pedagogic development can evolve and be incorporated into learning (Beetham and Sharpe, 2020).

Figure 3. Stylised GLE – group learning environment. Virtual field guides (rather than field courses) were under development in simple forms in 2000 and are discussed in EFL’s 2021 Showcase. Image: W. Brian Whalley, 2021, CC BY-SA 4.0



Teamwork is at the heart of Enhancing Fieldwork Learning and is reflected in much fieldwork generally. PLEs link to groups and teams with contributions from tutors and associated staff (Figure 3). This shows the value of personal and portable devices in Covid-19 regimes where ‘physical distancing’ from 2m to 2,000 km is replaced by social integration (rather than ‘distancing’). The PLE and GLE are practical concepts and our development of them shows their utility for ‘work’, groups and society. This can be achieved by extending ‘fieldwork’ to be any out-of-classroom activity. With working from home and ‘learning at home’ (LaH) we believe that the ‘capabilities’ approach to learning makes this feasible beyond strictures of Covid-19 and its consequences. We have pointed out, in a Fourth Industrial Revolution context (Whalley et al, 2021), that mobile devices in hybrid-flexible courses (‘HyFlex’) enable values such as learner choice, re-usability and accessibility help moves towards improved institutional responses to a ‘Future Educational System’. This will help the ‘HE neglected’ students who, although capable of attending university, for various reasons do not.

Fieldwork is often a shared activity, as noted above. Thus, a development of the PLE is the group learning environment (GLE). Smart portable devices offer many advantages over a laptop especially in the field. For example, fieldwork may involve audio and video recording as well as drawing and photography. All of these can be done easily on an iPad together with data analysis and report writing. From this point of view, a tablet is a much more meaningful device than a 'laptop' for student use. There may be 'broadband' problems, but there are ways of minimising them. Accordingly, we have been researching the concept of Bring Your Own Device (BYOD) for several years (Clark et al, 2021; Welsh et al, 2018). The BYOD concept, that of a personal (and transportable device, as in mobile learning) is that students own their devices. Our research shows personal devices use as a knowledge base (*vade mecum*) (Whalley et al, 2016) and as a direction for enhanced tutoring (Whalley et al, 2020).

What you can do with portable devices in an educational context was given in our book (France et al, 2015). Contributors included tutors in the Field Studies Council (FSC) who have been developing ideas with GCSE and A level students as part of their fieldwork commitment. For example, an educational task set by a tutor as a student activity can produce a result (such as a report) which is a meaningful employability product for synchronous/asynchronous discussion between tutor/individual/group. This is what hybrid working (home – office) may become.

Although Jisc has been supporting mobile technologies and assessment methods, it is by no means clear that HEIs have really moved much from the traditional 'lecture class' mode of education until Covid-19. Moves to get 'lectures online', although helpful, seem to be a replication of an old tradition by a 'new' technology. In treating students off campus as 'out of class activities', fieldwork ideas enable tutors to look at these 'new', Covid-19 problems in the way EFL has been developing ever since its inception.

What 'smart' devices now provide is well beyond internet access, communication devices and media players but as the means for individuals to tailor their access (and security and privacy) via adaptable accessibility facilities.

Sense of community

For us, one of the greatest aspects of the annual EFL Showcase is not only seeing the familiar faces that started out with us in 2011 at our first event, but seeing new people join us each year, bringing their own ideas and more opportunities for collaborative experiences. EFL's sense of community is important to lead fieldwork practitioners (teachers and students) through the changes required because of the Covid-19 pandemic. As such, we switched the planned in-person format of the 2020 Showcase to an online webinar and increased our communications with the EFL community in the early phase of remote teaching. In the run-up to the event, we used #fieldworkfix on Twitter to facilitate the collection and collation of innovative ideas to share with practitioners who were perhaps unsure how to modify their fieldwork during spring/summer 2020-21. Fieldwork educators across the world were faced with an unprecedented situation and this immediate, collaborative response provided support and solidarity at a time of need. We were amazed at the creativity and resourcefulness of practitioners in supporting the remote education of their students. The annual Showcase continues to provide an important forum for topical discussions and allows individuals to describe and receive recognition for their pedagogic innovations.

The impact of winning a CATE

We felt winning the CATE award in 2018 rewarded not only our efforts but all of the practitioners – teachers and tutors – who had engaged with the project and enhanced their own fieldwork practice for the benefit of their students. To be nationally recognised as leaders in fieldwork learning with our CATE success has further fuelled our enthusiasm. EFL has also had impacts, beyond our event participants on:

- + national and international impact on teaching staff in HE/FE
- + impact on national and international students in HE/FE
- + impact on teaching staff and students in secondary schools and further education
- + impact on non-academic organisations
- + impact on learned societies such as BES.

Looking forward with technology

Sue Watling (2009) in *Policy, Pedagogy and the Student Experience* suggested, that, “Changes in the way we communicate and access information are having a profound effect on the learning landscape”. EFL has tracked some of these changes into a future – as then unseen by contributors to that volume. This includes the ubiquity of the iPad (and other mobiles or cellphones) and the iPad (and other tablets) and what can be achieved with them (perhaps incorporated into wearable technology such as watches). Appropriate use of ‘explainable’ AI (XAI) in personal devices for example may assist the tutoring process (Whalley et al, 2020).

Despite institutions having struggled with the costs of digital infrastructure development and the costings foreseen 20 years ago and the continuing reliance on central institutional structures (VLE, wifi, lecture recording) there is still a need to develop personal, group and departmental pedagogies. These should not only cope with the Covid crisis but use the pressures this has brought to decentralise and develop curricula that are increasingly holistic. The attempt is to produce ‘learning that lasts’ (Mentkowski and Associates, 2000). Traditional subject-based departments are generally research driven but good teaching practices, active education and quality should be progressed across the institution rather than be specialism driven.

As fieldwork is in many senses non-traditional, its methodologies and pedagogies may seem to be different from the ‘normal’ higher and further education procedures of ‘take lecture notes, write essay, solve problem’ sessions where learning is not notably active. Suitable pedagogic development (perhaps spurred on by Covid-19) needs to look to the future. The use of iPads and mobile devices (via PLEs and GLEs) can support future learning communities (Whalley et al, 2021).

Figure 3 and Table 1 identify ‘virtual field trips’ (VFT) as being a theme in our events and thinking. This has come to the fore with 2020-21 restrictions. However, there may be institutional pressures to use VFTs more to save money. We are expecting to see presentations on VFTs at Showcase-21 and we are preparing a questionnaire to gather data to investigate students’ fieldwork experiences. Tutor practitioners will get an opportunity to discuss this across a wide range of institutions.

Concluding thoughts

The EFL 'consortium' has been enduringly successful over the last 10 years, whether assessed by its longevity, network, papers produced, presentations made or workshops and Showcase events. In 2010 we set out ambitious, long-term outcomes that we hope will result in:

- + fieldwork remaining in HE curricula with more students being exposed to fieldwork
- + field research increasingly being used as a tool for developing deep, autonomous learning
- + further develop of a fieldwork teaching 'community of practice'.

We believe that fieldwork remains a critical element of many subjects taught at degree level and that students understand and value this form of learning. The (now international) EFL community of practice is well established and enables innovative pedagogic research to reach diverse audiences. This feeds through into enhanced teaching approaches and practices in HE that can nurture all students into becoming autonomous learners and who can build their employability skills ready for the next stage in their careers. This includes 'HE neglected' students.

One of the main aspects of EFL has been to develop the use of technology alongside appropriate pedagogies. Has pedagogy in the HE sector been developed to this extent? With fieldwork, we believe it has and continues to do so. We have tracked and promoted ideas such as capabilities and competencies with respect to active learning and student-tutor involvement. We look forward to developing this involvement with increased access for all involved in education, whether as students, parents, teachers at all levels provided by access to the internet – which Sir Tim Berners-Lee believes should be a basic human right – and 'inclusive' and responsible technology. This is one reason we are keen to develop our ideas for a future educational system.

References

Beetham, H and Sharpe, R (eds) (2020) *Rethinking pedagogy for a digital age: principles and practices for design*, 3rd edition. London: Routledge.

Clark, K A, Welsh, K E, Mauchline, A L, France, D, Whalley, W B and Park, J (2021) 'Do educators realise the value of Bring Your Own Device (BYOD) in fieldwork learning?', *Journal of Geography in Higher Education*, 45 (2): 255-278. Available at: doi.org/10.1080/03098265.2020.1808880

France, D, Mauchline, A, Whalley, W B, Doolan, M A and Bilham, T (2019) 'Authentic learning through place-based education', in Bilham, T, Hamshire, C, Hartog, M and Doolan, M A (eds) *Reframing Space for Learning: Excellence and Innovation in University Teaching*. London: UCL IOE Press, Trentham Books, pp 12-28.

France, D, Whalley, W B, Mauchline, A L, Powell, V, Welsh, K E, Lerczak, A, Park, J and Bednarz, R (2015) *Enhancing Fieldwork Learning Using Mobile Technologies*. Cham: Springer.

Mentkowski, M and Associates (2000) *Learning that lasts: integrating learning, development and performance in college and beyond*. San Francisco: Jossey-Bass.

Watling, S (2009) 'Technology-enhanced learning: a new digital divide?', in Bell, L, Stevenson, H and Neary, M (eds) *The future of higher education: policy, pedagogy and the student experience*. London: Continuum, pp 83-98.

Welsh, K E, Mauchline, A L, France, D, Powell, V, Whalley, W B and Park, J (2018) 'Would Bring Your Own Device (BYOD) be welcomed by undergraduate students to support their learning during fieldwork?', *Journal of Geography in Higher Education*, 42 (3): 1-16.

Whalley, W B, France, D, Mauchline, A L, Welsh, K E and Park, J (2016) 'Everyday student use of iPads: a vade mecum for students' active learning', in Baab, B, Bansavich, J, Souleles, N, Loizides, F and Mavri, A (eds) *Proceedings of the 2nd International Conference on the use of iPads in Higher Education (ihe2016)*, San Francisco. Cambridge: Cambridge Scholars Publishing, pp 43-61.

Whalley, W B, France, D, Park, J, Mauchline, A L and Welsh, K (2020) 'Developing Active Personal Learning Environments on Smart Mobile Devices', in Arai, K, Bhatia, R and Kapoor, S (eds) *Proceedings of the Future Technologies Conference (FTC) 2019*. Vol 2. Cham: Springer, pp 871-889.

Whalley, W B, France, D, Park, J, Mauchline, A L and Welsh, K (2021) 'Towards flexible personalized learning and the future educational system in the fourth industrial revolution in the wake of Covid-19', *Higher Education Pedagogies*, 6 (1): 79-99.

6 Understanding signature pedagogies: how film can tackle important civic issues

Year of award: 2019

Dr Adelle Hulsmeier (SFHEA, CATE, NTFS), Senior Lecturer/Programme Leader BA (Hons) Screen Performance, University of Sunderland.

Keywords: social change, experiential learning, collaboration, employability, issues of crime, affective learning issues

Introduction

This chapter will discuss the benefits, challenges and experiences related to the University of Sunderland's sustained relationship with Northumbria Police and its Sexual Assault Referral Centre (SARC). Since 2013, more than 40 (commissioned) films that increase awareness of complex category serious crime have been produced by approximately 600 undergraduate students from BA (Hons) Screen Performance, Performing Arts and Film Production programmes, who contribute as actor or filmmaker. This project received its CATE award in 2019, following the project's first application.

Context

Invaluable as training resources for the police and a vast number of invested partners from counselling services, law, healthcare, secondary, tertiary and higher education¹, films that share awareness of complex crime have been integrated into education and training. All films have addressed key issues of serious crime including capacity to consent, sexual exploitation, domestic violence, cyber safety, modern day slavery, male rape, county lines and policing during the Covid-19 pandemic. Productions are part financed by the Police Crime Commissioner's (PCC) Community Fund. A celebratory awards ceremony, with students, police, academics and invited guests, gives recognition to this collaboration each year.

¹ Changing Lives, Sunderland Counsellors, Slater & Gordon, Edge North East, Healthcare Professionals (eg GPs, GUM services, University Wellbeing Departments, Accident and Emergency Departments).

There is a core team of people who oversee the collaboration. Dr Adelle Hulsmeier, Programme Leader and Senior Lecturer, oversees partnership liaison and holds responsibility for strategic project management and logistics. Nicholas Glean, Senior Lecturer, oversees the production of the films. Michelle Sheridan, SARC Manager, Newcastle, is responsible for providing the theme and live brief for each year's films. She engages wider agencies for specific expertise to be used in the construction of this sensitive work.

Project aims

The aim of the collaboration is to align the PCC's Crime Plan with the opportunity for students to create films from the evidence of situated crime scenes, which have subsequently been translated into briefs. In the Crime Plan, emphasis is placed firmly on 'putting victims first', 'dealing with complex category serious crime' and 'building community confidence'. An innovative method of making issues accessible has been identified and hence the integration of visual methodologies to advocate the police's mission has been established.

The specific objective of every film is to capture different behaviours, emotions and impacts surrounding specific crimes. Film-making is used as a powerful tool in affording viewers an insight into how they might move from being passive to active bystanders should they witness/experience such behaviours in real life. Michelle Sheridan explains:

"The films are a great resource to help with community engagement and will hopefully lead to more people coming forward if they see something that doesn't seem right."

(Increasing awareness of Serious Crime, 2019)

Ethical disclosure

As an ethical disclosure, the films are fictional and we operate an 'all persona fictitious' disclaimer. The persons portrayed are not based on real-life people but informed by anonymised case studies and student-led research. The result is a non-intrusive research method, which is the most appropriate format when capturing vulnerable people with whom the students have no consistent interaction. We ensure that we work alongside our health and wellbeing department to offer students support from a team of professionals, should it be required. Our partners are also experts in the field and have experience in training and counselling.

A collaborative approach

The strategic co-design of projects with students to raise awareness of various crimes is our key objective. Via this process, students concurrently gain knowledge of the emotive issues addressed in the creation of these films and consequently the films are disseminated for maximal impact. The project is an embedded, assessed element of Screen Performance, Performing Arts and Film Production degree programmes. Inclusively, every individual student is given a specifically tailored role as either an actor or a film-maker. This embraces the authentic diversity of our student cohorts and enables them to represent the societies for whom crime is an issue in reality. This concept of authenticity underpins how we contribute to the notions of inclusivity and equality. The fact that we have encompassed all students in the film-making process and used the curriculum to drive this bears testimony to inclusion.

The SARC team lead each year on setting the specific crime to be captured by the collaboration. Resulting briefs are always challenging and tackle difficult and emotive issues. Providing an infrastructure that supports the projects as they develop has been pivotal to their success. An initial meeting between university academics and specialists from the SARC establishes the specific boundaries and future intentions for the use of the projects as resources, alongside the support students may need (technically and in relation to the identified issue).

Engaging and integrating wider partners into the team each year to act as advisors and to provide specific details on the issues for the students has been pivotal to the project's success. A typical example was when exploring the issue of sexual exploitation, we worked with the charity Changing Lives which provides specialist support for vulnerable people experiencing homelessness, domestic violence, addiction and long-term unemployment. When addressing the issue of male rape, Sunderland Counselling Service provided anonymous scenarios from real crimes, so that these could be used authentically in the films.

Following preliminary meetings between academics, the SARC team and its wider partners, colleagues at the university meet to plan the curriculum delivery of the respective undergraduate modules. Visits from SARC and relevant partners are scheduled for up to four times throughout the 15-week module. These visits allow deeper discussions of specific crime issues, iterative feedback on drafts of work and exploration of client expectations.

Weekly tutorials are held for each group, which alternate between the technical and acting elements of the films, and bringing the whole team together (students, academics, SARC specialists, wider partners) to discuss the issues, watch drafts, and agree points of developmental progression. For example, when the students return from filming, an interim viewing is held for everyone involved in the project. This is an important time for the students to receive formative feedback on their work, which they reflect on in their personal assessed viva and evaluations. The students then work on points for development before summative assessment of their work takes place. Reflection helps with the process of critical reflexivity and the framing of individual perception to make meaning of the experiences afforded to the students. Part of this is the epistemic cognition that students build from wider metacognitive and cognitive knowledge – embedding reflective assessment affords the opportunity to challenge students about how they articulate their experiences of raising awareness of certain serious crimes.

Methodology

Methodologically, the collaboration is informed by career EDGE and USEM models of employability. It acknowledges that employability is not the same as employment; offering learners an experience of a professional working environment in advance of graduation. The project reacts to Harvey's (2006) recommendations that little knowledge of the workplace makes it difficult for learners to adjust on graduation. By working beyond end-point assessments and engaging students in employment-level professionalism as part of the curricular process, the project focuses on developing the skills of students into graduates.

Via the career EDGE model of employability, the project attempts to capture opportunities to develop transferrable skills that go beyond the student's subject specialism and offers opportunities to develop levels of self-esteem, self-efficacy and self-confidence. Procedurally, this links student learning with external 'communities of practice' (Wenger, 1999) building the confidence of students as active participants working with professionals beyond the university.

Recognising the recommendations of the USEM model of employability (Yorke and Knight, 2002), the project acknowledges the needs of students, employers and other stakeholders. The decision to embed interactions with live clients reacts to the overwhelming evidence for the value of work-based learning experiences (Lowden et al, 2011). The rationale behind creating a live brief and the benefits of networking with clients means that experiential learning is embedded into the curriculum enabling "authentic learning; where the outcomes of student learning have transferability into real world settings" (Ashwin et al, 2015, 16).

Students have gained specific awareness of the needs of the policing community, which in turn has reciprocally provided an understanding of their signature pedagogies of performance and film, showing how film can tackle important civic issues. Opportunities for 'live' engagement are important for students who prefer more experiential styles of learning. Troy Wilkinson, BA (Hons) Film Production graduate, said:

“The very professional brief and client involvement pushed us to work harder and more professionally than we have before.”

(Winners of powerful short film, 2019)

Challenges faced, developments made, lessons learned

Iterative annual development of the project takes place in response to feedback from both students and the SARC team, with many of these developments taking place since our CATE win. Initially, the project was undertaken with first year students who felt overwhelmed by both the brief’s content and technical challenges. It was strategically decided to move the project to the final year, which has ensured that the students working on the projects have had a tangible level of media and performance experience in advance of working on these emotive and challenging briefs.

The project initially operated with a limited budget from the university and police. To improve the quality of the films we now make an annual bid to the PCC’s Commissioner’s Community Fund and receive a £2,000 budget for all films (usually between four to six films are created per year). This represents one of the only sponsored modules on the Film Production, Screen Performance and Performing Arts programmes.

Feedback from a range of organisations (Changing Lives, Association of Chief Police Officers, SARC) suggested the projects were not as far-reaching as they potentially might be, so we developed the annual award’s ceremony to officially promote the films.

The films are screened before an audience of invited guests, including delegates from Northumbria Police and its SARC. There have been speeches from key industry figures including the Victims’ Commissioner for England and Wales, Dame Vera Baird; Police Crime Commissioner, North East, Kim McGuinness; ITV’s News Correspondent, Alastair Stewart OBE; Chief of Staff (Chief Executive), Ruth Durham; and Assistant Chief Constable (now Deputy Chief Constable at South Wales Police), Rachel Bacon, who praised the students’ professionalism and creative efforts and promoted the importance of the films. There is also a competitive element to the ceremony where delegates from Northumbria Police select the film that most successfully meets their brief. Although only one group secures this accolade, all films are used for training and education purposes. Beyond the aim to raise the profile and impact scope of the films, we also believe it is important to find an occasion to celebrate the students’ work and the success of the collaboration. The formal recognition and reward of the students’ work via the award ceremony appears to raise motivation among our students significantly.

We also work to ensure that the event is disseminated by the press on a local and national scale (SparkFM Radio, 2020; BBC Radio Newcastle, 2020; ITV, 2020; the Sunderland Echo, 2020).

Across the eight years of collaboration there are some key lessons learned. We always have an initial meeting with the partners and external agencies to gauge project expectations before any student involvement. By getting this step right our films have been able to successfully support the work of Northumbria Police.

We have found that the project is more successful when it is an embedded element on the curriculum. By embedding opportunities of this nature we offer students employment-level experiences, in advance of graduation, that go beyond end-point assessments.

Ensuring external agent visits as part of the module delivery is key in providing expert advice for students to help create believability within their films. Daga Dygas, BA (Hons) Film Production graduate and director of the film *Power*, about male rape, reflected on the value of SARC's involvement when explaining that,

“Working with the SARC has offered the opportunity to work with a difficult topic, supported by people with valuable experience in this field.”

The impact on teaching, learning and the wider community

The work has been distributed to schools, colleges, sixth forms, police training courses, SARC managers across the UK and help centres, wider agencies and clients. It has also been showcased at the UK Association of Forensic Nurses and Paramedics (UKAFN) Conference (2019). This synergistically provides dynamic, reciprocal drivers of crime planning and education.

It is the synergy between all collaborators that has ensured students are introduced and exposed to complex and challenging affective learning issues beyond the immediate parameters of their academic disciplines. James Vardy, Film Production graduate, and director of 2019 winning film *Talk to Me* about male rape, noted:

“The knowledge that the films could have some serious impact has made it all worth it. Raising awareness around these stigmatised issues is important to developing our humanity and our understanding of one another.”

Experiential learning in the projects has afforded opportunities for students to experience and develop professional skills for employment. The project also promotes the opportunity for learning in a social context. Vice Chancellor of the University of Sunderland, Sir David Bell, states that:

“To work on a live client brief with the real potential to impact upon the community is, of course, excellent experience, but more important than that, it achieves what is at our university's core – a commitment to make a positive impact on society.”

(Increasing awareness of Serious Crime, 2019)

The project has a demonstrable positive impact on the employability of graduates. Ross Scott, BA (Hons) Drama graduate, stated:

“The film has helped me progress into a professional industry. Without this fantastic opportunity my showreel wouldn’t be half as strong, and my experience as an actor wouldn’t be half as broad.”

(Personal Communication, May 3, 2019)

Glen Harris is a BA (Hons) Film Production graduate (2016) and produced *Behind Closed Doors*, about sexual exploitation. He is now a videographer and editor in London. He explained:

“Producing a film for Northumbria Police was perhaps the first time I got a taste for what it’s like to work on a client’s brief. It gave us a more ‘real-world’ experience while being in the ‘safety-net’ of the university environment. It helped lay the foundation to how I now approach my freelance work, with the added bonus of knowing the work serves a good cause.”

(Personal communication, 3 May 2019)

The project has also had a wider impact on the delivery of modules and programmes locally. Professor Arabella Plouviez, Dean of the Faculty of Arts and Creative Industries at University of Sunderland, stated that this,

“excellent project is such an exemplar of good practice and has led to other subjects developing cross-disciplinary and externally focused opportunities.”

(Personal communication, March 2019)

One example of this was embedding SARC and its partners into performance modules that focus on theatre for social change, and devised performance. Modular study of devised performance incorporated interviews with a range of SARC’s partners to help students create a theatrical presentation on issues including domestic violence, suicide, missing people and dementia. The performance on domestic violence was linked to SARC’s partnership with Gentoo² and Barnardos. Following this performance, Women’s Aid approached the university with an opportunity for students to become ambassadors for women who experience domestic violence, and one graduate is now a Women’s Aid ambassador, delivering training on domestic violence.

² Gentoo is a housing association that owns and manages more than 29,000 homes in Sunderland working to rehouse survivors of domestic violence.

We were approached by a team of academics from Sociology who were working on a project called *Be the Difference*, which aimed to provide 90-minute taster sessions to more than 300 students in their first year at the university, relating to safety on campus. We created three distinct films to run alongside the workshops to address the issues of discrimination against appearance, religiosity and disability. This collaboration allowed academics across the two faculties to identify reciprocal opportunities to share best practice. This served to identify how drama can be used as an interactive tool to drive processes of social change.

Beyond the context of the university, the films support the work of Northumbria Police in training new staff. The Association of Chief Police Officers stated:

“Encouraging people to spot the signs and to report any concerns to the police, is where these films come in. Through their raw and often graphic content are some very important messages that play a key part in training initiatives.”

(Increasing awareness of Serious Crime, 2019)

The films are regarded as “excellent for police training purposes” (Isle of Jersey SARC Manager, personal communication, March 2019) and partners use “the footage while training police, probation, social services and many voluntary sectors across all working areas. Having such footage embedded in training to raise awareness to frontline staff has been extremely powerful” (Debra Cowey, Service Manager, Changing Lives, personal communication, March 2019). The work shines “a much-needed spotlight on important issues and is an asset in raising awareness. These videos help build confidence and trust and encourage people to speak out and report crime to the police” (Assistant Chief Constable Rachel Bacon, personal communication, March 2019).

Laura McIntyre, Area Manager for Women’s Services, North East and Yorkshire, explained how she “uses the films in multi-agency training and for different events/conferences to highlight the risk around people who are targeted for exploitation” (personal communication, March 2019). Cheryl Pinner, Business Development Executive from law firm Slater and Gordon, advised how she “is doing a piece of work with the Crown Prosecution regarding victims and will use the films. The basis of the work is that the service doesn’t always know how to interact with victims and what has been captured in the clips is exactly what the victim feels.” (Personal communication, March 2019).

Sunderland counsellors were beneficiaries of the 2019 project on male rape and they are using the work to help their services. Alan Brice, Clinical Lead for Sunderland Counselling Service, expressed how:

“this work has great benefits as we can use the films in our training and awareness raising work. We will use all of the videos for counselling training - as they portrayed so well the internal turmoil the clients feel.”

(Personal communication, May 2019)

Edge North East was the beneficiary of the 2020 films on county lines. Manager Collette Devlin-Smith stated:

“The films are sent out after all our training sessions as a resource for professionals and young people. They have been used in schools, youth settings and children’s homes. The fact they were made by a local university had brought the subject matter closer to home.”

(Personal communication, June 2021)

At a Northumbria Healthcare Staff Awards ceremony in 2016, Julie Tekin, along with health promotion staff and police were named as winners of the Partnership Working Award for work which included the viewing and discussion of a number of these films with schools across the six local authority areas throughout Northumberland. Julie explains how,

“Engaging with schools is not always easily achieved, yet the films allow students and teachers to visually evaluate the reality of the various scenarios that typically present at the SARC.”

(Personal communication, March 2019).

At its maximum level of impact and through reflecting on the societal reach of these films, Victims’ Commissioner for England and Wales, Dame Vera Baird, said:

“The university has not shirked away from responding to our briefs. The films transmit messages in a way that we cannot and will be used by Northumbria Police to share far and wide.”

CATE award win

Since receiving our CATE award in 2019, we have been working to see what other areas of academic research may arise from the project, internal and external to the immediate parameters of the department.

Conferences have provided progressive networking opportunities for this collaboration. Successful interactions with other universities in relation to our work with the police have also been established at conferences. We have a particular interest in attending conferences with a significant employability-driven curriculum focus, presenting at the Advance HE’s Employability symposium (2019), subsequently publishing an article in its employability compendium (Hulsmeier, 2020). This impacts positively on students as we can incorporate cutting-edge practice into teaching and employ strategies that can help develop and benefit the curriculum, student experience, teaching and learning.

We are in conversations with SARC to attend conferences more specific to the sector of policing. We are also working to explore opportunities to disseminate this collaborative work institutionally by undertaking conversations with other departments (including criminology, health and wellbeing and careers) to see where other collaborations may take shape. Current discussions surrounding collaborations between the Faculty of Arts and Creative Industries and the Faculty of Health and Social Wellbeing, are underpinned by the Painkillers Don't Exist campaign, offering an avenue for awareness films to expand into the public health context, with the potential of being disseminated on social media, and even played in GP practices to help support the campaign.

Underpinned by the success of the projects and research into client-led curriculum design, we are now using the benefits of the CATE award to spearhead a range of business opportunities that offer wider interactions between University of Sunderland, students, graduates and stakeholders from different force areas (police, medicine, pharmaceutical, fire service, etc). There are clear strands to this output that include:

- 1 A spin-out production company, ran at the University of Sunderland, involving students and graduates in the production of film packages (for purposes of supporting training and education).
- 2 Creating a toolkit that helps other HEIs embed a client-led, employability-focused curriculum.

Our CATE award has afforded opportunities to continually look to improve teaching and learning opportunities and embed innovative practice that impacts the students, the community, Northumbria Police and its partners, the University of Sunderland and fellow universities.

Concluding thoughts

The need for this work was founded when we established innovative ways in which to disseminate information regarding complex issues tackled by Northumbria Police. We have successfully created and established a sustained relationship with Northumbria Police to create films that are invaluable to the police and its partners. We offer an example of a successful and nurtured project which engages with clients from the police force area and we hope to expand this work to provide a similar service to other force areas in future collaborations. During the production of films, students have raised societal awareness of a diverse array of serious crime, as well as gaining core transferable skills. It is the strategic co-design between client and university academic that has afforded the project's continued success. This is a recognised collaboration that has clear and demonstratable impact on teaching and learning, highlighting teamwork as a key role in higher education. The project further improves awareness around the important role projects of this nature can play in the propagation of societal issues, and the teaching of relevant employability activities within higher education.

References

- Ashwin, P, Boud, D, Coate, K, Hallett, F, Keane, E, Krause, K, Leibowitz, B, MacLauren, I, McArthur, J, McClune, V and Tooher, M (2015) *Reflective Teaching in Higher Education*. London: Bloomsbury Academic.
- Damaged Goods (2016) Sunderland: Flat 14 Productions. Written and directed by Leanne Rutter. Available at: www.youtube.com/watch?v=JS0-5oAQxI8&t=3s [accessed 16 March 2019].
- Harvey, L and Little, B (2016), 'Learning through work placements and beyond'. Available at: hecsu.ac.uk/assets/assets/documents/Learning_through_work_placements_and_beyond.pdf
- Hulsmeier, A (2019) 'Applied Film for a Live Client Brief: Crime Films in collaboration with Northumbria Police and its Sexual Assault Referral Centre (SARC)' in *Advance HE: Employability Symposium*, York, 2019.
- Hulsmeier, A (2020) 'Working beyond end-point assessments to deliver employability experiences: The University of Sunderland's Crime Awareness student film projects in collaboration with Northumbria Police and its Sexual Assault Referral Centre (SARC)', in *Enhancing Graduate Employability: a case study compendium*. York: Advanced HE, pp 11-15.
- Lowden, K, Hall, S, Elliot, D and Lewin, J (2011) 'Employer's perceptions of the Employability of New Graduates'. London: Edge Foundation. Available at: www.educationandemployers.org/wp-content/uploads/2014/06/employability_skills_as_pdf_-_final_online_version.pdf [accessed 4 October 2019].
- Power (2019) Sunderland: Veternum Productions. Directed by Dagmara Dygas. Available at: www.youtube.com/watch?v=fBOxWpGei6Q&feature=youtu.be&fbclid=IwAR0KQuwfo4o4z7m77yeBbjQUc5tvxzDSbypprmpdhiydL7JBDpGzD_BZsa8 [accessed 16 March 2019].
- Talk to Me (2019) Sunderland: Monument Productions. Written and directed by James Vardy. Available at: www.youtube.com/watch?v=4dnODEQNv4M&feature=youtu.be [accessed 16 March 2019].
- University of Sunderland (2019a) 'Winners of powerful short film on male rape announced'. Sunderland: University of Sunderland. Available at: www.sunderland.ac.uk/more/news/story/winners-of-powerful-short-film-on-male-rape-announced-890 [accessed 16 February 2019].
- University of Sunderland (2019b) 'Increasing awareness of serious crimes through drama and film making'. Sunderland: University of Sunderland. Available at: www.sunderland.ac.uk/study/explore/arts-creative-industries/performing-arts-northumbria-police/ [accessed 10 June 2021].
- Wenger, E (1999) *Communities of Practice*. Cambridge: Cambridge University Press.
- Yorke, M and Knight, P (2002) 'Employability through the Curriculum', *Tertiary Education and Management*, 8 (4): 261-276. Available at: doi.org/10.1023/A:1021222629067 [accessed 7 October 2019].

7 Class in a Bag: a collaborative innovation in dementia education

Year of award: 2020 (second attempt)

Winnie McGarry, Lecturer BSc Adult Nursing programme, Deputy Programme Lead and Year Lead, University of the West of Scotland

Wendy Wright, Lecturer Adult Nursing programme, Programme Lead BSc Adult Nursing, University of the West of Scotland

Caroline MacCallum, Lecturer Adult Nursing programme, Programme Lead MSc Adult Nursing, University of the West of Scotland

Dr Margaret Brown, Depute Director of the Alzheimer Scotland Centre for Policy and Practice and dementia lead for the nursing programmes, University of the West of Scotland

Karen Ross, health visitor with lead roles in infant feeding, infant mental health, and child protection, NHS Greater Glasgow and Clyde

Dr Lousie Ritchie, Alzheimer Scotland Centre for Policy and Practice, University of the West of Scotland

Dr Bryan Mitchell, Lecturer in Integrated Health and Social Care, University of the West of Scotland

Dr Lindsay-Ann Coyle, Lecturer within the University's Academic Development Unit University of the West of Scotland

Professor Debbie Tolson, Director of the Alzheimer Scotland Centre for Policy and Practice at University of the West of Scotland

Keywords: dementia, collaboration, schoolchildren, impact, citizenship, nurse education

Overview

Understanding Dementia: Class in a Bag is a simple concept with a big impact. Like many innovations, Class in a Bag appears to be straightforward. It is a bag containing the things that student nurses need to take into schools to deliver dementia education to children. The content is designed to provide experience-based learning that changes the way children think, feel and do about dementia. It is also a resource designed to inspire and enable professional learning with and for student nurses. Underpinned by Care Empathia Pedagogy, Class in Bag supports a compassionate, age-appropriate approach to dementia education. We were quietly very pleased with our creation, so much so that when encouraged to apply for CATE we had a go, and then another go!

Introduction

Scotland's first national dementia strategy, published over a decade ago, called for better patient care delivery through rights-based approaches (Scottish Government, 2010). To achieve this in practice, a national workforce development framework called Promoting Excellence was established, which mapped the dementia knowledge and skills required by health and social services staff (Scottish Government, 2011). This raised the expectation that new nurse registrants would reach either a skilled or enhanced level of practice on qualifying. Given that dementia care within most of the Scottish nursing curricula at the time was tokenistic, this was a call to action to nurse educators (Knifton et al, 2019).

We had already been working on redesigning our BSc Nursing curricula; this focus on dementia prompted us to further consider and re-imagine state of the art dementia education. Through our work on Class in a Bag we have collaborated over the last 10 years to transform student learning about dementia.

We knew that Class in a Bag was a great idea because of its influence on undergraduate nurse education and through its impact on the communities we serve. We also knew we were capable of achieving a CATE, but in 2018 we did not convince the panel.

What happens when you start to prepare a CATE claim is that you tell the story of what you did. In other words, you need to look beneath the surface to both understand the ingredients of successful collaboration and describe it in a way that makes sense to others. A challenge for us in our first attempt at a CATE was that we threw at the application everything that we were doing to improve dementia within nurse education and glossed over the jewel in the crown that is our Class in a Bag. Reviewer feedback from our first attempt helped us to see this and, although disappointing, it made us even more determined to succeed. In 2020 we did!

What is Class in a Bag?

Class in a Bag is a portable, educational and intergenerational resource used by nursing students to teach schoolchildren as young as nine years old about dementia and what they can do to help. Class in a Bag is a flexible and fun learning package. More than 2,400 undergraduate nursing students and over 10,000 schoolchildren have benefited from this unique and deceptively simple educational experience.

CATE realising social responsibility

The resource provides children with a transformational dementia learning experience. In line with the Scottish Government's Curriculum for Excellence (2012), it teaches them to become dementia aware, socially responsible citizens, while at the same time it provides University of the West of Scotland (UWS) nursing students with the opportunity to learn inter-professional communication skills by taking the resource into classrooms.

The underpinning experience-based pedagogy, Care Empathia, embraces three domains of learning: cognitive, affective and psychomotor (Bloom et al, 1956; Anderson and Krathwohl, 2001). In other words, changing how people think, feel and what they do about dementia.

The beginning

In 2011, the headteacher from Our Lady of Lourdes primary school, Paul, asked if the university could help support an annual 'health day event'. What an excellent opportunity for student nurses to teach children about health promotion, even if this type of collaboration would push the students out of their comfort zone. An important element of the national undergraduate nursing curriculum is for students to explore and participate in health promotion (Nursing and Midwifery Council, 2010; McGarry, 2018). While not something that nursing students were used to doing, they had the knowledge and skills to make it happen. Student volunteers agreed on the topics of handwashing and healthy eating. The children were excited to have nursing 'experts' teach them and the students felt a sense of achievement to be part of the health day. Before we knew it, other schools heard about UWS nursing students delivering health promotion to children, and they wanted some of the action.

The momentum grew and teams of student volunteers attended multiple schools to deliver a range of health promotion topics. Lecturers and students worked together in the co-production of lesson guides, and we borrowed resources from the nursing skills lab to support the topics and make them more interactive.

Encouraged by the confidence and ability of nursing students to teach schoolchildren about generic health promotion, the topic of dementia arose. We had a spiral curriculum model and dementia was a clear presence through the nursing programme. We questioned if it would be appropriate to teach children about dementia and concluded that yes, it would. After all, we had the Alzheimer Scotland Centre for Policy and Practice staff in our team. A local headteacher was initially a little apprehensive, agreed to discuss it with his staff and Understanding Dementia: Class in a Bag was on its way.

Class in a (carrier) Bag

The Scottish Government advocates that every child and young person in Scotland is entitled to experience a broad general education (Scottish Government, 2012). The Curriculum for Excellence Framework identifies eight areas, related to specific experiences and outcomes. One of these is Health and Wellbeing, designed to ensure that children develop the knowledge, skills, capabilities and attributes needed for mental, emotional, social and physical wellbeing now and for the future (ibid). Teachers are encouraged to work collaboratively with specialists able to offer enriched learning experiences. The increasing prevalence of dementia in Scotland suggested that many children would know someone living with dementia. Although children may not understand the complexities of dementia, they can learn about health conditions and want to know how the body works (Magarey et al, 2013).

We began to build Class in a Bag. Students piloted an initial learning package taking the resources into the classroom literally carried in plastic bags. Children aged between nine and 12 years were included in our early Dementia Through the Eyes of a Child project which found that children were receptive to learning about dementia. The learning didn't stop there, class teachers kept the topic alive by integrating dementia into the wider curriculum and you can see their efforts on the Vimeo link found in the Further Information section.

Natural progression: Class in a Bag

As the third year of our new curriculum was looming, we put forward the idea that this type of activity could be integrated into our new programme, scaling up partnerships with local education authorities. We set up staff workshops, spoke to schools and became excited that students would soon be visible in local communities, representing the university as ambassadors for healthcare. What we had not thought through at this stage was HOW the students would transport the physical resources to accompany the session. Carrying a plastic bag with equipment to each school, although practical, was neither sustainable nor professional. At that moment it was clear what we needed was an actual Class in a Bag complete with UWS logo. It was one of our many eureka moments, enabled through enterprise funding.



Teachers from the school were excited to be involved in this innovation. One teacher whose mother was living with dementia shared a comment from her own daughter who asked...

“Do you love gran more than you love me... ?”

The mother spent so much time as a carer, her child felt she was not loved as much as gran. Nursing students explaining the condition to children could not have come at a better time for her and she could see the immediate and long-term benefits for not only her own daughter but for all children in preparing them to become responsible and caring citizens.

The development of Class in a Bag was an organic process and arose from a shared passion about learning and teaching and a core topic of dementia that touches almost everyone. The growing team co-created five workshops and supporting guidance for the students. Each workshop inspired by the nursing programme could support the students to apply their own learning about dementia at the same time as they taught the children. The choice of workshops was pragmatic and selected to be active and interactive for children and students. While the topic of dementia can be serious and sometimes sad, the sessions always ended with a sense of hope and a range of actions to promote wellbeing. Beginning with brain and sensory changes, the children were gently led from the serious nature of dementia to exploring what they could do to make a difference.

Partnerships and co-production: growing the team

We decided to introduce Class in a Bag to our third-year students in the Fitness for Practice module, and they were excited. This unique activity pioneered nursing students leading health promotion sessions within schools. Although a structured lesson guide ensured quality dementia education, the students had ownership of their session and added their own ideas. This allowed scope for creativity and diversity, which was wonderful to see because students do not usually get excited about coursework, and this activity gave them opportunities to flourish.

New heights

Inspiration did not strike suddenly for Class in a Bag. It took time and a collaborative team ethos focused on nurturing both the idea and each other. Ideas like this can be lost in the morass of routine work and continual change that are part of academic life. Yet something about Class in a Bag resonated with all of us and stuck – we had to do it. Gathering momentum, it created ripples generating more opportunities, drawing in more people and owned by the ever-growing team. The excitement the concept created in staff and students led to successful presentations at national and international conferences (Wilson, 2013; Smith and Hardie, 2015; Everett et al, 2015). Networking with colleagues from other HEIs and sharing good practice confirmed that what we were doing was different. So many groups were telling us that this was innovative and filled a real gap, including schools, universities and voluntary sector organisations (see Vimeo link in Further Information section).

We supported two students, Amna and Colin, at the NET2015 conference to present *Dementia Through the Eyes of a Child: A Student's Perspective* (Smith and Hardie, 2015). We were delighted when they were credited winners for the Best First Time Presenter category, an amazing achievement.

Maintaining momentum

The creative energy and successes of our undergraduate student nurses, each putting their own stamp on Class in the Bag activities, was important to maintaining momentum. Early career researchers continued to refine the concept. For example, internal research funding supported Louise, a lecturer, in a research collaboration with a lecturer in the academic School of Education. One of our postgraduate research students, Bryan, secured a temporary research assistant position with us to further develop content. As careers advanced, so did Class in a Bag. Their research and enterprise contribution reflections and thoughts on how the experience of CATE enhanced their respective careers are shown in the text box.

CATE experience and creating opportunities

“The project allowed me to develop my own experience in project management, leadership and realise the value of interdisciplinary research. This was an important contribution to my successful application for promotion to Reader in 2020. When invited to be involved in the development of the CATE application, it allowed me to appreciate the potential of interdisciplinary collaborative working and the wide societal impact that everyone working together on a small idea can have. This is a lesson that will continue influence me throughout my career.”

Dr Louise Ritchie, former early career researcher

“Having the opportunity to work on and help develop Understanding Dementia: Class in a Bag was a fantastic experience. As a PhD student, this opportunity has truly enabled me to excel in my career, providing a highly valuable insight into the world of teaching. I have continued to reflect on the unique development of the resource as a way to ensure I can continue to support the transfer of knowledge to others in my practice.”

Dr Bryan Mitchell, former PhD student

Reaching for CATE

Our first CATE application, although unsuccessful, was an exciting experience and created a real sense of teamwork. When we got together to write it, we began to appreciate just how much our team had achieved. The detail of what we did shone through, but we did not make explicit the core ingredient of ‘collaboration’. To us, collaboration and allowing emergence in educational innovation was simply how we did things. Welcoming new members to the team and growing organically – well, yes, we did that but didn’t mention it. Creativity, inclusivity, student involvement – we did that as well, but we just hadn’t quite got to grips with how to convey this in our claim. In some ways it was part of the evolutionary pathway, that reviewer feedback made us step back and see the importance of collaborative practice as much as the importance of the product of that collaboration. It also reminded us of something that is second nature in feedback to our students: read the question, understand the question and think like a reviewer.

What we did in the second attempt was to spend more time preparing. Forming a CATE Group, supported by our UWS CATE institutional contact (Lindsay), was important. Having Lindsay as a critical insider-outsider to the team was invaluable. A source of reassurance and challenge by a peer who could think like a reviewer. Also, we gained so much from attending a CATE preparation roadshow.

Getting to grips with CATE

“A big thank you to the wonderful volunteer CATE past winner facilitators who came up to Scotland to share their insights. It really does help to talk it through with knowledgeable peers and critical friends. I entered the workshop hoping to get something out of the meeting. A lightbulb moment later, I left knowing it was time well spent and we had what it takes to succeed with CATE.”

Professor Debbie Tolson, CATE Co-Lead

Achieving CATE

When we discussed making our first CATE claim with the university’s central academic development unit, our team and work was already well established. While we were enthusiastic about applying for a CATE, ‘CATE thinking’ required an openness to delve into how we worked as a team. In early discussions, for example, we focused in on which parts of the team’s work would be most suited to the CATE application. We also began to appreciate how collaborative practice, embedded in our team working, had become the norm.

Inevitably, a sense of openness was a very important aspect of this process; both in terms of what could be included and omitted. For example, as the Class in a Bag nursing students were teaching schoolchildren about dementia, we had a wealth of information about the positive impact on pupils’ learning, which is a long-term societal benefit. Although important, we had to foreground the impact on undergraduate nursing students.

Concluding thoughts

When we embarked on the development journey, our motivation was to improve and refresh dementia education within the pre-registration nursing programme. We wanted something better, something transformative. Our real reward has been the enduring impact on our nurse graduates. The following quotations are from previous students who identify how their involvement in Class in a Bag has helped inform their personal and professional development.

Enduring impact

Gill, now a registered practice nurse, said:

“I have been able to utilise the skills gained from Class in a Bag to deliver person-centred care and support relatives who may have a limited understanding of dementia. In addition, I was able to share my knowledge with colleagues who have had limited or outdated dementia training. This has resulted in small changes being made to the way we run the clinic, which has resulted in a better level of care being provided. Small changes make a big difference.”

CATE Co-Lead

Involvement in Class in a Bag also highlighted development in Susan's graduate skills. Like Gill, she researched the topic more widely to enhance her knowledge. She encouraged her team of students to become Dementia Friends and supported the children to complete the Dementia Friends programme. She commented:

“I definitely gained confidence, both professionally and personally, using Class in a Bag... I was initially extremely nervous. However, once the presentation began, I was able to relax and thoroughly enjoyed the experience!”

Karen is now a registered health visitor. As a student and original CATE team member involved with Class in a Bag, she developed the ‘build up brain’ and using the interactive song ‘Head, shoulders, knees and toes’ with the children, was able to explain how the brain works. We were delighted when Karen's build up brain was shortlisted for the category ‘Outstanding Contribution from a student’ at the Herald Higher Education Awards in 2015. Karen commented:

“Being involved with Class in a Bag impacted on me as a student nurse and it helped form me as a health professional. Being listened to, valued and included as a team member and as an individual built my confidence and prepared me for graduation. I wanted to continue to work with children knowing the differences you can make so I continued to study to be a health visitor. There are often many changes when working with children and families as a health visitor therefore it is important when ideas are implemented, to always look at ways that we can improve our services to ensure better outcomes for children and families. Being part of the UWS Class in a Bag has encouraged me to create innovative ideas and solutions in changing and complex situations further in my health visiting profession to deliver high quality service.”

Although it might be tempting to stop our development story here, we have a few more ambitions, including securing a Class in a Bag trademark. This will help us to protect the integrity and quality of the learning approach as we pursue and expand Class in a Bag enterprise and research. Class in a Bag and CATE have been affirming and ambition raising experiences for everyone in the team, including many student members. In addition to the individual and team gains, it is also an important marker of teaching excellence for the university. On that note, what better way to end this chapter than give the final word to our executive leader:

“We were incredibly proud that UWS and the pioneering work of the Alzheimer Scotland Centre for Policy and Practice was recognised via this prestigious higher education award. The Class in a Bag initiative demonstrates first hand the significant impact academics and students can make by collaborating as development partners.

Winning this award not only exhibits the important work underway at our university every day, but it also demonstrates our commitment as an institution to pursuing research and enterprise that makes a real, positive impact on society, and which improves the lives of others.”

Professor Craig Mahoney, Principal and Vice-Chancellor, University of the West of Scotland.

References

- Anderson, L W and Krathwohl, D R (eds) (2001) *A taxonomy for learning, teaching and assessing: A revision of Bloom's taxonomy of educational objectives*. New York: Longman.
- Bloom, B S, Engelhart, M D, Furst, E J, Hill, W H and Krathwohl, D R (1956) *Taxonomy of educational objectives: The classification of educational goals*. Handbook 1: Cognitive domain. New York: David McKay.
- Everett F, Wright W, MacCallum C and McGarry W (2015) 'The Evolution of Class in a bag'. *Sixth International Clinical Skills Conference*. Prato, Italy, 17-20 May.
- Knifton, C, MacRae, R, Jack-Waugh, A, Brown, M, Surr, C, Thompson, R and Baillie, L (2019) 'Perspectives: Dementia education in Higher Education Institutions, now and in the future: the role of the professional regulatory bodies in the UK', *Journal of Research in Nursing*, 24 (3-4): 271-278.
- Magarey, A M, Pettman, T L, Wilson, A and Mastersson, N (2013) 'Changes in Primary School Children's Behaviour, Knowledge, Attitudes, and Environments Related to Nutrition and Physical Activity', *ISRN Obesity*.
- McGarry, W (2018) 'Health Promotion', in Elcock, K, Everett, F, Newcombe, P and Wright, W (eds) *Essentials of Nursing Adults*. London: Sage.
- Nursing and Midwifery Council (2010) *Standards for pre-registration nursing education*. London: Nursing and Midwifery Council. Available at: www.nmc.org.uk/globalassets/sitedocuments/standards/nmc-standards-for-pre-registration-nursing-education.pdf

Pearce, L (2019) 'How teaching children about dementia helps you become a better communicator,' *Nursing Standard*. Available at: [rcni.com/nursing-standard/students/nursing-studies/how-teaching-children-about-dementia-helps-you-become-a-better-communicator-153141](https://www.rcni.com/nursing-standard/students/nursing-studies/how-teaching-children-about-dementia-helps-you-become-a-better-communicator-153141)

Scottish Government (2010) *Scotland's National Dementia Strategy 2013-2016*. Edinburgh: Scottish Government. Available at: www2.gov.scot/Topics/Health/Services/Mental-Health/Dementia/DementiaStrategy1316 [accessed 6 February 2020].

Scottish Government (2011) *Promoting Excellence: A framework for all health and social services staff working with people with dementia, their families and carers*. Edinburgh: Scottish Government. Available at: www.gov.scot/Resource/Doc/350174/0117211.pdf [accessed 6 February 2020].

Scottish Government (2012) Curriculum for Excellence. Edinburgh: Scottish Government. Available at: scotlandscurriculum.scot/ [accessed 10 April 2021].

Smith A and Hardie C (2015) 'Dementia Through the Eyes of a Child: A Student's Perspective', *Nurse Education Today*.

Wilson L (2013) *Dementia through the eyes of a Child Art Exhibition*. Scotland Street Museum, Glasgow, 8 Oct - 29 Nov. Glasgow: Luminare Festival for Healthy Ageing.

Awards

Student Nursing Times Awards (2014) Finalists in the Teaching Innovation of the Year category, London

Times Higher Education Awards (2014) Finalists in the Outstanding Contribution to the Local Community category, London (forms part of a whole school nomination for this category)

Herald Higher Education Awards (2015) Shortlisted for category 'Outstanding Contribution from a student'. Final Year student nurse Karen Ross (Build up brain)

Scotland's Dementia Awards (2016): Winner for Best Educational Initiative category

Further information

Examples of children's poetry and artwork can be found [here](#).

8 Time for change: approaches in community-engaged medical education

Year of award: 2018

Dr Arti Maini, Medical Education Innovation and Research Centre (MEdIC), Imperial College London

Dr Ravi Parekh, Medical Education Innovation and Research Centre (MEdIC), Imperial College London

Ms Bethany Golding, Medical Education Innovation and Research Centre (MEdIC), Imperial College London

Dr Jo Horsburgh, Medical Education Innovation and Research Centre (MEdIC), Imperial College London

Miss Nadia Zaman, Imperial College School of Medicine, Imperial College London

Ms Barbara Shelton, Project Manager, Addison Community Champions

Dr Sonia Kumar, Medical Education Innovation and Research Centre (MEdIC), Imperial College London

Keywords: collaboration, community, medical education, inequity, students, healthcare

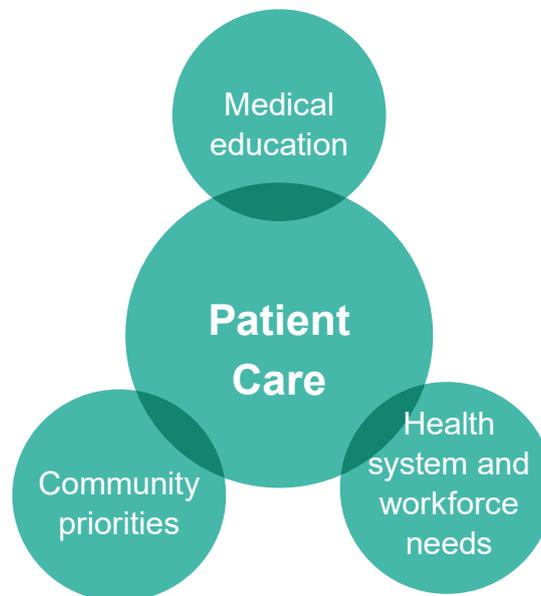
The beginning: vision and background to MEdIC

The World Health Organisation defined Social Accountability in 1995 as “the obligation [of medical schools] to direct their education, research and service activities towards addressing the priority health concerns of the community, region, and/or nation they have a mandate to serve”. This concept of community engagement has been extended more broadly to other educational disciplines and is supported by UNESCO.

Societal inequalities are related to how power is distributed, maintained and embedded within societal structures and processes, and therefore what is also required is a redistribution of power dynamics by empowering local and global communities. There is now, more than ever, the need for systems, institutions and communities to join together to address the ‘causes of the causes’ of societal inequalities.

Our Medical Education Innovation and Research Centre (MEdIC) was born from this vision. It is grounded in the principles of community engagement, leading a unique approach to medical education nationally and globally. Our tripartite approach brings together community priorities, healthcare system needs and medical education (Fig 1). These collaborative relationships enable the co-creation of community-engaged educational innovations and research that address health and social inequalities and mutually benefit all of the tripartite partners.

Figure 1. The tripartite approach of MEDiC



Building on this socially accountable vision and embedding these core principles throughout our work over the last few years led to our team winning a CATE award in 2018.

Putting MEDiC's tripartite approach into action: community-engaged service learning

Putting together our initial application for the CATE Award allowed us to develop our vision of how we could translate this tripartite approach into educational design and delivery. We have drawn extensively on theories relating to service learning, where students learn their curriculum through meaningful service, working with patients, communities and the health system to address their priorities providing benefit to all. We have established several community-engaged programmes with students learning through service in the community.

Below are some examples of community-engaged programmes we have developed with medical students at Imperial College London. These community-engaged approaches enable students to learn the knowledge, skills and values of being a holistic doctor. Such experiential learning involves working with and learning from patients and communities, including those from underserved and protected groups.

- + Health coaching: year 2 medical students coach patients with long-term conditions to support and empower them to work towards health behaviour goals.
- + Community engaged quality improvement: year 3 medical students work with local community groups to co-develop, implement and evaluate quality improvement initiatives that address community health and wellbeing priorities.
- + Partnering with schools: year 5 medical students deliver health promotion lessons in local schools. They learn key aspects of their medical curriculum through delivering lessons on health-related topics to schools in deprived areas.

Students on these programmes take on the role of a ‘paraprofessional’ with increasing levels of responsibility, adding value in real-life healthcare settings, leading to transformational learning, an increased understanding of societal inequalities, and development as holistic and socially responsible future doctors (Laloo et al, 2021; Dutta et al, 2021). These community-engaged programmes also result in numerous sustainable outcomes for local communities, from the local impact of community action projects to increasing the aspirations of young people in local schools (Houbby et al, 2020; Pilling et al, 2020).

However, service-learning approaches are not without challenges. Such real-world learning requires appropriate support for students and supervisors, ensuring students practice within their own limitations, and are aware of when to ask for help. There is also a fine balance in ensuring there is synergistic benefit to students, the healthcare setting and the communities with whom they work. Working collaboratively with students, supervisors and community partners has helped to navigate some of these challenges. By co-creating mutually agreed goals, expectations and ways of working together, we have been able to mitigate against some of the inevitable challenges of working in this new way. Our ongoing evaluation and research programmes are exploring how best we can continue to improve our understanding of community-engaged approaches in education, achieving synergistic benefit to all tripartite partners in safe and effective ways.

Taking an asset-based approach in community-engaged education

Key to our vision is developing future doctors who can engage effectively with patients and communities to promote positive health and wellbeing and address health inequalities.

The CATE allowed our team to refine and develop our vision of how community-engaged education can be realised in practice. This led us to bid successfully for funding for a Community Collaborations Lead to help us bring the vision of community engagement alive. This critical role in our team is specifically designed to strengthen our relationships with local communities, providing a bridge link between our academic endeavours and the community priorities of our local area.

Another significant new direction our work has taken since winning the CATE is embedding an assets-based approach into our community-engaged programmes. In contrast to a traditional deficit model that sees communities as ‘needing fixing’, assets-based community development builds on the strengths, or ‘assets’, of individuals and communities, recognising that the best and most sustainable solutions to local healthcare issues are generated by those directly affected. We aim for our community-engaged programmes to be oriented towards community priorities, drawing on an assets-based approach and leading to increased community empowerment.

An important component of our assets-based approach has been the development of Needs and Assets-Based Analyses (NABAs) for each of the London boroughs where our students are placed. The NABAs contain population health and demographic details for the borough, and key information on local assets and community organisations. Students draw on these resources when working on the community-engaged programmes. Students played a critical role in creating the NABAs via Imperial’s Student Shapers initiative, whereby students are reimbursed for their time in partnering with faculty to develop and shape curriculum design.

Holding collaborative conversations is a foundational skill required for asset-based community engagement. Building on the coaching work described in our initial CATE application (Maini, Fyfe and Kumar, 2020; Maini, Saravanan et al, 2020), we have led the development of coaching skills training and the creation of two massive open online courses (MOOCs) in health coaching conversations (on the Coursera platform) and coaching for learner-centred conversations (on the EdX platform). Medical students at Imperial are trained in such coaching approaches using face-to-face and online teaching methods. This training is designed to facilitate skills in holding collaborative, empowering, solution-oriented conversations founded on trust, curiosity and respect. Students then apply these skills during health coaching conversations in year 2 with diverse patients in the community, and during their community action projects in year 3.

Building on the vision that led up to the CATE Award, our educational approaches since then have developed even further, with sustainable community engagement and assets-based approaches at the heart of our work. For example, through students learning valuable coaching skills to support patients with long term conditions in the community, working to address local health inequalities through community action projects, or learning about the impact of societal inequalities in young people through providing lessons on health-related topics to local school pupils. Below we will describe in more detail our community action project initiative as an example of assets-based community-engaged education.

Community action projects: assets-based community-engaged education in action

All third-year medical students at Imperial complete a longitudinal quality improvement project in the community, with community engagement at the core of the project. Students co-create and evaluate their community action projects in partnership with GP practices and community organisations, identifying local health and social priorities to support community health and wellbeing.

During the Covid-19 pandemic, students continued to engage in their community action projects, adding much needed value to local communities. For example, one project focused on creating multilingual videos on promoting NHS access, targeted at Black and Minority Ethnic (BAME) communities. Working with community partners, the students realised that some patients from ethnic minority backgrounds had growing concerns that accessing healthcare services during the Covid-19 pandemic would increase their own risk of contracting Covid-19. They addressed this concern in the videos they co-produced and these were shared via WhatsApp groups and social media. Both medical students and local communities benefited from working together in this way, taking a truly collaborative, assets-based approach to community engagement.

A student perspective

Nadia Zaman was one of the medical students undertaking a community action project.

“Undertaking a community action project highlighted to me the value of community collaboration. I’ve always been interested in helping the community. As medical students we have a responsibility to help those around us, and volunteering with community organisations provides this opportunity.

Undertaking this project inspired me to begin organising a volunteering scheme for my fellow medical students, in collaboration with student-led societies at Imperial, to provide volunteering opportunities on a larger scale. I believe community work should be embedded into medical school curricula from an early stage, in order to develop socially responsible doctors.”

A community perspective

Nadia worked with a number of community partners on her project, including with Barbara Shelton of Addison Community Champions.

“Addison Community Champions is one of six place-based projects in Hammersmith and Fulham that aim to tackle health inequalities, underpinned by an asset-based community development (ABCD) approach. The capacities of our diversity-rich communities are prioritised, together with available local resources, to seek bottom-up solutions to improve their health and wellbeing and promote healthier lifestyle changes.

This collaborative partnership provided an invaluable platform to address the challenges faced by our local communities during the Covid-19 pandemic. The medical students co-produced specific resources, with input from community members, to address key issues emerging right from the start of the first lockdown. This included the co-production and distribution of ‘wellbeing boxes’ to 100 vulnerable families, containing equipment for whole-family entertainment, as well as printed resources to support parents to improve the mental wellbeing of their children.”

Collaboratively measuring success

Collaboration has been at the heart of all our educational work. Since winning the CATE, we have also taken this vision and approach forwards in our evaluation and research, by working alongside both community and students to collaboratively determine what success looks like and how it should be measured.

Educational innovations are traditionally seen as complex to evaluate with a multitude of factors leading to the educational outcomes that are measured. We have found frameworks such as Kirkpatrick’s hierarchy (Kirkpatrick, 1967) helpful in supporting such evaluation, and Belfield et al (2001) has further adapted this for evaluation of health professional education. The lower end of the hierarchy measures learner satisfaction, and as the hierarchy is progressed, outcome measures move towards evaluating changes in student attitudes, knowledge and behaviours. The top of the hierarchy considers whether an educational intervention has had an impact on end-user outcomes, such as patients or communities. This framework, although designed with health professional learners in mind, can be equally applicable to learners across any discipline.

Another framework that untangles the very top of Kirkpatrick’s hierarchy is Knab’s framework for measuring impact on patients and communities. Knab’s framework (Bzowycky, 2017) involves measuring success at four levels: interaction, acceptability, individual outcomes (knowledge and behaviours) and population outcomes and has synergies with the levels described by Kirkpatrick for learners.

In addition to using these frameworks, it has been important for us to partner with students, the health system and communities to ensure that measures of ‘success’ at all levels are co-created. We describe in the next section our experiences of using such frameworks in practice with the community action project.

Evaluation of community action projects - a case study

During the early part of the Covid-19 pandemic, the community action project was conducted remotely instead of in-person. Our evaluation sought to capture what worked, what needed to improve, and what determined 'good' community-engaged partnerships from the perspective of the students and community partners. Working alongside our students, we drew on Kirkpatrick's Hierarchy framework (Kirkpatrick, 1967; Belfield et al, 2001), exploring the impact of community action projects on students' attitudes, knowledge and behaviours as emerging healthcare professionals. In collaboration with community partners, we measured the impact on the community at levels 1 to 3 of the Knab framework (Bzowycyk, 2017).

Participation in community action projects had many positive impacts on students. They gained a deeper understanding of community priorities and how community organisations function, developing a change in mindset away from a deficit model and towards a recognition of community strengths and assets.

From the community perspective, several factors were identified that determined whether the academic-community partnerships were successful. These included:

- + establishing a clear way of working together from the offset with clear expectations and goals
- + ensuring students and faculty took an asset-based approach when working with community
- + designing projects to be of mutual benefit for students and communities
- + creating tangible and useful outputs
- + ensuring a democratic and collaborative process with flexibility and adaptability built in throughout.

Navigating institutional change

It is challenging for institutions to shift away from familiar, traditional educational models and practices towards newer approaches, and the move towards community-engaged education is no exception to this. Such a paradigm shift requires significant institutional support and effective change management by all concerned to be successful and sustainable.

We have found it helpful to draw on collaborative principles by involving tripartite partners from the outset and aligning with relevant institutional, local and national priorities and drivers. This has enabled a greater understanding of the educational perspectives of key stakeholders and has been important in developing a shared vision, identifying key internal and external advocates of change and bringing them along the journey with us.

Concluding thoughts

The CATE application process enabled our team to reflect deeply on our own work and our strategic approaches to change. We found the following principles helpful to consider when implementing a change towards community-engaged education, and these principles can be used more broadly when navigating any change at an institutional level.

Principles in navigating change

- + Be clear about your drivers for change and your vision, and be able to articulate this clearly to others.
- + Work closely with students, community and workforce partners to help shape and develop your vision and plans.
- + Use evidence in the literature, policy and from community partners to support the proposed changes.
- + Understand and align with priorities and perspectives of your faculty, institution, relevant industry stakeholders and communities.
- + Share your vision with key decision-makers within your institution so that they can understand it and support it.
- + Explore what resources you need to develop, implement and evaluate your proposed changes.
- + Explore any appropriate internal or external funding calls that can support your work.
- + Consider how can you facilitate collaborative working and learning between stakeholders.
- + Evaluate impact at different levels, and involve relevant stakeholders in designing the evaluation.
- + Demonstrate and share the success and positive impact of the changes you implement.

We have found a powerful force for change in our own students. They have been strong advocates for change, articulating both the rationale for change and stories of success through vocal representation on institutional committees, other institutional feedback mechanisms, national and global conference presentations, academic publications, press articles and social media. The most powerful success stories have involved students collaborating with local communities to address societal inequities, highlighting the invaluable impact of community-engaged approaches.

Learning from our collaborative work with students and communities has never been more important than in the current global context. The murder of George Floyd and the subsequent worldwide response of the Black Lives Matter movement, the inequalities exacerbated by the Covid-19 pandemic and the climate emergency have all shone a light on the pervasive existence of structural inequalities in our local and global societies.

There is still much work to be done. The time is now for us to be part of a collective change, using the power of education to make a difference, striving together to make the world a better place. We look forward in anticipation of where our journey will take us next.

References

- Belfield C, Thomas H, Bullock A, Eynon R and Wall D (2001) 'Measuring effectiveness for best evidence medical education: a discussion', *Medical Teacher*, 23: 164-170.
- Bzowycykj A S, Dow A and Knab M S (2017) 'Evaluating the Impact of Educational Interventions on Patients and Communities: A Conceptual Framework', *Academic medicine*, 92 (11): 1531-1535.
- Dutta N, Maini A, Afolabi F, Forrest D, Golding B, Salami R K and Kumar S (2021) 'Promoting cultural diversity and inclusion in undergraduate primary care education', *Education for Primary Care*, 32 (4): 192-197.
- Houbby N, Abdelwahed A and Kumar S (2020) 'A reflection on Imperial College London's Community Action Project', *Education for Primary Care*, 31 (3): 186-7.
- Kirkpatrick D I (1967) 'Evaluation of training', in Craig, R and Mittel, I (eds) *Training and Development Handbook*. New York: McGraw Hill.
- Laloo F, Hawkins N, Lindley R, Kumar S (2021) 'Medical students as service learners: opportunities, risks and recommendations', *Education for Primary Care*, 32 (3): 135-139.
- Maini A, Fyfe M and Kumar S (2020) 'Medical students as health coaches: adding value for patients and students', *BMC Medical Education*, 20 (1): 1-8.
- Maini A, Saravanan Y, Singh T A, Fyfe M (2020) 'Coaching skills for medical education in a VUCA world', *Medical Teacher*, 42 (11): 1308-1309.
- Pilling R, Mollaney J, Chandauka R, Barai I and Parekh R (2020) 'Bursting the Bubble': Service learning in schools', *Clinical Teacher*, 18 (2): 163-167.

9 Ingredients for success

Dr Dawne Irving-Bell, Reader and Senior Learning and Teaching Fellow, Edge Hill University

Dr Nicola Watchman Smith, Deputy Director of Student Learning at Teesside University and former Head of Academic Apprenticeships and Excellence Awards, Advance HE

Keywords: success, application, ideas, information, inspiration, insights

Introduction

In writing this chapter we have taken a ‘patchwork approach’ to offer insights into the CATE application process and extend practical advice to those considering submitting a CATE application. We have framed this as a friendly conversation with you, the reader, in the hope that we can share some of our lessons learnt to support you in your journey towards a CATE win.

Drawing on the voices of our previous winners, in this chapter, via a series of ‘mini case studies’ we celebrate the diverse range in approach adopted by several winning teams and in doing so bring to the fore some of the uniquely different ways that CATE success can be achieved. As such, this chapter will be of interest to aspirant CATE teams, and those seeking to craft their CATE applications.

Getting started

Writing and submitting a successful CATE application can be tricky for several reasons. So, in this section we will bring to the fore the main challenges and then identify and explore potential strategies to help you to overcome them.

Planning the approach

One of the first challenges is setting the parameters, including timelines for the educational innovation that will form the basis of your CATE application. As the majority of winners will tell you, they didn’t set out with the intention of entering a competition. Quite often teams find themselves working retrospectively to understand the application process or to collect evidence, which as you are possibly already aware, can sometimes be challenging.

Having realised that your work has the potential to become a CATE application, many aspiring CATEs will look to follow some or all of the processes below, to progress towards becoming a CATE nominee:

+ Identify and speak to your institutional lead (TEAL)

One of the first things you will need to do is to speak to your Teaching Excellence Awards Lead (TEAL), formerly known as an Institutional Contact (IC). Your TEAL will be able to guide and advise you on the process, provide you with time scales, and they will possibly be able to support you in drafting your application. They may be able to support you in securing supportive statements or testimonials and will also be able to help you to complete some of the aspects of the application that can sometimes get overlooked, such as the team photograph. All CATE applicants need to be nominated by their institution and your TEAL is the person who will mediate this nomination process. As such, it is important that you connect with your TEAL as early as possible, to discuss the possibility of being put forward by your university or college. Every participating institution has a TEAL, but it may not always be clear who that person is. If you are unsure, a good place to start is approaching colleagues in your centre or department for learning and teaching development.

+ Who is the 'team'?

For a number of teams, there may be large numbers of collaborators (ie staff, students and external partners) involved, but in preparing your submission you need to consider who the key colleagues are. Advance HE proposes that a typical number of CATE team members ranges from three to 15 people. Stronger submissions tend to come from those where it is clear to the reviewers (ie those who consider your application) the distinct roles that individual team members have played. So, for example, those who have taken a directly relevant strategic or organisational role or have had direct creative input in the team plans or approach.

+ Find a critical friend

In planning a submission an external perspective on your work is always useful. It may be that a colleague who is aware of CATE has suggested you look into crafting an application, so perhaps they could help you. Your TEAL may help to identify someone, or if you attend one of the CATE roadshows (please see details later in this chapter) you may find a colleague able to help support you.

Collecting evidence

In gathering evidence consider the focus of your claim and be mindful about how you will present the evidence to make a clear and confident argument around the impact of your claim. For example, around your collaborative team practices, student engagement or wider societal impact.

Types of evidence

There is no 'hard and fast' rule regarding what evidence to draw upon to support your claim. The range of evidence is diverse so be creative! Here are a few examples to help get you started:

- + data from the National Student Survey (NSS) or similar, which provide verifiable objective evidence
- + specific metrics and indicators that provide impact data in support of your claim
- + student evaluations, including student feedback
- + qualitative sources, for example quotations and testimony.

Don't be shy! If your work has received or attracted other forms of recognition, and you feel it is appropriate, include details of it in your application.

Recall

It is likely that your CATE team/initiative/project has been running for at least a couple of years, and at the time you didn't realise or plan for it to be a CATE submission. So, with regard to the collection of evidence, this potentially presents an aspirant team with a couple of challenges! One of the main challenges teams face is recall; the difficulties encountered when working retrospectively to gather evidence can be one of your first obstacles.

Suggestions to help overcome this hurdle include gathering your team together. Set aside a couple of hours, assign a note taker, record the conversation, and start chatting! Don't worry about the exact 'criteria' at this stage, just let the conversation flow and allow those hidden gems you had forgotten about emerge. Capture as many of those golden moments as you can and worry about putting them in order, to tell your CATE story, later.

As soon as you decide you want to apply for CATE, start pulling together as much available qualitative and quantitative information that will demonstrate the impact your CATE initiative has made. Keep collecting this as you write your application. Similarly, see if you can find any internal bids or proposals you wrote to convince senior leaders or external partners of the value of undertaking your project/initiative or establishing your team. If such a proposal wasn't produced, that is fine; simply attempt to record from memory the rationale for the team/project/initiative. While you will not include the proposal or rationale document in your actual CATE application, it will support your CATE team leader in framing your application evidence as aligned to both of the CATE criteria.

Writing your application

Collaboration is an essential ingredient in every CATE project. Collaboration is a powerful tool where individuals with unique skills and brilliant ideas come together to create something exceptional that they could not achieve alone. However, while collaboration has the potential to lead to inspirational outcomes, in the majority of instances collaboration is less effective when it comes to writing! Too many cooks can spoil the broth, and in writing a CATE submission too many authors can be counterproductive. Writing has the potential to become chaotic and may detract from what you are trying to achieve.

So, once you have the main points (gathered by the group as a whole), it is often best if one or two people lead on the writing. These would typically be your CATE team leader and deputy team leader. (If you cannot decide who the team leader is, it's usually the person doing most of the writing!).

This of course doesn't mean other team members don't have an important role to play. The team can support in locating recent and relevant literature you may wish to include. They may work to secure impactful quotations to use within the submission, from partners, staff and students, and of course they will be invaluable during the process of editing and proof reading.

Every great CATE application tells a compelling story.

In selecting the team member(s) to lead on drafting the submission, choose a colleague or colleagues with expertise or experience in creative (persuasive) writing. In writing there is a need to consider and ensure the application addresses the CATE criteria, but it is important to think about the reviewer, the person who will be reading your story. The narrative is key, and in drafting your CATE story you need to write in a style that will grab the reviewers' attention, stimulate their interest and be memorable.

So, start with a strong opening. Make your descriptions powerful. Try to use sharp dialogue, where every sentence makes a point and adds value. Think of it as telling a short story and consider the impact on the reader. If your application is written well, it will tell a great story and take the reader (the reviewer) on a compelling journey.

Be sure to articulate how your work has made a real difference to the lives of others. Have a good balance between showing and telling. For example, use a combination of qualitative testimony (quotes), and back that up with evidence of the impact of your initiative/project/team using quantitative data, which could be statistics to illustrate student outcomes, the impact on employability, positive student survey data, etc.

The criteria

Remember to always go back to the criteria. Check that what has been written clearly demonstrates how you meet all of the requirements and the story told is cohesive and speaks to the reach, value and impact your team has made. It might also serve you well to be mindful that the majority of successful applications also have that little something 'extra'; they convey something unique or memorable that makes them stand out (either in approach or the outcomes achieved). If you have feedback from a previous application, please be sure to action any advice given.

Hints and tips

In this section we offer a summary of hints and tips that you may find useful in helping you and your team to shape and craft a CATE submission.

Attend a roadshow!

Try to attend one of the free CATE roadshows. These are synchronous informal events, facilitated by Advance HE and delivered by the Association of National Teaching Fellows and CATE-Net, where you can secure invaluable insights from past winners and can ask questions. There are usually two or three per year and typically they run across autumn and winter preceding the CATE submission date. Please see the Advance HE website for details and to register your attendance (link below).

Plan ahead

Compiling a CATE application takes a significant amount of time. The majority of successful teams have been engaged in collaborative working that has developed over several years. Once they realise they have something that could be submitted for a CATE award, teams typically take 12-18 months to craft their application. It may also be useful to visit the past winners page (see link below) to secure additional insights into successful projects that may help to inform your thinking and shape your writing as you draft your application.

If at first you don't succeed...

As you will be aware from stories told in the previous chapters, the majority of winners aren't successful at the first attempt. We are very grateful to the winning teams for sharing their stories and details of how they overcame their initial disappointment to submit again. Feedback from reviewers is given on all applications and, as a second time around winner myself, I can testify that working together with the feedback to strengthen the original application is a process that served to make our team even stronger!

Concluding thoughts and useful links

To use a baking metaphor, CATE applications have clear cooking instructions that must be followed (the published Advance HE criteria), and success is likely to include a number of 'key ingredients', for example clear evidence of your team's impact on student outcomes. However, it is often the unusual combination of these ingredients or a new approach to tried-and-tested recipes that make for the tastiest applications. In the remaining pages of this chapter, we have compiled a collection of mini case studies, each demonstrating the ingredients used to achieve a CATE win.

The case studies draw on a diverse range of examples. We hear how groups of colleagues from seemingly disparate disciplines have formed alliances to further the experiences of their students, and how teams who are doing something typical have approached it in new and creative ways. Read on to hear of collaboration with external partners, working as a team to overcome internal barriers, developing initiatives to embed employability, and creating communities of practice with high-performing students, and more.

We hope you have found this chapter useful. The ideas offered here have been written in the 'spirit' of CATE and we hope that it has been useful in providing you with insights and inspiration. However, please always refer to, and read carefully, the formal Advance HE Guidance for Institutions and Teams. A revised version of this guidance is issued each year and can be found on the [Advance HE Teaching Excellence Awards webpages](#).

We would like to thank our colleagues who have very kindly shared their invaluable insights and experiences to help bring this chapter to life.

Useful links:

- + [Advance HE Collaborative Award for Teaching Excellence \(CATE\) web pages](#)
- + [Advance HE Events Calendar](#), to book a place on a CATE Roadshow
- + [Previous CATE winner profiles](#)

Mini case studies

A) Standing out from the crowd: handling that ‘So what?’ question

In this case study, Professor Mark O’Hara, CATE and NTF winner and Lead for CATE-Net, shares his own invaluable insights into achieving CATE success as gleaned from his vast experience of engagement with the CATE community.

In advancing their claims for the CATE, successful teams have made the case for why their work is exemplary both in terms of the collaborative process that is involved but also in the impact that their work has brought about. Winning claims are also characterised by a strong sense of distinctiveness, they are all of note in some fashion. Successful claims are highly effective at distinguishing how and why their focus and/or their approach to things is, if not unique, then certainly very conspicuous. To win you will need that ‘hook’, that ability to differentiate your work.

If some CATE projects seem to attend to aspects of the student experience that have been un- or at the very least under-appreciated previously, then many more focus on well-recognised issues and themes associated with student engagement and support. However, they do so in innovative and exciting new ways. CATE winners aren’t always the first to spot something completely new that no one else has ever even considered before, sometimes they win because they’ve seen an old or familiar thing but in a new light.

So, when you are considering the value of your work you will need to reflect on how effective you are at the activity. You will need to comment on the extent to which your goals and targets were achieved or, better yet, exceeded. You will need to demonstrate that those for whose benefit the work was carried out (eg your students) regard it as having worth too. You must, though, also remember to reflect upon why your claim is so much more than just a well-articulated description of your team’s day job(s), no matter how effectively executed. What do you do that others don’t? What single element or combination of elements makes your work stand out as noteworthy? Is it your approach to your work that is somehow rare, unusual, unorthodox or unconventional? Is it the focus of your project that is ground-breaking or *avant garde* in some way?

Being able to answer these questions convincingly will be a critical factor in determining whether your claim succeeds.

Author:

Professor Mark O’Hara, Birmingham City University.

Leader of CATE-Net, a CATE community network supported by the Committee for the Association of National Teaching Fellows.

Year of CATE win: 2018

[Winning team profile](#)

B) Education for sustainability at Canterbury Christ Church University

In this mini case study, Peter and colleagues offer an insight into their fascinating CATE win and how they overcame the ‘wickedness’ of institutional barriers that limited the development of a systematic approach to education for sustainability.

Sustainability education at Canterbury Christ Church University can be traced back to 2011 when we participated in the Higher Education Academy’s Green Academy change programme.

The beginning

Prior to the Green Academy, a series of institutional barriers conspired to limit the development of a systematic approach to sustainability education. However, following this event, a small team was established to lead on the delivery of our ambition that every student at the university would have “the opportunity to learn about sustainability in the context of their chosen discipline and field of work”. With institutional barriers largely lifted, but with remaining concerns around academic freedom, we chose to set up the Futures Initiative. This voluntary programme provided small-scale funding to support innovative and creative responses to sustainability education, thereby building expertise and expanding capacity.

The principles

Significantly, it was underpinned by a set of agreed principles and values including a willingness to develop interactive and participatory methods of teaching and learning, make links across disciplinary boundaries, and engage with local community groups. We provided an open and supportive culture, without hierarchy, that gave permission to explore and innovate.

The challenge?

In a collegiate but hierarchical environment our role was to open dialogue and challenge perceptions of sustainability. Working with formal institutional structures we established the drivers of distinctiveness and links to core mission and values and created the space and permission for a groundswell of passionate creativity.

Fundamental to the success of the Futures Initiative was our recognition of the ‘wickedness’ of the problem. We encouraged the need to be ‘exquisitely sensitive to context’, driven by collaborative framing, supporting critical and creative approaches to activities, while understanding limitations.

The legacy

After 10 years, sustainability education, which initially depended on the enthusiasm of a few committed members of staff, is now well embedded. We have funded more than 100 small-scale initiatives which have not only given colleagues 'permission to innovate' but also served to build a vibrant community of practice with national and international links.

Our main achievement has been to successfully integrate sustainability within the university. This challenge meant negotiating multiple agendas and navigating competing priorities, but the legacy of our work is that sustainability now features in both the mission statement and strategic framework, with grassroots initiatives complementing strategic intent.

This has culminated in the creation of our Academy for Sustainability Futures, a new centre of expertise, where we can continue to grow and develop our work. Principles of open and respectful collaboration are at the heart of the Academy, with many dozens of staff becoming 'affiliates', creating a community that will drive forward new ways of working, thinking and relating for a sustainable future.

Our top tip

Work to create an environment in which colleagues are free to experiment and take risks, within the distinctive context of the institution. This was key to our success! But recognising the 'slow way of education'; it takes time to influence cultures, enhance knowledge, develop wisdom and build a culture of trust across our university.

Our approach has attracted praise and respect from across the sector and has been recognised through national and international awards. One of the benefits of this supportive environment is that it has encouraged a high level of critical and creative debate around sustainability education, which has fed into research and other outputs. We recognise the value of reflection and although our activities have sometimes attracted criticism, knowing that our approach is based on shared principles is a source of ongoing motivation.

Authors:

Dr Peter Rands, Director of Sustainability Development

Dr Nicola Kemp, ESD Lead and Senior Lecturer in Faculty of Arts, Humanities and Education

Dr Adriana Consorte-McCrea, ESD Lead

Dr Stephen Scoffham, Visiting Reader in Sustainability Education

Prof Peter Vujakovic, Emeritus Professor of Geography

All authors provide core leadership for the Academy for Sustainable Futures.

Year of CATE win: 2020

[Winning team profile](#)

C) The CrashEd CATE: tripartite collaboration and interdisciplinary investigation

In this study Leisa and Angela share their personal insights and reflections on the initiatives for interdisciplinary team working with external and college partners that have been developed at De Montfort University following a successful CATE win.

The CrashEd CATE team involved a tripartite collaboration between De Montfort University (DMU), Leicester College (LC) and Leicestershire Police. CrashEd involved the interdisciplinary investigation of a vehicle collision, using criminology, physics, maths and forensic science. Knowledge exchange was achieved through all partners teaching and supporting FdA Artistic Make-Up and Special Effects (AMSE) students at LC, and DMU undergraduates. Practitioner expertise and resources (vehicle) were provided by a police forensic collision investigator. This foundation of CrashEd as an outreach and widening participation event translated to a successful undergraduate module.

Our project

The aim was to make this a realistic experience, raise aspirations through outreach and engage students through innovative teaching to enhance employability.

Our objectives were to develop an outreach model and undergraduate module that enabled a diverse range of examples to be experienced and embedded in the curriculum. Through co-creation we developed realistic teaching tools (prosthetic injuries) and authentic assessments; contextualised through witness statements for the undergraduates and adhering to an injury assessment brief for the AMSE students.

Benefits to the team

Team members have gained recognition including: SFHEA, Teacher Fellowships, National Teaching Fellowships, PFHEA, Associate Professorships and a Professorship. One FE student co-disseminated at the RAISE 2018 conference. The AMSE students had the career enhancing experience of participating in a realistic major emergency services training activity, a spin-off of CrashEd organised by Leicestershire Police, Fire and Rescue, and East Midlands Ambulance Service. At the same event, a DMU physics student was able to shadow the forensic crash investigators, enhancing their employability skills.

Continuing our practice

The DMU members of the CrashEd team developed and disseminated an escape room collaborative activity, PuzzlEd, which was well received at conference workshops. More recently, a new pathway has emerged, with two of the original DMU members and two other DMU teaching fellows who are

Ingredients for success

Dr Dawne Irving-Bell and Dr Nicola Watchman Smith

professional services staff. This new collaborative project (The Strawberry Thief) was developed as a digital outreach activity during the lockdown in 2020-21 and focuses on merging forensic science and art (STEAM). We always included our two external partners in planning and development meetings, and therefore they were best placed to input to this new venture which, like CrashEd, has been widely disseminated at conferences and keynotes.

Our top tip

On reflection, we would have included the professional service colleagues who assisted with the facilitation of the car, and our student co-creators, as members of the CrashEd team. At the time, we were not aware that the CATE team could include members who did not teach.

Authors:

Ms Leisa Nichols-Drew, Associate Professor, De Montfort University

Professor Angela O'Sullivan, De Montfort University

Year of CATE win: 2018

[Winning team profile](#)

Wider CATE team original members: Dr Marie Bassford (DMU), Dr Annette Crisp (DMU), Dr. Joanne Bacon (DMU), Dr Mark Fowler (DMU), Marisol Martinez-Lees (Leicester College) and PC Tim O'Donnell of Leicestershire Police

D) Adding value for students, employers and the community through the Staffordshire Forensic Partnership

In this mini case study, John and his colleagues offer an invaluable insight into their CATE win. They explain how they have not only sustained but developed their collaborative partnership which continues to gain national recognition for their work in supporting undergraduate employment.

The Staffordshire Forensic Partnership was conceived in 2009 to provide a springboard for collaborative working between Staffordshire Police and Staffordshire University. Since then, the collaboration has gone from strength to strength, benefiting students, employers and the public sector; it was recognised with the CATE Award in 2017 and a National Undergraduate Employability Award in 2019.

The Partnership was initiated by a small number of persistent and committed champions who have never given up nor shied away from challenges. From here, identifying, delivering and sharing mutual benefits for the partners has kept the partnership alive and building its strength and reputation.

Opportunities provided by the collaboration

The Partnership has facilitated real-world work opportunities within Forensic, and more latterly Policing, degree courses. The experience of students aligns with several workstreams, including forensic intelligence, crime scene and investigations, and digital futures.

Several placement opportunities were developed, initially for six weeks over the summer vacation, and more latterly, three-month MSci and 12-month sandwich year placements. Students can also undertake research in areas of specific interest to the Partnership in their project modules, and the workstream structure allows for continuity of projects for longer than 12 months.

Identification and development of projects is a collaborative process that begins with students attending presentations from the police force that outline their current challenges. Students will then propose projects that seek to address these issues and are then selected based on the quality and feasibility of their proposal.

Impact on student outcomes

The number of students going on placement has increased year-on-year, from four in 2013 to 12 in 2018; no placements took place in 2019-20 due to the pandemic. A total of 56 students have been placed with Staffordshire Police during this period, accounting for around 15% of the cohort. Employability rates for our Forensic Science graduates have increased from 84% to 100%, with those securing graduate employment within six months of graduation increasing from 63% to 83%.

There is a significant impact of our Partnership on student attainment – 83% of those students who undertook a placement with Staffordshire Police graduated with a first or upper second-class degree, compared to 66% for the whole cohort.

“I was successful in application to complete a six-week research project for Staffordshire Police within the Forensic Recovery Unit (FRU). The experience I gained during this time was phenomenal, and I would strongly advise anyone to take this opportunity. The experience has enabled me to be where I am today, currently working as a Digital Forensic Examiner for Staffordshire Police”

Tina Varley, BSc (Hons) Forensic Investigation (2:1)

Legacy of the CATE Award

The CATE Award provided both validation and esteem for our work, together with the opportunity to disseminate our learnings widely across the higher education and law enforcement sectors. The success also enabled us to secure the joint appointment of a Partnership Liaison Officer to facilitate the maintenance and growth of the collaboration.

The Partnership is now fully embedded into the workings of the university and police force, acting as a catalyst not only for student placements but also for joint research and staff development; this has been made possible by the prestige granted by the CATE Award.

There has been a direct impact on law enforcement as all projects tie in closely to ongoing forensic challenges and investigations and, in several cases, have contributed to successful prosecutions. For example, the Extraction of Data from a Fitness Tracking Device established the presence of a suspect at the scene of a crime.

Claire Millar, Forensic Services Manager at Staffordshire Police, says “we’re working really hard to bridge the gap in cultural differences and managing expectations on both sides. We have got a great basis to start building on successes achieved so far.”

The CATE application

The launch of the CATE Awards in 2016 provided the potential for us to communicate our accomplishments to the sector. Institutionally, several projects were shortlisted, from which ours was chosen to be the submission for the university.

While our submission was not successful in the inaugural year of CATE, feedback allowed us to bring more focus to the application and strengthen the description of student involvement in development and delivery of the collaboration, and hence be successful one year later.

Our top tip

As our collaboration had been evolving for some time, much of the application writing involved the key author mining data and information to build a narrative that aligned with the expectations of CATE. While our record keeping had been good, it would have been more straightforward if all our actions and outcomes had been recorded with the CATE submission in mind.

Authors:

JW Wheeler, SJ Fieldhouse, DP Flatman-Fairs and ARW Jackson
School of Law, Policing and Forensics, Staffordshire University, UK

Year of CATE win: 2017

[Winning team profile](#)

E) Working with students on a journey to CATE success – those who benefit should be an integral part

In this mini case study, Juliette offers an invaluable insight into her team's CATE win, from inception to success and beyond. She identifies the knowledge attained, the challenges faced and overcome, and the ongoing drive at large to establish a community of practice around working with high-performance students in the HE arena.

In this study I bring to the fore our journey of a successful CATE team at Birmingham City University, comprising of colleagues from the Faculty of Health, Education and Life Sciences from submission to successful award in 2018.

Our project

Starting in 2015 with just over 100 eligible students, the team had been running a High Achievers Scheme (HARS), supporting identified high-achieving students in undergraduate programmes for a number of years across four tracks of development; personal and professional development, academic growth, voluntary and community endeavour and internationalisation.

The CATE application

With an annual membership of 1,000+ students, in 2017 the team decided to consider a potential CATE application. In order to demonstrate growth and success, we began gathering anecdotal, quantitative success and qualitative information from our students, who sit at the centre of the scheme itself and drive forward its offer, a recognised benefit in our successful application.

Students as partners

In our CATE success, the application made sure to gather real-time involvement from our student partners, in order to illuminate the reach, value and impact of the scheme for the very people who drive it forward and benefit from it; identifying our student steering group as integral partners in the writing of the bid, seeking information from them, and providing them with a copy of the submission for reflective comment prior to submission. The team invited students to be photographed with the staff team for submission. From pen to photograph to ceremonial dinner, our students were an influential part of our overall success. The team lived the notion that without the students, CATE success would be absent, student engagement being our noteworthy feature in both scheme and bid! Our students regarded our scheme as worthy, across all parameters, and in turn the bid demonstrated that our student engagement was pivotal.

Legacy of the CATE Award

Working in both the day to day and the CATE claim in this manner enabled transparency, honesty and integrity at the core of the submission itself, bringing the claim to life and enabling it to breathe in a way which spoke to engagement naturally.

Our top tip

Our top tip for teams going forward is to seek reward for true engagement in this way and set students out as partners in the entirety of the endeavour, from vision to realisation, and beyond. Noting in a claim those single elements which, when combined, make for a winning strategy and which encompass all of the components, not just a single thread, certainly enabled our claim to go from dream to reality in 2018, and we haven't looked back since.

Author:

Juliette Gaunt, Associate Professor, Teaching and Learning, Birmingham City University

Year of CATE win: 2018

[Winning team profile](#)

Wider CATE team members:

HARS Health and Education students: Charlie Banister, Marsha de-Souza Williamson, Karamjit Narewal, Lisa Smith (all now graduated)

Professor Mark O'Hara, Associate Dean, Faculty of Health, Education and Life Sciences, Birmingham City University

Katie Whitehouse, Stef Cope and Kelly Coles, Birmingham City University Careers+ Team

Andrew Sayer, Birmingham City University, Library and Learning Services Team

Nicola Clarke, Birmingham City University, Personal Development Team

F) The Central Teaching Lab CATE: facilitating sharing of ideas through the Education Broker Model

In this mini case study, Helen and colleagues share insights into their CATE win. Specifically, how they overcame challenges to develop and embed an 'educational broker model' and in doing so have created an innovative hub of learning and sharing where colleagues feel safe to take risks with their teaching.

The Central Teaching Laboratory (CTL) is a very big statement of the University of Liverpool's belief in quality learning and teaching in practical work. It is home to equipment for physical, environmental and archaeological science teaching and a wide variety of teaching environments that many disciplines can use. Our biggest challenge is helping individual departments to share (!) and use new ideas in teaching.

Education broker – a new type of academic

As co-located subject specialists with extensive teaching experience, we shared a vision, motivation and drive to improve the student experience in practical and field classes. We shaped our roles to become education brokers – collaborating to make connections between excellent teaching practices and tired modules, while encouraging colleagues to innovate and overcome the perceived barriers of sharing equipment and space.

“...it was not until I began to work with the CTL that I was able to teach this fundamental concept meaningfully. ... students witness the event in real time as if they were standing in Egypt.”

(Dr Glenn Godenho)

Confidence to make a change

Working together has given us the confidence to overcome the usual academic structures (and reluctance to change) and trial new ideas in smaller modules, other courses or as co-curricular activities to collect the much-needed evidence for institutional change. This stealth approach has also meant that we celebrate in each other's successes and go beyond cooperation into true collaboration.

What CTL did with CATE

Our CATE award has supported the institution's TEF application and seen us being invited to present our model of working to senior leaders at national meetings and act as role models for colleagues. We were all selected for our institution's Education Leadership Programme and have all seen individual benefits, too, from promotion, increased confidence and selection for competitive leadership programmes.

Leading the transition to hybrid

CATE has given us an increased national profile as scholars in laboratory education. During the Covid-19 pandemic, our way of working led and supported colleagues locally and nationally to make changes during the difficult transition to hybrid and remote practicals (Cropper et al, 2020; University of Liverpool, 2020).

Our top tip

The CATE application requires an explanation of what makes our team's approach so special. We love working together and struggled to get past the "but we just do it!". Our top tip is to seek out the help of a senior educational developer who can help you express your case in the appropriate language. We also found Collaborative Working in Higher Education (Walsh and Kahn, 2009) to be essential reading.

Also, while our first application draft was written in a way in which our passion and pride for our outputs leapt from the page, it was still disjointed. We had to agree to have a single chief writer to ensure a single voice and the rest of the team took on other parts and making the much-needed tea!

References

Cropper, C, Vaughan, H, Rushworth, E, Johnson, K, and Chappell, S (2021) '*Planning considerations for Socially Distanced Chemistry Laboratories (Version 1)*'. Available at: doi.org/10.25416/NTR.16930120.v1

University of Liverpool (2020) '*Physics Learning and Teaching in Higher Education Community Meetings*'. Liverpool: University of Liverpool. Available at: www.liverpool.ac.uk/central-teaching-hub/physics/the/

Walsh, L and Kahn, P (2009) *Collaborative Working in Higher Education*. London: Routledge.

Authors:

Dr Helen Vaughan, Dr Cate Cropper and Dr Lis Rushworth, The Central Teaching Laboratories Academic Team, University of Liverpool, Crown Street, L69 3BD

Year of CATE win: 2016

[Winning team profile](#)

Wider CATE team members: Dr Cate Cropper and Dr Lis Rushworth, The Central Teaching Laboratories Academic Team, University of Liverpool

The CATE Collection: conclusion

Dr Miles Weaver, Associate Professor Sustainability and Supply Chain Management, Edinburgh Napier Business School, Edinburgh Napier University

Professor Debbie Tolson, Director of the Alzheimer Scotland Centre for Policy and Practice at University of the West of Scotland

Dr Dawne Irving-Bell, Reader and Senior Learning and Teaching Fellow, Edge Hill University

Dr Nicola Watchman Smith, Deputy Director of Student Learning at Teesside University and former Head of Academic Apprenticeships and Excellence Awards, Advance HE

Overview

In this concluding chapter we highlight key messages for anyone who is considering preparing a CATE application. Building on the practical ingredients for success shared in chapter 9, we offer a CATE mnemonic, extending the CATE repertoire for CATE thinking and CATE doing with the 'what, who, how and why' of CATE. This foregrounds ideas about reciprocity in learning relationships, and positions students both as recipients of learning experiences and agents of social learning with societal benefit.

The CATE winners' individual chapters offer insights into what is new and exciting in higher education. They extend across a range of disciplines (such as art, business, computing, engineering, film-making, geographical sciences, medicine, nursing and renewable energy) and set out what it takes to negotiate novel approaches and create sustainable change in higher education.

This CATE Collection is intended as a first edition of many. As we celebrate the diversity, reach and breadth of the contributions made by CATE thinking, along with the growing community, we now look forward to new collaborations and maximising the potential of the CATE network. This will involve bringing together CATE winners to support one another and take on new challenges to tackle sector priorities in special interest groups and/or future projects in cross-sector collaborations.

The CATE Collection

The motivation behind this inaugural CATE Collection was to generate an appetite for CATE thinking and inspire CATE ambition in others. When Advance HE introduced CATE in 2016, it recognised and celebrated the importance of collaboration and team working within progressive higher education. This collection is testimony to what can be achieved when educators seize opportunities to think outside the box. From the accounts of the CATE winning teams in the preceding chapters, it is clear that new initiatives involve a level of risk taking and courageous leadership.

CATE doing involves forging new partnerships with students, internal and external collaborators and taking purposeful actions together. These actions involve finding ways to put innovative ideas into contemporary educational practice that are often delivered within the real world, extending and expanding higher education places and spaces and learning experiences with CATE partners and organisations.

In our introductory chapter we suggested it is the point at which different ‘landscapes of practice’ and different ‘communities of practice’ intersect that is the most fertile ground for change and changing. New partnerships and alliances sit at the heart of CATE. But it is the learning relationship that all involved have with each other, their practice and commitment to learning from each other, that creates impetus. In some ways the elegance and clear simplicity of finished CATE projects makes one wonder why it has not been done before. Sitting beneath each CATE story are pedagogical foundations, many of which draw on social learning, vicarious learning and experience-based learning. The underpinning art, craft and science of learning creates the essential scaffolding to bind elements together and ensures a cohesive and effective learning experience with demonstrable impact.

Following on from showcasing successful CATEs in chapters 1 to 8, chapter 9 offers some ‘ingredients for a successful CATE application’, showing the sheer diversity of approaches and outcomes. We recognise that there is no prescriptive format and there is no winning formula! We also recognise that the application process can be daunting and challenging. Therefore, some thoughts on how to overcome these challenges, to build the foundations for a vibrant and diverse CATE community were suggested. These included: getting early support from your institutional lead (TEAL), building your application team with a clearly defined contribution from all involved individuals and ensuring an external perspective. Although in the initial stages of developing the initiative you may not be thinking about CATE, it is always helpful to collect impact evidence as you go. CATE beneficiaries will include:

- + students
- + external partners
- + the culture of HE
- + impact in the wider community itself.

Impacts for these different beneficiaries will change over time. If you can capture impact details as you go, including verifiable evidence and testimonies, this supports ongoing improvements and is readymade data for a CATE.

A top tip is to remain focused and clear on what purpose the collaboration serves and tell a compelling story that lives and breathes what CATE embodies (captured by the CATE criteria).

Process and outcomes of CATE

The CATE Collection has provided an array of examples of the diversity of projects/initiatives and their outcomes. Table 1 uses the mnemonic of CATE to consider the WHAT, WHO, HOW and WHY of CATE.

Table 1 the WHAT, WHO, HOW and WHY of CATE

C	Collaboration	WHAT does collaboration bring to, and what value does co-creation add to, the intended enhancement of the learning experience?
A	Actors	WHO are involved and affected by creating the intended transformation?
T	Transformation	HOW will you bring about the transformation that lies at the heart of the purpose of the collaboration?
E	Environment	WHY and in what ways could this authentic learning environment be created to enable tomorrow’s leaders to be equipped to tackle real-world challenges?

The **WHAT** is the starting point of any new educational initiative. As explained earlier in our exploration of ‘ingredients for success’ (chapter 9), innovators do not start with an idea to make a CATE application. The **WHAT** is about offering a clarity of purpose for the collaboration and intended outcome(s). This is the new concept, solution, product or service you intend to deliver differently in terms of the student learning experience and success. Importantly, you need to be committed to collaborative approaches and have clarity on what value co-creation adds to what you are doing.

The **WHO** is about an inclusive approach to assembling project partnerships, which may include students as partners, externals and colleagues from different disciplines and parts of your own university ecosystem. The key to **WHO** is about assembling and creating new teams and alliances.

The **HOW** is understanding how you can harness the collective expertise and opportunities for learning from and within the new team. At the heart of **HOW** is the quest for transformation and being transformational, developing those empowering methodologies that create relevance and inspiration within learning. **HOW** is about understanding the dynamics and new horizons within learning relationships. Appreciating reciprocity within learning, in which everyone involved has the potential to learn with and from each other. In this way the student is the both the recipient of learning opportunities but also the catalyst and influencer of others. Changing the learning dynamic is evident throughout the **CATE** Collection and, we contend, central to societal benefit.

The **WHY** is about creating authentic learning experiences that equip today’s learners to succeed in this changing world and to liberate the potential of modern higher education.

In summary, the **WHAT** and **WHY** captures the shared purpose of the collaboration and the learning environment to be created to tackle and equip our future leaders for real-world challenges. The **WHO** and **HOW** considers the beneficiaries and the student and external partners who will bring the transformation/proposed change to realise the intended purpose of the collaboration.

Emerging themes from the CATE Collection

The CATE Collection provides the first showcase of some of the recipients of a CATE award, demonstrating the value of collaboration in HE. These are summarised in Table 2, following the CATE mnemonic offered in Table 1.

Table 2 Overview of the CATE Collection applying the CATE mnemonic

Author	C Collaboration WHAT	A Actors WHO	T Transformation HOW	E Environment WHY
Chapter 1 Dr Yuli Cherdentseva, Dr Ian Cooper, Dr Wendy Ivins, Carl Jones, Dr Kathryn Jones, Dr Louise Knight, Dr Fernando Loizides, Dr James Osborne, Helen Phillips, and Dr Katarzyna Stawarz	Building client-facing experiences through project-based learning for computing students to develop people skills that employers desire	National Software Academy (NSA) with many industry partners	Embedding project-based learning throughout the programme of study and in providing students with meaningful opportunities to engage with industry (eg, projects, talks, workshops, case studies, visits, mentoring or summer placements)	Enhancing students' employability & building a portfolio to showcase skills (particularly people skills on client-based projects)
Chapter 2 Dr Jacqueline Brodie and Dr Miles Weaver	Students on board of trustees	Three corporates and third sector partners; charity boards	Learning platform; competency pathway; training programme and immersive experience	Lack of diversity on boards; empowering young professionals; skills and expertise on boards

Author	C Collaboration WHAT	A Actors WHO	T Transformation HOW	E Environment WHY
<p>Chapter 3 Professor Bob Gilmour, Jantien Belt, Dr Caroline Gallagher, Tim Hoppen, Sari Horn, Juha Hyytiainen, and Dale Lyon</p>	<p>Opportunities to learn about renewable energy problems and build transversal skills</p>	<p>Three universities in Scotland, Finland and the Netherlands, complemented by our Scottish industrial partner</p>	<p>Blended learning plus intensive study in either Scotland, Finland, or the Netherlands</p>	<p>Graduate employability; Promoting interdisciplinary STEM network</p>
<p>Chapter 4 Dr Amanda Harvey, Alice La Rooy, Dr Simon Kent, Professor Mariann Rand-Weaver, and Dr David Tree</p>	<p>Learning gains in a problem-based interdisciplinary science programme</p>	<p>Small team working across scientific disciplines</p>	<p>Longitudinal studies (incl. expert opinion) on acquisition of skills and attitudes across scientific disciplines</p>	<p>Learning gains in attitudes to science and socio-communicative skills</p>

Author	C Collaboration WHAT	A Actors WHO	T Transformation HOW	E Environment WHY
<p>Chapter 5 Professor W Brian Whalley, Dr Alice L Mauchline, Dr Katharine E Welsh, Professor Derek France, and Professor Julian Park</p>	Identifying, evaluating, and disseminating good teaching practice in fieldwork environments	Three universities; international network of fieldwork practitioners	Linking pedagogy with technological advances; sharing innovations in field teaching	Fieldwork to involve student experiences; develop employability and teamworking
<p>Chapter 6 Dr Adelle Hulsmeier</p>	Using film-making to address key issues in crime	Partnership with police	Experiential learning in a social context	Civic awareness and understanding needs of policing community
<p>Chapter 7 Winnie McGarry, Wendy Wright, Caroline MacCallum, Dr Margaret Brown, Karen Ross, Dr Lousie Ritchie, Dr Bryan Mitchell, Dr Lindsay-Ann Coyle, and Professor Debbie Tolson</p>	Creating positive approaches to dementia education for student nurses	Partnership between academics, student nurses, education authorities, teachers, and school children.	Co-creation of a dynamic experience-based learning resource Class in a Bag underpinned by Care Empathia	Positive approaches to dementia education enhance professional skills and employability for pre-registration nurses. Childhood dementia awareness has multiple health benefits and opens minds to caring careers.

Author	C Collaboration WHAT	A Actors WHO	T Transformation HOW	E Environment WHY
<p>Chapter 8</p> <p>Dr Arti Maini, Dr Ravi Parekh, Ms Bethany Golding, Dr Jo Horsburgh, Miss Nadia Zaman, Ms Barbara Shelton, and Dr Sonia Kumar</p>	Community-engaged medical education	Partnership between community, workforce, and education	Cross-sector partnerships grounded in the core principles of community engagement	Community engagement; societal inequity; cultural change

At the heart of a CATE collaboration is the bringing about of a *meaningful engagement with and between students, colleagues and partners in purposeful action*. CATEs are both *meaningful and purposeful because they are authentic, immersive, reciprocal, diverse and impactful*:

- + **Authentic:** a clear signature of all CATEs is that they provide an authentic learning environment that can prepare future leaders for real-world challenges and issues, today and into the future. They push boundaries to adapt and innovate methods and teaching practice that prepares and empowers students for their shared future.
- + **Immersive:** experiences that go beyond the classroom by immersing learners in real-world application. The challenges we face in the world as well as those in the world of work are constantly evolving. HE is part of this change, and our students are dynamic learners with a thirst for the useful and to be useful. CATEs connect learners with the challenges and skills employers demand to address them. See, for example, the CATE that demonstrated how film can get students deeply involved in civic issues (Chapter 6). You can see in many of the CATEs how students were empowered as agents of positive change.
- + **Reciprocal:** collaborations that come about to address a common issue/challenge as well as a relationship forged on shared values. The Class in a Bag (CIAB) CATE showed how student nurses and school children can come together to create a space to discuss challenging issues around dementia (Chapter 7). Together, through CIAB, they see creative caring possibilities, understand health promotion, and develop a positive predisposition for their own brain health. Hulsmeier’s case is an interesting example of students learning about the needs of the policing community and how film can be a useful tool to tackle important civic issues (Chapter 6).

- + **Diverse:** celebrate diversity of thought to bring about innovation and creativity and embrace change. CATE thinking goes beyond involving the student voice to co-creating learning environments that hold meaning in the real world and offers a true sense of belonging in communities for work and citizenship. See, for example, Brodie and Weaver, Gilmour et al, and Maini et al, who recognised the constraints presented by the pandemic on their practice but were able to adapt and 'let go' of redundant ways of working that hindered progress and challenged the sustainability of their offering (Chapters 2, 3 and 8). In the case of Get on Board, a refreshed learning environment has been created with on-demand online materials and activities that can only reach a wider pool of potential trustees to be trained and inspired (Chapter 2).
- + **Impactful:** learning is transformational to all those involved in the collaboration – not just students as partners but also external partners and influencing other faculty also. CATE winners often find that their efforts inspired others in CATE thinking and encouraged them to play their part – not to mention the wider societal impact in global and local communities and on employers. For some projects, this provided evidence for REF 2021 impact submissions including strong public engagement and demonstrating universities as a public good. A good example of this is Ivins et al (Chapter 1) NSA study, which led to a cultural shift in how engineering is taught internationally.

Inspiring more CATE success

Part of the motivation for this CATE Collection is to inspire more CATE success – collaborations, recognition and impact. Universities are great drivers of innovation and positive change, providing learning environments that empower students and community partners to build and enhance skills and space to prototype ideas. These collaborations are meaningful and purposeful. CATE seeks to recognise the projects and initiatives that are catalysts for this change and lead to real and long-lasting impact, breaking down barriers within and beyond classrooms and campuses to identify new ways and approaches that can only enhance our academic practice. The pandemic has disrupted our traditional offering but we have seen in this collection that this has not daunted the CATE community. It may well have disrupted HE in general, yet the CATE community embraces change and new opportunities. For instance, Brodie and Weaver (chapter 2) showed that their initiative could scale further with a blended online approach, taking forward what worked and enhancing it with an on-demand learning hub, that could be made more accessible. Gilmour et al were also able to repurpose some of their outputs by developing online intensive study periods (chapter 3). Novel approaches like this equip our students for the real world of work that is adapting (eg online, blended; homeworking), as well as the grand challenges we all face (eg attaining the Sustainable Development Goals; transition to net zero). This collection has told several stories of CATE success and we recognise that there is a good amount still to be told and inspired.

Our CATE community is growing – we are open, inclusive, diverse and supportive. Attend an Advance HE CATE ‘roadshow’ and you will meet others who have gone through the journey and want to support you through yours. As our community grows, so does the support network, with a vast number of CATE awardees who you can call on to help you along the way and with your CATE application. In this collection, we have intended to show how CATE thinking has brought about positive change in our institutions, for our students and partners, as well to benefit our communities. By growing this community, with the addition of your contribution, we can enable tomorrow’s leaders to be equipped to tackle real-world challenges today. To start your CATE journey, consider the WHAT (C - collaboration), WHO (A - Actors), HOW (T – transformation) and WHY (E – the authentic learning environment) of what you want to bring about in meaningful relationships, leading to purposeful action. Along the way and in your CATE application, draw inspiration from CATE winners and the ingredients of CATE success outlined in this collection.

Embrace and shape the future of CATE thinking - *Join us.*

Contact us

General enquiries

+44 (0) 3300 416201

enquiries@advance-he.ac.uk

www.advance-he.ac.uk

Media enquiries

+44 (0) 1904 717500

communications@advance-he.ac.uk

www.advance-he.ac.uk/contact-us

 **in f** @AdvanceHE

Advance HE enables excellence in higher education, helping it shape its future. Within the UK and globally, Advance HE supports institutions in the areas of excellence in education, transformative leadership, equity and inclusion and effective governance. This is delivered through membership benefits (including accreditation of teaching, equality charters, research, knowledge and resources), programmes and events, Fellowships, awards, consultancy and enhancement services and student surveys.

Advance HE is a company limited by guarantee registered in England and Wales no. 04931031. Registered as a charity in England and Wales no. 1101607 Registered as a charity in Scotland no. SC043946. The Advance HE logo should not be used without our permission.

© 2021 Advance HE. All rights reserved.

The views expressed in this publication are those of the author and not necessarily those of Advance HE. No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or any storage and retrieval system without the written permission of the copyright owner. Such permission will normally be granted for non-commercial, educational purposes provided that due acknowledgement is given.

To request copies of this report in large print or in a different format, please contact the Marketing and Communications Team at Advance HE: +44 (0) 3300 416201 or publications@advance-he.ac.uk