

<p><b>Institution:</b> Cardiff Metropolitan University</p>
<p><b>Unit of Assessment:</b> UOA23 - Education</p>
<p><b>1. Unit context and structure, research and impact strategy</b></p> <p><b>Summary</b> Having not submitted to REF2014, we developed a series of strategies to create a strong, sustainable research environment ahead of this submission. We <b>invested £1.4 million</b> to support research during the cycle and, as a result, research volume measured by outputs in the institutional repository has increased by <b>133%</b>, while downloads of our research increased by <b>282%</b>. Our funding capture increased <b>20-fold</b>, we increased the number of our staff with doctorates by <b>55%</b>, and independently research-engaged staff <sup>1</sup> by <b>40%</b>.</p> <p><b>Context</b> The Cardiff School of Education and Social Policy (henceforth the 'School') has been recognised for its pedagogic excellence and proactive engagement with the development of education since 1950. We specialise in education research and practice, the humanities, and social policy. Whilst most individuals included in this submission are from the School, three others, with closely aligned research are included: <b>Aldous</b> <sup>2</sup> (Cardiff School of Sport and Health Sciences; CSSHS), <b>Massoud</b> (Cardiff School of Management; CSM), and <b>Chew</b> (Cardiff School of Technologies; CST).</p> <p><b>Research and impact strategy</b> Cardiff Met did not make a submission to the REF2014 Education UoA, returning <b>16</b> staff in this cycle therefore evidences significant progress in our development of a strong and sustainable research environment. We achieved this through a systematic <b>increase in research volume, quality, impact, and capacity</b> by: a) developing infrastructure, b) investing in research, c) developing research with impact, d) developing collaborative research, and e) developing an open-access, integrity-based, research culture.</p> <p><b>a) Developing infrastructure</b> To develop the School's research culture, we cohered strands of research interests within <b>seven</b> research groups:</p> <ol style="list-style-type: none"> <li>1) <b>Initial Teacher Education</b> (ITE) led by <b>Bryant</b>, with <b>Davis</b>, <b>Kneen</b>, and <b>Packer</b>, the group's research focuses on applied pedagogic theory underpinning teacher education, and recently explored the impact of Covid-19 on assessment in schools.</li> <li>2) <b>Technology in Education</b> led by <b>Beauchamp</b>, with <b>Abbinett</b>, <b>Adams</b>, <b>Chew</b>, and <b>Kneen</b>, in collaboration with CST, and Durham and Cambridge Universities, focuses on information and communication technology research in teaching scenarios at all ages.</li> <li>3) <b>Outdoor Learning and Early Years Education</b> led by <b>Haughton</b>, with <b>Adams</b> and <b>Hodgkin</b>, is a multi-disciplinary group that explores how outdoor spaces can be used to develop and enhance learning, especially in early-years settings.</li> <li>4) <b>Physical-Health Education for Lifelong Learning</b> (PHELL) led by <b>Aldous</b>, with <b>Bryant</b> and <b>Hodgkin</b>, is an interdisciplinary group that investigates wellbeing across several physical-health education settings with collaborators at University College Cork, Canberra and Sue Griffith Universities, Australia, and the University of Edinburgh.</li> </ol>

<sup>1</sup> As opposed to staff with a 'Significant Responsibility for Research', defined in our Code of Practice as those with 20%+ of their workload devoted to research.

<sup>2</sup> Where a staff member is named and being returned, their family name is presented in **bold**. Other names cited are colleagues who are part of the research environment, but whose research is not being returned to this UoA.

- 5) **Additional Learning Needs (ALN)** led by Ellis, with **Abbinett** and **Haughton**, who work closely with the Centre for Applied Research in Inclusive Arts and Design (CARIAD), a pan-University research centre investigating effective strategies to support learners with a wide range of ALN.
- 6) **Music Education** led by **Beauchamp**, with **Adams** and John, focusses on children's phenomenological experiences by exploring music in formal and informal settings within primary and secondary schools.
- 7) **English Literature and Creative Writing** led by **North**, with **English**, and **Taylor-Collins**, the group has a strong emphasis on interdisciplinarity, including health and science education, digital cultures, and the history and continued practice of higher education.

Each research group is led by a senior researcher and includes early-career researchers (ECRs) and postgraduate research students (PGRs). We leverage their experience mix to facilitate capacity-building in a safe and supportive environment. The effectiveness of this strategy is evidenced by our increased research output volume from 63 in the previous REF cycle to **147**, and a **1900%** increase in grant capture this cycle.

We employ 'critical friendship' to develop research quality, for example, through our research seminar series, which allows staff and PGRs to critically discuss research methods, project development, and dissemination. Where appropriate, we use seminars as a 'staging-post' of research degree progress, providing PGRs with an opportunity to present termly updates and, near completion, to rehearse important elements of their work in preparation for the *viva-voce* defence. Seminars are a forum to develop research ideas and refine presentations before attending conferences. We leverage them to catalyse an improvement in our research degree completion rate, increase peer-reviewed journal output, and increase publication quality. Since 2014, we have held **196** seminars, with at least one each year focused on the work of an invited external speaker.

#### b) Investing in research

Since REF2014 we have strategically invested in our researchers' development to increase the number of staff with doctorates – we are currently supporting **18 (21%)** of our academics. Tuition **fees are waived** and **a day a week** in additional hours for doctoral research is allocated in staff workload (**271 hours**). As a result, **seven** colleagues completed their doctorates. Together with a revised recruitment policy, we have increased the number of our staff with doctorates from 22 to **34** during the census period, providing solid foundations from which to grow both research and supervision capacity in the next cycle. Progress is also evidenced by the number of independently research-engaged staff in the School, which increased by **40%** between 2014 and 2020. Research expertise also significantly expanded beyond our 2014 focus on early-years and post-compulsory education. Our portfolio now includes effective pedagogic theory and practice, English literature and creative writing, and social policy.

#### c) Developing research with impact

Our impact case studies are testimony to the success of our strategy to nurture an impactful research culture. For example, **Aldous** and **Bryant's** research underpinned the **Welsh Government's** implementation of the *New Curriculum for Wales* (NCfW) which will affect **22,000** teachers and **468,383** pupils. The work enabled the upskilling of teachers to become change managing creative enquirers in **33** schools, impacting the professional practice of **1,045 staff** and the learning experiences of **14,900 pupils**. Its success led to more than **300** additional schools embarking on the programme designed to facilitate the NCfW. Meanwhile, **Beauchamp** and **Abbinett's** *Interactive Technologies in Language Teaching* project (ITiLT), impacted the communicative language teaching and pedagogic practices of over **9,300** educators, benefitting **~50,000** pupils and students across Europe and Eurasia. We achieved these impacts by using our growing research standing to harness strong collaborations, networks, and partnerships with **Welsh Government**, several **UK and European Universities**, and with schools across Wales with which we have established strong working relationships and trust.

**d) Developing collaborative research**

Our capacity-building strategy has included a targeted drive to exploit our excellence in ITE provision and closeness to the education practitioner-base to develop collaborative research links with world class stakeholders. These have secured the School a key role in shaping education policy and impacting practice. For example, in 2019 we established the *Cardiff ITE Partnership* with **Cardiff University** and **University of Oxford**. Our role is to research pedagogic practice, ensuring that ITE mentors in our **160 PGCE placement schools** provide student teachers, with support fully informed by research. We work closely with placement school '*Research Champions*', who assist our student teachers to undertake research during placements. A *Research Advisory Board*, with equal institutional representation, plans research and develops bids, including two successful bids with Cardiff University to the Welsh Government's *Research Fund* (total: **£54,650**). Another example of our collaborative strategy is **Beauchamp's** inclusion in **Cambridge University's Cambridge Educational Dialogue Research Group**, and **Bryant** and **Davis's** involvement with the Welsh Government's *National Strategy for Educational Research and Enquiry*, a capacity and quality building initiative focused on academic research and professional enquiry.

**e) Developing an integrity-based open-access research culture**

Building an open-access culture with integrity has been another critical facet of our drive to develop an excellent research environment. Staff are supported to publish in open-access journals wherever appropriate and receive training in GDPR and research ethics. They are encouraged to produce data management plans, like those required by UKRI, to inform them of their responsibilities regarding the management and sharing of data. All research outputs are deposited in the University's DSpace open-access repository immediately after acceptance. This has improved dissemination of research findings, best practice, and knowledge data sets (**148,311** downloads during the census period, versus 38,789 in 2014). Furthermore, since 2018, staff have used FigShare (~**£25,000** annually) which supports the University's drive towards a more open research environment, that goes beyond current REF requirements. The development of a research integrity culture is headed by the School's Research Ethics Committee, which reports to the University's Ethics Committee.

**Future strategy**

Having established the research capacity, volume, quality, and impact to return to REF2021, our focus in the next cycle will be to consolidate progress by: a) developing our researchers, b) enhancing our research volume, quality, and impact, c) developing interdisciplinarity, and d) improving the diversity of our researchers and research leads.

**a) Developing our researchers**

From 2021/22 we will expand our scheme allocating workload time for researchers at all career stages. Time allocated to research will be linked to annual performance goals focussed on the development of high-quality research with targets appropriate to staff career stage. We will supplement Cardiff Met's ECR Forum and Action Learning Sets by using our Professors, Readers, and senior researchers to mentor ECRs and emerging researchers, thereby providing a conduit for continued growth towards and beyond REF2028.

**b) Enhancing research volume, quality, and impact**

We will develop a School mentorship programme targeting a significant uplift in the overall quality of research outputs, impact, and grant capture during the next REF cycle. We will also support our researchers to access the University's new 'Impact-Builder' seed fund to develop impactful research. Furthermore, we will build on strengths in applied research grant capture developed during this cycle to leverage funding from 'cherished sources' such as the European Commission, and ESRC. Lastly, we will use the critical mass of researchers developed during this REF period to increase our PGR cohort, and thereby our research output volume, particularly by bringing the 18 staff who we are supporting to gain doctorates into supervisory teams.

**c) Developing interdisciplinarity**

Our key route to developing interdisciplinarity will be through Cardiff Met's *Global Academies* (GAs) – a major component of the University's research strategy, GAs are collaborative, interdisciplinary endeavours bringing together strengths across research, innovation, and teaching to address global challenges around *Health and Human Performance*, *Human Centred Design*, and *Food Science, Safety and Security*. We have already engaged with the nascent *Health & Human Performance* GA through PHELL, and with our two Readers as workshop leads for the *Food Science, Safety and Security* (Casaliggi) and the *Human Centred Design (North)* GAs. Moreover, in July 2020, the decision was taken to create a fourth GA – *Resilient People and Places* – which will build on the research of **Aldous, Beauchamp, Bryant, Davis, and Haughton**.

**d) Improving diversity**

In 2014 most of the School's senior leaders were men; most are now women, including the Dean and REF Coordinator. We will build from this base in the next cycle, submitting a Departmental Athena-SWAN Bronze application early in 2021 and supporting more women to reach senior research roles. We will also ensure that our researchers reflect the racial diversity of society in the coming REF period by using the expertise and drive of key staff. For example, both **Haughton** and **Davis** are part of the race equality stake-holders group which will deliver on the University's commitment to sign the **Race Equality Charter** early in the REF2028 cycle. **Haughton** is also a member of the **BAME Communities Working Group** that contributes to the development of Welsh Government's NCFW.

**2. People****Summary**

We have invested **£1.4 million** this REF cycle to build a vibrant, diverse, and inclusive research environment. We supported **30 staff** to enrol for doctoral study, **doubled** the number of **researchers engaged in PGR supervision** (14 to **28**), and achieved **22 research degree completions** compared to 14 in the last period. All but one of the School's Directorate are women, **half** of returned staff are ECRs, **six** are emerging researchers, **69%** are female, **19%** are BAME, **6%** are disabled, and **6%** are non-heterosexual.

**Staff support**

We engage with all REF-eligible staff, encouraging them to discuss their plans regularly with the Associate Dean for Research (ADR), highlighting any barriers to, or opportunities for research engagement. We use a combination of targeted recruitment and sustained investment in staff development to increase the number of our staff with doctorates. As a result, we now have **34 doctorally qualified staff**, compared to 22 in 2014 – a **55% increase**. We also **supported 30 staff to undertake doctorates** in the cycle, of whom **18** are still enrolled. This support requires considerable commitment: Fees of £3,000 *per annum* are **waived** and each staff PGR is allocated **271 hours** workload annually. This equates to an annual investment of **~£173,000**<sup>3</sup> or **~£935,700** across the census period. Staff benefit from the School's longstanding connections with Wales's educational policy makers and end-users. For example, we have **160 partner schools**, and Egan was recently seconded to Welsh Government to develop a **National Strategy for Education Research**.

We added **five** new Professors and Readers in the cycle through targeted recruitment (Davies, Egan<sup>4</sup>) and internal promotion (Casaliggi, Cooper<sup>5</sup>, **North**). All REF eligible staff have a minimum **171 hours per annum for research**, innovation, and scholarly activity, while those with a significant responsibility for research receive at least **one day a week**. To encourage impactful research, an institutional **Rewards and Incentives scheme** returns 20% of income to

<sup>3</sup> Calculated using the bottom of the Lecturer scale point 36, an hourly rate of £20.90.

<sup>4</sup> Egan is an Emeritus Professor, research active, contracted to us and part of our research environment, but not REF eligible.

<sup>5</sup> Casaliggi has been submitted in UoA32 and Cooper in UoA24.

emerging researchers; 15% to active researchers; and 10% to Professors. This revenue is ring-fenced for the staff who generated it, to spend supporting further research activity.

We expended **£101,332** to underpin research staff development, including supporting conference attendance. Additional support for research includes the **Research Café** – an informal, School-wide sharing of ideas on topics such as interdisciplinarity, collaborative working, and research ethics; our **research seminar series**; and **research group** meetings. Staff are also supported in other ways: **Six** of our researchers attended the **award-winning Welsh Crucible** – a competitive national development programme for future research leaders which in 2019 saw 120 applications for 30 places.

Systematic internal and external rating of research outputs against REF criteria are employed both as performance monitoring measures and researcher development. All authors self-rate their outputs, and a School REF panel calibrates research quality. Three external Professors conduct independent ratings, and we provide our researchers with both REF panel and external feedback. This broadens colleagues' understanding of research quality, and combined with our mentoring and support mechanisms, ultimately empowers them to improve the quality of their research outputs. We use the University's *Performance & Development Review* scheme to agree and monitor appropriate staff development and research targets. This ensures researchers are supported to optimise their workload allocation in line with their career ambitions and our strategic objectives.

#### **Equality, inclusivity and diversity (EI&D)**

We always take EI&D seriously and the statistics of our research environment evidences this. The majority (**82%**) of our Category A eligible staff are on permanent contracts. It is School policy to move those on fixed-term contracts to permanent employment wherever possible. Staff on fractional appointments are afforded the same career pathway opportunities as those on full-time contracts. For example, our REF Coordinator was appointed while on a 0.8 FTE contract, and her maternity cover was appointed while on a 0.6 FTE contract.

EI&D is a standing agenda item for all School committees and an integral part of all our R&I decision making. For example, McCarthy-Cotter was appointed while on maternity leave with several months leave remaining. Internal research funding decisions are monitored for bias. In the period, **59%** of all funding awards went to women, **15%** to BAME, and **31%** to LGBTQ+ staff. Special equipment is available on request to staff and PGRs with protected characteristics such as a disability.

We take wellbeing seriously, with a PV-C specifically responsible for institutional wellbeing initiatives. Regular staff wellbeing surveys are undertaken, with issues highlighted subject to compulsory School action plans. The School has one all-staff meeting a term – to which PGRs are invited – devoted to discussing wellbeing, including the sharing of issues and coping strategies. An institutional PGR wellbeing project promotes relevant internal courses, provides resources focussed on stress and coping mechanisms, as well as resources for supervisors. The project has also established close links with Student Services to ensure all PGRs receive appropriate support, including counselling.

Staff and PGRs returning from extended periods of parental leave, ill-health or who are managing long-term illness or caring responsibilities, have access to a suite of support policies including: flexible working; the ability to apply for a temporary or permanent switch to part-time working; a phased return to work with access to *Occupational Health* advice and assessment; and counselling. Staff on parental or adoption leave are entitled to paid '*Keeping in Touch*' days to maintain contact and working relationships – an option that has proven very popular.

Our commitment to equality of career progression is a central tenet of our strategy to increase research volume, quality, impact, and supervisory capacity. All School staff with REF-related responsibility, and all research leaders, have undergone compulsory unconscious bias training. The institutional Code of Practice was subject to consultation with all academic staff, UCU,

University Equality & Diversity Delivery Group, Women's Network, LGBTQ+ Network, Disability/Accessibility Network, and BAME Network. A full Equality Impact Assessment found that no change was required, and this is borne out by the balance of our submission. The following figures present the REF eligible pool percentage first, with the REF returned percentage in brackets and **bold**: women = 72% (**69%**); men = 28% (**31%**); BAME = 6% (**19%**); disabled = 3% (**6%**); and non-heterosexual = 8% (**6%**). The number of female research leads has more than doubled from four in the last REF cycle to **9** in 2020. We have been less successful in promoting women to our Professoriate, so we supported **12** staff in their career aspirations through the University's *Women to Professor* scheme. Launched in 2018 by the PV-C R&I, Institutional Athena SWAN SAT Chair, and University Director of Research, these workshops make routes for promotion explicit, use peer-to-peer support, mentoring, and an Action Learning Set model to help attendees reach their goals. Both our Readers (Casaliggi, **North**) progressed through it during this cycle, and two others have Readership applications in development, which will provide a healthy promotion conduit to Professorship in the next REF cycle.

School staff are leaders in developing an equality-based research environment. For example, Stevens-Wood Chairs the University's Disabled Staff Network, and **Davis** chairs the BAME Educators Wales Network, of which **Haughton** is Vice-Chair. **North** is an active contributor to the institutional LGBTQ+ Network and was instrumental in changing the University's nomenclature surrounding parental and adoption leave. **Haughton** Chairs the Black History Wales 365 Management Committee and was invited to contribute to a Welsh Government working group to improve the teaching of themes relating to BAME community experiences across all parts of the school curriculum. Lastly, both **Haughton** and **Davis** are part of the race equality stake-holders group which will deliver on the University's commitment to sign the Race Equality Charter by 2024.

All School committee meetings are scheduled between 10am and 3pm (core hours) and advertised well in advance to allow staff to plan. During the census period, **16** staff (**13** women and **3** men) took parental/adoption leave, including two ECRs (**Abbinett, Tyrie**), an emerging researcher (**English**), and two Readers (Casaliggi, **North**), and **16** women accessed the *Flexible Working Scheme*.

#### **Staff training as PGR Supervisors, and Directors of Studies**

Doctorally qualified staff are eligible, upon application, for inclusion on Cardiff Met's approved PGR Supervisors list and, when they meet the criteria, as Directors of Studies. In addition to a University induction programme, staff embarking on PGR supervision for the first time must complete a bespoke, School-based training and support induction programme, led by the School's Graduate Studies Coordinator (GSC).

A major strategic focus of this REF cycle has been to systematically address supervisory capacity. As a result, we have **28** staff engaged in PGR supervision, up from 14 in 2014. To increase capacity, we:

- i) added **19** new PGR supervisors;
- ii) engaged **10** supervisors from CSSHS, **4** from Cardiff School of Art & Design (CSAD), and **10** from other units or outside Cardiff Met, to benefit the interdisciplinarity, increased breadth of experience, and subject expertise;
- iii) developed the supervisory skillsets of ECRs and emerging researchers by pairing them with senior researchers, simultaneously supporting new supervisors, maximising current supervisory capacity, and increasing future capacity;
- iv) introduced a new supervisory role – 'Supervisory Team Coordinator' – an experienced supervisor who mentors supervisory teams which have subject expertise, but not supervisory experience; and

- v) invested in staff doctoral studies, with a view to ensuring that the **18** staff currently enrolled become supervisors in the next REF cycle.

### Postgraduate Research Students: Recruitment and Support

PGRs are at the core of our research-facing activities and integral to our research culture. Our vibrant and inclusive PGR community includes nationals from China, Egypt, Saudi Arabia, and India. As of July 2020, there were **44** PGRs enrolled (**26** women, **18** men; **7** BAME; **8** FT, **36** PT; **5** MPhil/PhD, **22** PhD and **17** EdD). Both PhD and EdD programmes enable recruitment of highly motivated students from applied backgrounds with potential to be excellent doctoral candidates. Our EdD includes a formal programme of research training and practice before students embark on independent research. **Educational partners** sponsor **3** EdDs (total: **£45,000**) and **2** PhDs are supported by competitively won **Knowledge Economy Skills Scholarships** (total: **£106,000**). The success of our growth strategy is evidenced by the **22** **successful** research degree completions achieved this cycle (see below) in comparison to the previous REF period (14).

	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
<b>PhDs</b>	3	4	2	4	2	0	4
<b>EdDs</b>	1	1	0	0	0	0	1
<b>Total</b>	<b>4</b>	<b>5</b>	<b>2</b>	<b>4</b>	<b>2</b>	<b>0</b>	<b>5</b>

The School's GSC (Cooper) is responsible for the operational management, and sound research governance of all research degree delivery. An EdD Coordinator (**Davis**) is responsible to the GSC for the day-to-day management of that cohort. The School's Research Degrees Sub-committee oversees admissions, quality assurance governance, and regulatory matters relating to doctoral programmes. Its Chair, our GSC, represents the views of research supervisors and PGRs at the University's Research Degrees Committee.

A robust application and interview process identifies candidates best able to complete a research degree and generate quality research outputs. Demand outstrips supply, a reason why increased supervisory capacity is a priority for the next REF cycle. Capacity issues notwithstanding, our alignment of student research interests to staff expertise is evidenced by the results of the 2020 *Postgraduate Research Experience Survey* which found that **100%** of our PGRs 'agreed' that their supervisors had the skills and subject knowledge to support their research (PRES institutional average: 87%).

All PGRs complete a centrally organised induction programme. For MPhils, MPhil/PhDs, and PhDs, this is a two-day programme held tri-annually in the first few weeks after enrolment, while for EdDs, induction is a three-day programme, delivered biannually just after enrolment, and forms part of their first module. We use the PGRs' Research Training Review, which forms part of induction, and the Annual Progress Report (APR), to assess individual training needs. Our PGRs can also join undergraduate and Masters' modules to enhance their subject-specific knowledge.

Full-time PGRs are expected to submit their formal Research Degree Proposal (RDP) to the School's Research Degrees Sub-committee within one year of registration (two years part-time). Ethics applications for data collection can only be considered once the RDP has been approved and ratified by the University's Research Degrees Committee. PGRs without research-focused Master's qualifications are enrolled as MPhil/PhDs, transferring to the PhD programme following submission of an extended literature review and detailed plan for developing the work to Level-8. They present and defend this work at a *Transfer Interview* in the form of a 'mini-viva' with their supervisory team and an independent assessor. PGRs with a relevant Master's degree can

enrol directly on a PhD, but we encourage them to go through the MPhil/PhD transfer process for its developmental value. APRs are monitored by both School and University Research Degrees Committees to keep students on track. Lastly, completing students undertake a 'mock-viva' before their formal *viva-voce* defence.

All full-time and some part-time students have workspaces in 'Research House' which has fully equipped workstations and kitchen facilities. The GSC's office is in the building, facilitating readily accessible formal and informal pastoral support. Research House is shared with CSSHS PGRs, meaning the environment facilitates interdisciplinarity and the cross-fertilisation of ideas. Another critical facet of our PGR support infrastructure is Cardiff Met's Doctoral Academy – a central online hub for PGR activities providing regular updates, guidance, training, and webinars.

We value the student voice, and PGRs are represented on the School's Research Degrees Sub-committee, Research Ethics Committee, and R&I Committee, as well as the University's equivalent committees. We encourage our PGRs to attend Cardiff Met's PGR Skills Week – an annual series of interactive upskilling workshops. Our PGRs attend the annual Cardiff Met PGR Poster Presentation Day, where they present their research, interact with doctoral students from across the University, and network in a supportive environment that further facilitates cross-fertilisation of ideas. Senior University researchers also present at the Poster Day, providing additional research training opportunities.

PGRs attend research group meetings, the Research Café, public Professorial inaugural lectures, professional body seminars, and visiting lecturer events across Cardiff Met. These opportunities facilitate additional networking and frameworks for developing research skills. Finally, PGRs can make requests for allowances for travel, conference attendance, transcription, consumables, training, and additional financial support, for consideration by the School's Research Degrees Sub-committee.

### 3. Income, infrastructure and facilities

#### Summary

Our research income growth during the current census period epitomises the success of our capacity-building strategy. Our HESA-defined research income increased to **£645,481** – a **twentyfold increase** on the previous period and includes major **Welsh Government (£364,904)** and **Erasmus+ funding (£188,210)**. We also leveraged our established position at the **intersection between education research and praxis** to capture **£490,217** in other grants, including two European-funded PhD studentships (**£106,000**) bringing our total R&I income to **£1,135,698**. We have also enhanced our research infrastructure by external collaborations with world-leading institutions, including **Harvard Medical School, University of Oxford, and University of Cambridge**.

#### Income

Our competitive R&I funding successes evidence our growing research profile and esteem. Altogether, we attracted **£1,135,698** of R&I funding during the census period, from sources including the Welsh Government (**£494,908**) and the European Union (Erasmus+, **£232,240**), combined with a range of other competitive external R&I funding totalling **£245,856**. An additional **£56,694** in research-related innovation charitable funding included **£30,000** from the Waterloo Foundation.

Welsh Government funding includes: i) an *Expressive Arts Professional Learning Research and Development* award (**£236,000**: **Bryant**, Egan, Diffey), ii) **£164,310** from the Higher Education Funding Council for Wales's (HEFCW) *Civic Mission and Community Engagement* fund (**Adams**, Young, Fenn), iii) **£43,000** for an evaluation of support staff employed in schools (**Beauchamp**), iv) **£35,000** for a collaboration with Cardiff University evaluating school assessments adapted for Covid-19 (**Bryant**), and v) a total **£16,598** for scoping the use, and barriers to use, of digital technologies to support Modern Foreign Language teachers



(**Beauchamp**), and piloting the *Successful Futures* project (**Kneen**). All these projects have the potential for significant impact on ITE provision and pedagogic practice in Wales and beyond.

Competitive external research funding totalling **£245,856** was also secured from organisations that span other **national and international education and sport bodies**. Funding bodies include: Sport Wales; the Institute of Science and Technology Foundation (Singapore); the Education Advisory Service; Nuffield Administrative Justice; Welsh Crucible; Tomorrow's Generation Schools; the UK Physical Literacy Association; and the National Academy for Educational Leadership (Wales). In some instances, this funding has been a catalyst for the expansion of existing collaborative research activity and has provided the basis for additional external grant capture. For example, **Hodgkin** and **Diffey** received **£3,000** from **Sport Wales** to evaluate ways of improving student teachers' confidence and motivation to teach PE and increase pupils' Physical Literacy. This project was a catalyst for our collaboration with the Universities of Wales Trinity St David, Bangor, and South Wales in the *Physical Literacy Programme for Schools* project (**£193,256**) to support the development of Physical Literacy across Wales.

Our European research income was captured from Erasmus+ for the *Interactive Technology in Language Teaching* (ITiLT) project, the *Sharing Open Educational Practices Using Technology for Higher Education* (SHOUT4HE) project, the *Future Teaching* (FUTE) project, and the *Whole School Approach Promoting Health Enhancing Physical Activity* (HEPA) project (total: **£232, 240**). We also secured two PhD studentships (total: **£106,000**) through the European Social Fund's *Knowledge Economy Skills Scholarships 2* (KESS2) programme. KESS2 is a competitive pan-Wales scheme that links companies and organisations with academic expertise in Universities to undertake collaborative research projects that benefit the community through the joint funding of PhD candidates. The first scholarship, in collaboration with *Tomorrow's Generation*, a Cardiff-based centre for young people with dyslexia, aims to evaluate the effectiveness of current provision, as a basis for strategies to impact pupils with dyslexia. The second, partnered with *AL Direct*, provides adapted learning packages for students with *Behavioural Emotional and Social Difficulties* (BESD). The project will offer strategies that positively impact educational outcomes for BESD learners. Both projects form the basis of highly impactful programmes of research, and evidence how the School's research and knowledge transfer activities impact communities of practice, the economy, and society.

### Research infrastructure

Both the University's and School's research infrastructures have been integral to realising our strategic priorities. At University level, R&I activities are coordinated by Research and Innovation Services (RIS), led by the PV-C for R&I. RIS works closely with the School to support research and knowledge exchange activities with key stakeholders and end-users. The University's R&I Committee (a sub-committee of Academic Board) is responsible for overseeing all R&I activities including policy, strategy, facilities, operations, and performance, and the University's Research Degrees Committee reports to it. The University's Ethics Committee (another sub-committee of Academic Board) has ultimate responsibility for the maintenance and monitoring of ethics governance at University level and helps ensure research quality and integrity. The School R&I Committee is responsible for overseeing all School R&I related activities, including policy, strategy, facilities, operations, and performance. All School research committees (R&I, Research Degrees and Ethics) report directly to their respective University-level committee.

Responsibility for leading and fostering research within the School lies with the ADR who, in conjunction with the School's Management and Planning Team, is responsible for operationalising the School's strategic research priorities. The GSC and REF Coordinator work closely with the ADR to coordinate R&I strategy and governance, and their implementation. School strategy is operationalised through the research group leads, individual staff performance reviews, and annual monitoring through the setting and reviewing of key R&I performance indicators known as '*Measures of Success*'.

Our R&I activities are predominantly undertaken within research groups, structured around particular areas of research or practice. Some groups are interdisciplinary in nature and include staff from other Cardiff Met Schools and Universities. For example, our staff collaborate closely with colleagues in CSSHS on the *Physical Literacy Programme for Schools* project, which supports the development of Physical Literacy across Wales. The groups support researchers, particularly ECRs, in developing their research and applying for funding. Ongoing research is disseminated through the research seminar series, which is open to all staff and PGRs, and provides a forum for the development and formation of research ideas, presentation of research findings, and formulation of funding project proposals.

R&I activity is coordinated by a R&I Support Manager who oversees the work of two additional administrators with principal responsibilities for finance/budgets, and ethics/REF, respectively. The team also provides several additional services to both research staff and PGR students, supporting ethics approvals, research funding, and research governance processes.

### Research facilities and environment

Since 2014, the School's research environment and facilities have been strategically enhanced through capital investment and expenditure to ensure we continue to provide appropriately equipped facilities to support our research activity. During the census period, **£196,000** was invested in the enhancement of the physical infrastructure, we also provided **£140,000** for upgrading existing IT resources and equipment, and we purchased **£35,920** worth of specialist IT hardware and software specifically to support our research provision. We also maintain several archives, including: *The Welsh Collection* – works related to Wales in general, but specifically including **Welsh language books and materials** related to **teaching in Wales**, and the **Fanthorpe Collection** – a collection of Lionel Fanthorpe's books, and a diary/ledger containing his ideas.

Our research infrastructure is significantly enhanced by internal and external collaboration. For example, some of our *Additional Learning Needs* researchers benefit from cross-school collaborations with colleagues in CSAD, through their involvement in the Centre for Applied Research in Inclusive Art and Design (CARIAD), which seeks to improve lives and address some of the most significant challenges facing society. During the period CARIAD attracted **12** research students, won over **£684,000** in grants from the **AHRC**, **Raspberry Pi Foundation**, and Welsh Government's Business Innovation team, and launched a spin-out company. These collaborations also benefit from the use of the **FabLab (£130,000)**, a purpose-built 169m<sup>2</sup> open-access digital workshop, home to the CSAD's FabCre8 research group and equipped with a range of technologies including high quality 3D printers, flatbed and rotary-based CNC machines, powerful laser cutters, and 3D scanners.

Finally, as a an **ITE provider for over 70 years**, and among the largest centres of teacher education in the UK, the School provides privileged access to **160 placement schools** that enable us to impact the interface between research and pedagogical practice. Consequently, our research groups have formed external strategic alliances and collaborations to facilitate access to a wide range of world-leading facilities, infrastructure, and networks. For example, through our ITE research group's involvement with the *Cardiff ITE Partnership*, we collaborate with the **Universities of Cardiff and Oxford**, and with **Cambridge** via its *Educational Dialogue Research Group*. These collaborations exploit our acknowledged excellence in ITE provision and closeness to the education practitioner-base.

## 4. Collaboration and contribution to the research base, economy and society

### Summary

Collaborations with key stakeholders and beneficiaries have been integral to much of our activity and contributed to our increased grant capture and impact. Our research has informed the policy and practice of regional, national, and international stakeholders including: **Welsh Government**, **Educational Consortia**, **BAMEed Wales**, **Black History 365 Wales**, and end-users. Collaborative partners include **Welsh Government**, **HEFCW**, **Sport Wales**, **national** and

**international HEIs**, and **industry**. Our researchers are prominent in their respective fields: **50%** of those returned sit on editorial boards for peer-reviewed journals, and during the census period, **14** colleagues have **externally examined 49 research degrees**.

### **Collaboration with HEIs and key stakeholders**

Our staff made wide-ranging contributions to the research-base, economy, and society during the census period, through collaboration and engagement with key networks, partners, research users and beneficiaries. This has included close collaboration with other academic institutions, policy makers, and stakeholders, nationally and internationally. For example, close collaboration with **Welsh Government** has enabled us to have considerable impact on education policy and practice in Wales and beyond, as illustrated by our research partnerships and projects.

The School is a key network partner in the *National Strategy for Educational Research and Enquiry* (NSERE), formed by Welsh Government in 2019. NSERE aims to ensure that research, enquiry, and evidence play a meaningful role in the development of practice in all aspects of the Welsh education system. Whilst all Welsh HEIs are represented, Cardiff Met has taken a leading role, and five of our researchers were appointed to four NSERE-funded *Collaborative Research Networks*: i) Curriculum and Pedagogy, ii) Leadership and Professional Learning, iii) Welsh Language and Bilingual Education, and iv) Equity and Inclusion, ensuring we are integral to **shaping Welsh Government policy** and impacting the nation's education practice.

We also contributed pedagogic research expertise to the Welsh Government's *New Curriculum for Wales* (NCfW) which will launch in **all Welsh schools** by 2022. Our research has already impacted the professional practice of **~1,045 staff**, and the learning experience of **~14,900 pupils**. It is projected to reach **~12,427 teachers** and **~222,322 pupils** early in the REF2028 cycle.

Evidence of our responsiveness to societal challenges include a collaboration with Cardiff University on the development of a Welsh Government policy for *Teacher Training Incentives*, and an examination of how assessment in Wales can best be adapted for the needs of school pupils in response to Covid-19. The School was also involved in a collaboration between regional Education Consortia, Estyn, LEAs, Education Workforce Council (Wales), headteacher associations, and the support staff trade unions to evaluate the efficacy of how support staff were employed in schools.

Our staff have also collaborated on several **interdisciplinary projects** with the Universities of South Wales, Swansea, Aberystwyth, Cardiff, and Bangor, evaluating the value of miniaturisation to engage the public, the ecology of marine life in literature, arts, and the law, and the forgotten life of Welsh inventor Philip Putnam. Other collaborations included a scoping exercise for helping children with autism, a feasibility project exploring how to assist new mothers, and writing and antimicrobial resistance.

We have benefitted from successful international collaborations such as those facilitated through Erasmus+. For example, the ITiLT project impacted the communicative language teaching and pedagogical practice of over **9,300** educators, benefitting an estimated **50,000** pupils across Europe and Eurasia. School researchers led collaborators from the Universities of Nice–Sophia *Antipolis* (France), *Antwerpen* (Netherlands), *Pädagogische Hochschule Schwäbisch Gmünd* (Germany), and *Hacettepe* (Turkey), as well as an industry partner (TELLConsult, Netherlands) in the development and dissemination of new and innovative practice in supporting interactive language teaching in **six European languages**. Our PHELL research group were also part of an Erasmus+ collaboration with partners from Aristotle University of Thessaloniki (Greece), Frederick University (Cyprus), University of Jyväskylä (Finland), University of Bolzano (Italy), an industry partner – Active (Belgium), and the Cyprus Olympic Committee, investigating health-enhanced physical activity.

School researchers also collaborated on the SHOUT4HE project with Universities in Bordeaux and Nice (France), Hasselt (Belgium), and Limerick, (Ireland). Our researchers led the

development of *Open Education Practices* across **five European countries** to share effective practice of teaching with technology in HEIs across a range of disciplines. These practices (total: **40**) are made available on an e-platform, which includes a recognition framework, and e-resources to support teaching in HEIs.

The FUTE project helps teachers and students use design thinking to build engaging learning experiences. Together with research partners at the Design School Kolding (Denmark), the University of Turku (Finland), the French Ministry of Education (Higher Education and Research – Canopé), University College South Denmark, and the South Denmark European Office, CSESP developed all 42 method cards, designing, piloting, and evaluating the education method and interactive toolkit used by teacher educators and in classrooms in **Belgium, Denmark, Finland, France, and Wales**. Finally, in collaboration with **Harvard Medical School**, Emmetropia Eye Institute (Crete), and Optotech Ltd. (Germany), our researchers are contributing to software development that will facilitate screening children at an early age for signs of dyslexia.

Our international strategic collaborations are also extended through the PHELL research group's **Erasmus+** project exploring whole school approaches to promoting health enhancing physical activity and gives us access to the facilities of Aristotle University of Thessaloniki (Greece), Frederick University (Cyprus), University of Jyväskylä (Finland), University of Bolzano (Italy), an industry partner – Active (Belgium), and the Cyprus Olympic Committee.

Collaboration is also integral to PGR supervision and training. As part of our capacity building strategy, and to safeguard the highest quality research training, PGR supervisory teams frequently comprise a member external to the School and University. For example, **21%** of our **44** PGRs are supervised by external academics from the Open University, the Arab Academy of Science and Technology, and the Universities of South Wales, Bath Spa, and Bishop Grosseteste. We also currently engage **13** colleagues from other Schools across the University as PGR supervisors. Our PGRs also have access to Cardiff University's Effective Researcher interactive course, which facilitates practical ways to increase their effectiveness and meet the challenges of the doctoral journey. Developed by the Vitae Programme and tutors in academia, industry, and other sectors, the course ensures its relevance to contemporary doctoral research and PGRs' future careers.

### **Engagement with research users**

In collaboration with colleagues from Bath Spa University, and supported by the **Primary Science Teaching Trust**, the School hosted the Association for Science Education's *Teacher Assessment in Primary Schools* (Cymru) project – the Welsh arm of a UK-wide initiative to improve science assessment methods in primary schools. School researchers, supported by **Sport Wales**, also worked with PE teachers in our partner schools leading to a collaboration with the Universities of Wales Trinity St David, Bangor, and South Wales on the *Physical Literacy Programme for Schools* project, supporting the development of Physical Literacy across Wales. The project findings have already been used to guide Physical Literacy education and its development by Sport Wales.

The *Cardiff ITE Partnership* brings together School expertise with that of the **Universities of Oxford and Cardiff**, to work with the Central South Consortium, Education Achievement Service, City of Cardiff, and lead partnership schools and alliances. Underpinned by our research into pedagogic practice, School staff ensure that ITE mentors in our **160 PGCE placement schools** provide student teachers with support which is fully research informed. We also work closely with partnership schools' *'Research Champions'*, to assist our student teachers to undertake placement research.

Our collaboration with local schools extends to early-years provision. School researchers work closely with our local community schools to introduce them to the benefits of play-learning through the *Outdoor-Learning Centre*. Supported by community charitable donations, the *'Forest University'*, located on-campus in ancient woodland, provides a research-base for exploring

pedagogic theories relating to children and outdoor activity, and hosts **1000 early-years pupils annually** from deprived and disadvantaged areas in and around Cardiff.

Additionally, supported by a HEFCW *Civic Mission and Community Engagement* grant, School researchers collaborated with Bridgend County Borough Council, and staff and pupils at Blaenycwn and Deighton primary schools to design a Wellbeing App. The App has directly impacted **240** children, and, whilst its wider sharing was paused by the Covid-19 pandemic, it highlights how our staff extend the reach of their education research into real world scenarios, facilitating pupils' learning.

Finally, in collaboration with international partners at the Singapore Institute of Science and Technology (IOST), and part-funded by the *Infocomm Development Authority* (Singapore), School researchers undertook a mixed-method evaluation using observations during (virtual) participatory surgeries with UK and Singapore based students and teachers. Observing launch and exit activities, both students and teachers self-reported on their experiences using IOST materials compared to not using IOST materials.

### Contribution to the research-base

School staff have also contributed to the research-base, economy, and society through their advisory roles within professional bodies and learned societies, and engagement in several activities that exemplify their contribution to the sustainability of the discipline, nationally and internationally.

Our researchers fulfil **10 editorial board roles** on key journals in the field, including: **Editor** for the *Wales Journal of Education* (**Beauchamp**), *Palgrave Studies in Contemporary Women's Writing* (**North**), and *MEKATRONICA* (**Chew**); **Editorial Board Members** for the *Wales Journal of Education* (**Aldous**), the *Curriculum Journal* (**Beauchamp**), *Education 3–13* (**Beauchamp**), *Writing in Practice* (**North**, Thatcher), the *Journal of Education Studies* (Egan), the *British Journal of Educational Technology* (**Beauchamp**), the *Journal of Historical Fictions* (**English**), the *Journal of Educational Leadership and Management* (Egan), *D.H. Lawrence Studies*, and *Key Words: A Journal of Cultural Materialism* (Wallace); **Statistical Advisor** to the editorial boards of the *British Medical Journal* and the *Journal of Sports Sciences* (Cooper). The diversity of our staff's research expertise also extends to **reviewing for more than 50 peer-reviewed journals**.

Our staff also serve as members of the **peer-review colleges** of funding councils (Aitchison, Hanton: ESRC; Griffiths: AHRC), and **assess funding bids for research councils** (Casaliggi: ESRC, AHRC; **Taylor-Collins**: Irish Research Council). They also chair, and are members of, boards of several **learned associations and societies**, including: the *British Educational Research Association* and the *British Educational Studies Association* (**Beauchamp**); *Sport Wales* (Longville, Robinson); *Sport Scotland* (Robinson); *Modernist Network* (Cymru) [**English**]; *Welsh Government Foundation Phase Expert Group*, and *Education Workforce Council Research Engagement Group* (Egan); and the *British Association for Irish Studies* (**Taylor-Collins**). Researchers are also members of several **diversity networks**, including BAMEed Wales (**Davis**, Chair; **Haughton**, Vice-Chair), and Black History 365 Wales (**Haughton**, Chair). **Haughton** also contributed to a Welsh Government working group to improve the teaching of themes relating to BAME community experiences across all parts of the school curriculum.

Our staff also hold significant positions in several **educational societies and bodies**. Aitchison is Chair of the *South East Wales Centre for Education in Teacher Training*, Wallace Chaired the *British Association of Modernist Studies*, and *Modernist Network* (Cymru), and Longville sits on the *Education Workforce Council* (Cymru), *Universities Council for the Education of Teachers* (UCET) and UCET (Cymru). **Bryant** is an ambassador and committee member, and Mitchell leads the early-years special interest research group, for the *International Physical Literacy Association*. Morgan sits on *Rhwydwaith Ymchwil Cyfrwng Cymraeg*, a pan-Wales Welsh-medium education research network committee. Palazon is a council member with *Adult Learning Wales*, and Webber is Executive Officer of the *Wales Association of Standing Advisory*

*Councils on Religious Education*, and Vice-Chair of the *National Advisory Panel on Religious Education*. Yu sits on the *South-East Wales Committee of the Association for Science Education*, Stewart is a member of the *National Network of Excellence in Mathematics*, and Thayer is a member of the *Standing Committee in Teaching of Education Drama*. Significantly, Egan is currently seconded to the Welsh Government to develop a national strategy for education research in Wales.

Finally, School researchers are also recognised for their expertise through the award of **fellowships**: *Royal Society of Arts* (Egan, **North**); *Royal Statistical Society* and *National Network of Excellence in Mathematics* (Cooper, Stewart), *English Association* (Wallace), and **Honorary Professorships**: University of Durham (**Beauchamp**). During the census period, **14** colleagues have served as **external examiners** for **49 research degrees**: **Aldous, Beauchamp, Bryant**, Casaliggi, Cooper, **Chew, English, Fimi, Griffiths, Kneen, Massoud, Morgan, North**, and Wallace, including **three internationally**: Australia (**Beauchamp**), Ireland (Fimi), and Spain (Casaliggi). These activities evidence the significance, reach, and impact of our engagement with key stakeholders, research users, and beneficiaries.

### Conclusions

Having been unable to return to REF2014, we invested **£1.4 million** to develop a strong, sustainable, inclusive, and impactful research environment. We **doubled** the number of researchers engaged in PGR supervision, increased our independently research-engaged staff by **40%**, our staff with doctorates by **46%**, and our funding capture by over **3,600%**. We used our strong applied base in the education community to attract **Russell Group** and **Ivy League partners**, and our **government partnerships** to drive and deliver policy, for example by underpinning the *New Curriculum for Wales*, thereby impacting **~1,045** staff, and **~14,900** pupils. Other pedagogic research affected the practice of over **9,300** educators, benefitting **~50,000** pupils across Europe and Eurasia.