

<b>Institution: University of Plymouth</b>
<b>Unit of Assessment: UoA 23</b>
<p><b>Unit context and structure, research, and impact strategy</b></p> <p><b>Research Context</b></p> <p>University of Plymouth education research is developed in a Unit of Assessment that consists of 29 academics (25.1FTE). Education research is conducted in a thriving trans-disciplinary environment, encompassing academics from across the University's three Faculties. During the REF period, education research has included over £3.7 million in grant capture (over a million more than in 2014), with over 270 journal articles, 16 books, 66 chapters and 26 reports, with 42 Doctoral completions. Plymouth's successes have been achieved through developing a revised structure that recognises an approach to education research that is life-wide and lifelong. Plymouth has an international reputation for research undertaken in multiple contexts from nurseries, schools, colleges and universities, to the home, professional context, nature, the community, volunteering and activism. Broadly defined, our research represents expertise in children and families, education policy, learning outside formal education, inclusion, sustainable education, medical curricula and pedagogy, as is reflected in our structures. Education research is undertaken at the intersection of theory and practice, focussing on the needs of our education community. Post REF 2014 there was a strategic decision to develop University Practice Partners to facilitate external partnerships, extend grant capture and further research impact locally, nationally and internationally, contributing to a civically engaged and impactful research environment.</p> <p><b>Structure of Education Research</b></p> <p>The core of staff (16.4FTE) are located within Plymouth Institute of Education (PIoE), in the Faculty of Arts, Humanities and Business, which holds the strategic direction for education research at Plymouth. Education research is structured across four nodes of excellence and three centres. The nodes and two of the centres are located in PIoE and overseen by PIoE's Associate Head for Research (<b>Campbell-Barr</b>), with the third Centre (<b>Arunasalam, Brennan, Bryce, Chatteree, Gale, T.</b>) in the Faculty of Health. An Educational Development team (<b>Schaefer, Turner, Warwick, Webb, Winter</b>) has a university-wide remit for supporting higher education pedagogy and works alongside colleagues across all Faculties.</p> <p>Four <b>nodes of excellence</b> represent the research strengths of PIoE with sustained publication outputs, a history of grant capture and of informing policy and practice:</p> <ul style="list-style-type: none"> <li>(i) <i>Children and Families</i> (<b>Campbell-Barr, Georgeson, Hohmann, Lavelle, Webber, Wickett</b>),</li> <li>(ii) <i>Inclusion</i> (<b>Georgeson, Stancer, Done, Gibson, Gristy</b>),</li> <li>(iii) <i>Learning Outside Formal Education</i> (LOFE) (<b>Morgan, Passy, Gale, K., Haynes, Quinn, Wickett</b>)</li> <li>(iv) <i>Education Policy</i> (<b>Kelly, Hohmann, Pratt</b>)</li> </ul> <p>These thematic nodes are instrumental in developing our research culture and strategy, building on areas of expertise, fostering collaborations, facilitating interdisciplinarity, supporting ECRs and PGRs and demonstrating the societal importance of education across the life course.</p> <p>Alongside these nodes, three <b>research centres</b> undertake research and impact activity in support of professional development in education and health. The centres provide examples (see section 3) of Plymouth's strategic ambition to integrate research, pedagogical practice and professional development in support of influencing education policy and practice:</p> <ul style="list-style-type: none"> <li>(i) Collaboration for the Advancement of Research and Assessment (<b>CAMERA</b>) (<b>Arunasalam, Brennan, Bryce, Chatteree, Gale, T.</b>) uses evidence-based education to inform assessment in medical curricula and reflects a university-wide focus on health-based research. Dedicated themes underpinning the work of CAMERA include selection, recruitment, and assessment, interprofessional learning (<b>Gale, T.</b>), preparedness for practice, remediation (<b>Brennan</b>), and professional regulation and wellbeing and resilience (<b>Bryce</b>). CAMERA is inter- and cross-disciplinary, bringing together clinical and social science academics using a range of</li> </ul>

methodological approaches to investigate health professions education and practice as fields of enquiry.

- (ii) The Centre for Innovation in Mathematic Teaching (**CIMT**) (**Burghes**) focuses on research and curriculum development in Mathematics teaching and learning, supporting teachers to enhance mathematics education. Both CAMERA and CIMT illustrate Plymouth's commitment to research that enhances continued professional development. CIMT collaborates with schools to develop maths resources and professional development for the education community.
- (iii) The Centre for Sustainable Futures (**CFS**) (**Warwick, Morgan, Schaefer, Stokes, Turner, Webb, Wickett, Winter**) promotes sustainable education across formal and informal learning environments. The CSF adopts a community of practice approach, supporting colleagues from across the university and beyond to develop innovative approaches to pedagogy, encompassing participatory learning methods to promote critical thinking. The CSF is interdisciplinary, working with colleagues in health, architecture, geography, arts and education through funded research collaborations and a vibrant seminar series. The Centre's 2014 strengths in higher education research are being extended to other stages of education, supported by its move to PloE in 2019 and collaborations with LOFE. The Centre has also been pivotal in shaping the University of Plymouth's sustainability agenda with **Warwick** contributing to University level strategies.

With the strategic organisation of Education research under the umbrella of PloE, our strengths in HE pedagogy (which were within the remit of the Pedagogical Research Institute and Observatory - **PedRIO**) are now driven by an expanded central university Educational Development. The team (**Schaefer, Turner, Warwick, Webb, Winter**) complements the research structure of PloE with strengths in sustainability education, community engagement and curricular and pedagogical innovation. Through successful national conferences and seminars, PedRIO stimulated development in this field across the HE sector and established Plymouth as a sector leader.

#### **Research Strategy (and how it relates to REF2014)**

Education research was a strategic investment area for Plymouth in 2014, enabling consolidation and development of our areas of excellence in recognition of the societal importance of education. With PloE adopting the infrastructural strategic direction for education research, the UoA has maintained the 2014 objectives to produce research that is innovative, internationally excellent, enhances public engagement, has an impact on policy and practice, builds staff capacity and maximises research income.

Since 2014, our strategy has included infrastructural developments to support the expansion of our distinctive life-wide and lifelong approach to education research; built on our areas of strength; developing a vibrant research community that stimulates colleagues at all stages of their career; enhances grant capture and extends the visibility of our research. Our continued strategy is to (i) maintain recognition for our international and innovative research, while (ii) build on our distinct research profile to sustain and enrich our life-wide and lifelong research profile. We continue to look to (iii) enhance our grant capture and (iv) produce quality research outputs while seeking to further ensure our research is (v) attuned to local, national and global issues. In continuing to produce research that has an impact on policy and practice, we are focused on developing (vi) research that has a positive impact on pedagogical practice and professional development.

The following initiatives have been implemented in line with the University's research ambitions; i) identification of areas of excellence and long-term strategic planning, ii) building enhanced capacity for supporting staff, iii) implementation of a bidding strategy, iv) enhancement of interdisciplinary and international research collaborations, and v) enhanced focus on public engagement and research that has an impact on policy and practice.

The strategic development of the thematic nodes of excellence in 2018 led by staff experienced in grant capture, research impact and publishing established PloE's areas of research strength. These nodes provide a structure with which to build staff capacity, champion research mentoring, supporting researchers at all stages of their careers and maximise research income. Node leads

collaborate with PloE's Associate Head of Research (**Campbell-Barr**) and report to the PloE Research Committee against KPIs three times a year. KPIs are in line with our long-term planning for internationally outstanding research that generates impact and innovation, fostering a sustainable and interdisciplinary research community. Key activities include enhancing mentoring for all PloE staff, the development of a bidding strategy (see below), training on grant capture and pathways to impact, peer-reviewing of draft publications and grants and a seminar programme of internal and external speakers. The revised structure has been instrumental in driving forward our objectives, enhancing support for staff (see section 2) and building a vibrant research culture.

From 2019, a **bidding strategy** set out PloE's expectations and ambitions to increase our grant and third-stream income. Grant funding application targets are set in accordance with the experience of research staff while acknowledging the potential for development and growth. One of our priorities has been to develop opportunities for funding for large, multi-partner, interdisciplinary projects with non-HEI and international collaborators. The nodes and centres strategically enhance our research collaborations nationally and internationally, with nursery, primary, and secondary schools all engaged as research partners from the planning to the undertaking and dissemination of research, as are non-formal learning organisations and charities that advocate and support education. For example, the Beyond Words project (**Quinn**) was a collaboration with Plymouth Music Zone that explored how learning helps people whose communication is non-verbal.

To enhance the **interdisciplinarity and internationalisation** of our research collaborations PloE has hosted international scholars. For example, Prof. Sorzio (University of Trieste, Italy) has written extensively with **Campbell-Barr and Georgeson** and is a partner in their child-centred research (see section 4). The continued focus on internationalisation will see, **Kelly** host a European Educational Research Association seminar series in 2021, along with two visiting scholars per semester to be hosted by PloE from 2021. (The implementation of visiting scholars was due to commence in 2020, but was delayed due to Covid-19). A strength of our combined efforts around collaboration and internationalisation has been gaining European funding across the nodes that incorporates a range of international partners (**Campbell-Barr, Georgeson, Kelly, Morgan and Passy**). For example, European research on outdoor learning includes school partners, national parks and HEIs (Halitia Nature School, Finland; Natural Reserve of Py, France; Centre for School and Outdoor Education, Slovenia; Natural Park of the Headwaters of the Rivers Ter and Freser, Spain; Lascelle School, France; School of Camprodon, Spain; University of Plymouth, UK and University of Girona, Spain).

**Public engagement** is enhanced during all stages of our research through our collaborations, particularly in support of the continued professional development of the education community. The work of **Stancer** with the Systemic Autism-related Family Enabling (SAFE) project has supported the professional development of teachers in schools who are working with children and families with Autism. The Natural Connections Demonstration Project (**Waite and Passy**) identified teacher confidence as a fundamental challenge in implementing learning outside the classroom, later stimulating the supply of high-quality outdoor learning resources. The project contributed to the establishment of Prinol (Peninsula Research in Outdoor Learning), a regional hub that supports outdoor practitioners to engage in research.

### Impact Strategy

As outlined in our **impact strategy**, sharing research is shaping the future direction of education research at Plymouth. Since 2014, UPPscale - University Practice Partners: sustaining collaboration across learning environments - has been established as a vehicle for bringing together researchers and education practice partners to enhance our public engagement and impact on practice. UPPscale provides a structure for i) identifying research partners, ii) providing researchers in residence, and iii) engaging students as research partners. Through working in partnership with a full range of education settings, such as pre-schools, primary and secondary schools, Devon Wildlife Trust and the South West Arts Centre, UPPscale facilitates a sustained approach to enhancing public engagement in education research. UPPscale ensures that education research at Plymouth is attuned to local, national and international challenges, producing research and other resources that are relevant for practice. For Example, **Morgan** is

involved in a Plymouth wide Ocean Literacy project, drawing together Plymouth Sound National Marine Park, Plymouth City Council and local schools to support children and teachers to collaborate in understanding how their individual and collective actions impact the ocean and how the ocean impacts on their lives and wellbeing. During the COVID-19 crisis, collaboration across UPPscale partners provided a series of learning resources for families and schools. The development of UPPscale has been central to supporting an emerging European network of schools, universities and other education providers who have been incorporated into a successful application for Horizon2020 funding (€302,497; 1st October 2020 – 31st August 2023) to explore models of partnership and knowledge exchange.

To facilitate **public engagement and impact**, education researchers benefit from university and Faculty initiatives. Researchers have attended impact workshops to consider the early identification of impact case studies, engaging with policy stakeholders, methods for monitoring impact and exploring the alignment of impact and knowledge exchange. Training has been complemented by the appointment of a Faculty Impact Officer to offer additional guidance on measuring and auditing impact. Training has led to research projects being overseen by advisory groups that comment on the design and implementation of dissemination strategies. Engagement with policymakers is often built into research projects, such as the Department for Education being represented on the advisory group of the Systematic Review of Early Years Degrees and Employment Pathways project, funded by the Nuffield Foundation (**Campbell-Barr**) and researchers meeting with the Department of Health on medical professionals' experiences of revalidation (**Bryce**) and the Department for Education on coastal schools (**Passy**) during ongoing research. In September 2018, **Passy** ran a national workshop on research in coastal schools with policymakers at the Ofsted conference (Invited Presentation) and in October 2018 attended the APPG for the Teaching Profession. Staff also access support from the central Media and Communications Team to issue press releases and to capture media coverage of their research. Additional public engagement and dissemination is undertaken by public lectures (over 50 invited keynote lectures and workshops), websites and educator/practitioner publications. For example, in the second half of 2020 established researchers and doctoral students contributed to four British Education Research Association blogs (**Bamsey, Done, Gulliver and Webber**) on topics covering the early years, inclusion, non-formal education and student voice in HE. A future objective is to extend training on research impacts and media engagement to more colleagues and to collectively consider mechanisms for capturing, recording and monitoring long-term impact.

The Bridge is a Faculty of Arts, Humanities and Business initiative that facilitates partnerships between academics and society to provide opportunities for knowledge transfer. The Bridge, working alongside UPPscale, supports local organisations to tap into the skills and knowledge of academics, both facilitating community initiatives and increasing the visibility of our research. The Higher Education Innovation Fund has pump-primed research projects that facilitate **public engagement**. For example, **Wickett** has developed Soundwaves, a pioneering early childhood music programme bringing together Take Art (an arts-based organisation), early years settings and BA Early Childhood Studies students to provide and grow confidence in the use of music in early education. The example illustrates the coming together of research, teaching and impact that is central to our ethos and structures.

In line with UPPscale, node leads have sought to identify beneficiaries, building relationships with them to provide pathways to impact. For example, the establishment of Prinol by members of the LOFE node resulted in a conference for 130 educators in 2020, a monthly newsletter and dissemination of practice-based resources to over 220 relevant beneficiaries. Further, the Centre for Innovation in Mathematics Teaching (CIMT) works across all sectors of education, nationally and internationally, undertaking research to develop and trial strategies for enhancing mathematics education. The Mathematics Enhancement Programme is a flagship primary (Reception to Year 6) project based on strategies used in mathematically high performing countries but adapted to the UK environment. An eight-year partnership with Mayflower Community Academy as a part of UPPscale *"has impacted massively on the outcomes for our pupils and CPD"* (Deputy Head, Helen Jennings).

CAMERA's external impact strategy focuses on working with and disseminating to key health stakeholder organisations, including professional regulators, Health Education England, and individual NHS provider organisations. Its research portfolio includes commissioned contract research for stakeholder organisations that allows direct engagement with those bodies and therefore offers a clear pathway to impact on policy and practice. Dedicated themes underpinning this work include preparedness for practice, widening participation in medicine, selection methods, teamwork, patient and public involvement, resilience, remediation and professional regulation.

The selected **impact case studies** reflect the range of stakeholders that we engage with and exemplify our life-wide and lifelong approach in pursuit of enhancing pedagogical practice and professional development. Systemic Autism-related Family Enabling (SAFE) is an intervention for families of children with autism spectrum disorder (*Improving the wellbeing of families with complex problems using novel attachment-based therapies*). Drawing on Family Therapy techniques and expertise on autism, the team have developed a flexible toolkit of activities that can be used with families and schools depending on their needs. SAFE demonstrates our work in formal and non-formal learning environments and supporting the professional development of educators. Our work on Sustainable Education (*Embedding a new paradigm of Sustainable Education within Curricula for increased learner wellbeing and change towards sustainable societies*) illustrates our lifelong approach to education research, from early years education to sustainability policies for HE. Research within the CSF has resulted in impacts on both primary school outdoor learning and successful changes in sustainable education in HE. The case study on medical revalidation (*Evaluating medical revalidation to shape policy and improve doctors' experiences of regulation*) exemplifies our commitment to working with a range of stakeholders and supporting continued professional development. The project has investigated how regulators evaluate and address concerns about clinicians' skills and competence. It involves liaison with professional regulators through a cross-regulatory network, having the potential for reaching all the UK health professionals.

## 2020-2025

We will build on our research successes and existing strategy post REF 2021 by reviewing our nodes in 2022 to ensure that they are up-to-date and evolve in line with the wider education research landscape while maintaining our distinct life-wide and lifelong approach to research. We will maintain quality research that meets the demands of pedagogical practice and professional development locally, nationally and internationally through building on the success of UPPscale and forging close links between our research, public engagement and knowledge exchange activity. We will continue to invest in and support colleagues to develop innovative interdisciplinary research through reviewing and extending our existing research structures and mentoring and training offer while identifying continued sources of funding to support colleagues' research ambitions and lead to continued growth in our grant capture. We will work with our nodes and centres to identify potential new interdisciplinary partnerships that will encourage external grant capture in support of a sustainable research community with impactful civic engagement.

## 2. People

### i. Staffing Strategy and Staff Development

The UoA includes 29 academics (25.1 FTE), 69 per cent of whom are female (reflecting the broader education community), with 31 per cent on part-time contracts and all on fixed-term contracts. The age distribution of staff represents 24 per cent of staff who are 35-44 years of age, 28 per cent who are 45-54, 34 per cent who are 55-64 and 14 per cent who are 65+. Staffing strategies for ECRs and those from non-academic backgrounds (e.g. headteachers) ensures the future sustainability of our research community, while our Emeritus Professors (**Crawford, Lavelle, Sterling**) provide continuity to our contribution to education research.

Staff development supports all researchers, irrespective of the stage of their career. A Personal Development Review (PDR) process is embedded across the University. The formal appraisal process includes considering pathways to promotion, workload monitoring and reviewing research plans. Across PloE, a staff survey (2018) showed that 65% (24) of women and 84% of men (16)

agreed that they were encouraged to think about their career development during their latest PDR. The data prompted a review of the PDR process and access to promotion advice. All staff are now able to access detailed guidance on procedures for promotion, with the Head of PloE offering one-to-one guidance and a review of applications, followed by personal feedback. Staff are also able to engage with the University's Women's Network and Faculty level mentoring. During the REF period, two female colleagues have been promoted to Associate Professor (**Campbell-Barr and Georgeson**) and one to Senior Research Fellow (**Passy**).

PDR objectives are set in line with expectations for people's roles and seniority, with research objectives having a clear measurement of success, aligned to the research strategy. Workload allocations are regularly reviewed and adjusted to support research expectations. Since 2014, all research-active staff have completed a five-year research plan, to be reviewed three times per annum with their research mentor and aligned with their PDR. Since 2019, this has been extended to teaching staff, so that all staff are required to complete a five-year research plan which is updated and monitored annually. The latter supports staff who have come from a teaching or practitioner background to fulfil their research ambitions and contribute to our research community. A confidential mentoring system provides a forum with which to discuss research plans and ambitions. Researchers work with their research mentor to identify an area for research development (e.g. publication, grant capture), with mentors offering feedback on draft work.

The University's Research and Innovation team identify funding sources and provide a programme of training, reviews of application, one-to-one support for understanding funding guidance and facilitate peer review. The Faculty of Arts, Humanities and Business offers monthly drop-in sessions with grant advisors, knowledge exchange advisors and senior researchers. A review of all research plans in PloE has led to further workshops on writing for publication and grant capture and has helped to identify future training and support in line with our Research Strategy.

A competitive University tendering process, previously administered by PedRIO, supported staff in undertaking HE pedagogical research. Running until 2019, staff accessed up to £10,000 per project. For example, **Gibson** undertook a series of projects exploring transitions to HE and associated 'Stories of Becoming Student', resulting in joint conference presentations (British Education Studies Association) and journal publications with BA Education Studies students (Gordana, Grace, Webster). The success of such research and the funding stream led to students as research partners being a part of UPPscale and a review of funds to support staff and students collaborate on research. In 2020-21 education colleagues were part of a £500,000 Office for Students and Research England project bringing together researchers, students, businesses and communities to evidence effective practice on how knowledge exchange activities benefit HE students and graduates.

Until 2019, a tendering process in PloE supported research staff in accessing funds to pump-prime research and take sabbaticals. In 2020 the funds were combined with Staff Development monies and made available to all staff to support research and enhance public engagement activity (in line with our strategies). In 2021 PloE staff could apply for up to £5,000 per project to support research and knowledge exchange activities with an objective that it will lead to external grant applications. Smaller grants, typically in the region of £500-£1500, can be used for conference attendance, accessing external training and other small-scale research activity. Funds are allocated by PloE's Executive Group, which supports a rapid decision-making process to ensure timely allocation.

Since 2018, there has been a focus on identifying ECR grants. ECRs can also access Staff Development funds to pump prime early-stage projects in support of their research plans. There is a Faculty of Arts, Humanities and Business Early Career Network that provides additional support and networking opportunities. Successes in supporting ECRs include examples of colleagues who completed the EdD being mentored in developing academic publications and provided with internal funding to further their research activity (**Wicket and Webber**).

Since 2018 a University Leadership Programme has provided a year-long training package to node leads (**Campbell-Barr, Georgeson, Morgan and Passy**) in furthering their research skills,

mentoring role and taking forward the work of the nodes in line with our Research Strategy. Funded via the Faculty of Arts, Humanities and Business, and delivered by Barefoot Training, the training supports leaders to consider both their own research trajectories and how to support others. **Campbell-Barr** successfully obtained external funding, incorporating an ECR and external partner, through using the training to strategically plan for grant capture.

Our recruitment and retention strategy supports the research trajectories of colleagues and the education community. Staff who are key to supporting our undergraduate programmes, but who have not obtained a Doctorate, can access internal funding to support them in completing an EdD or PhD, with a time allocation given within our workload-tracking framework. Since 2014, ten colleagues from across the university (PloE, Learning Development and the Faculty of Health) have completed an EdD, with an additional EdD student going on to become a member of staff (**Webber**). There have been four staff PhD completions, with six being supported to complete their PhD currently. The funding of doctorates has been central in supporting our commitment to growing staff capacity and supporting colleagues to realise their research ambitions.

Plymouth has implemented fully the expectations of the Concordat to Support the Career Development of Researchers. For example, contract researchers are engaged fully in the life of PloE, being encouraged to participate in and present at seminars. Seminars and research skills training are continually provided as part of the remit of the nodes, ensuring they are accessible to all. Regular project meetings further ensure that contract researchers are well supported, with project leads also acting as mentors. Towards the end of projects/contracts, discussions take place with the project lead about future research trajectory and plans. All contract researchers are encouraged to join the University database of approved contract researchers to support them in gaining continued work.

Staff are supported to align their research activity to the node and centres structure and Plymouth's wider research objectives. All staff and PGRs are supported to participate in the research nodes. Nodes jointly host a weekly lunchtime seminar, where students and colleagues can gain peer review of their research work in support of building research quality. Additional seminars are hosted by the Centre for Sustainable Futures with colleagues from across the University presenting their research. The Centre's seminar series reflects its wider community of practice ethos in sharing knowledge on sustainable education across all stages of education.

Both PloE and CAMERA have established bi-monthly paper review meetings to help develop the quality of outputs for all staff, with a particular emphasis on ECRs. Established in 2017, CAMERA's Journal Club discusses key papers and supports the development of academic writing skills. PloE's Reviewing Forum was established in 2018 and discusses the originality, significance and rigour of research. Before 2018, reviewing was undertaken by visiting scholars. Additional online seminars have included sessions on getting into writing, theorising research and reading quantitative research. A cross-university Post-humanism reading group has also been established, hosting seminars both online and in-person, and organising conferences.

## ii. Research Students

Research students in education encompass both EdD and PhD students. Since the last REF, there have been 22 PhD completions (compared to 12 in the 2014 period). This increase reflects a growing number of international students and students progressing from the MA to doctoral programmes. The success of the EdD programme has supported 20 completions while ensuring our commitment to the continued professional development of staff at all levels (see above).

Since 2014, PloE has recruited five Doctoral Teaching Assistants (DTAs). DTAs undertake a funded PhD and have a 0.1, growing to 0.2 FTE, contract to deliver teaching and related activity. DTAs are aligned with both the research nodes and Undergraduate BA and BEd Programmes, ensuring research-led student education. DTAs are supported to develop research impacts as part of their doctoral work, with one student working actively on the SAFE impact case study and two working alongside the University Practice Partners initiative. All DTAs have both a supervisory team and a line manager. In the final year of their DTA, the line manager undertakes a discussion

on future research plans, including applying for postgraduate research opportunities.

All PhD students are allocated a first and second supervisor, as are EdD students on entering the thesis stage. While EdD students have research training embedded in the taught aspect of their Doctorate, PhD students can access a bespoke Faculty-level multi-disciplinary research training programme, MARE700, in addition to an education research methods module. All students can access the University's Research Development Programme in support of their knowledge and intellectual abilities, personal effectiveness, research organisation and public engagement and impact. Postgraduate students are expected to join at least one research node and to present their work. Nodes also develop bespoke training sessions relevant to the methodological interests of their members. An additional fortnightly postgraduate forum was established in 2020 to support Doctoral Students.

An annual research conference provides a friendly and supportive forum at which all Doctoral students can present their work to colleagues from across the University and beyond. The conference also provides workshops, seminars and panel discussions with experienced researchers. In the Faculty of Health, PGRs transferring from MPhil to PhD status present their study to an audience of staff and their peers, receiving feedback from colleagues. Students also have the opportunity to participate in the Faculty of Health's Annual Research Event, attended by supervisors and research students from across the Faculty.

Doctoral students have made important contributions to the research culture including fostering more global perspectives and networks and providing a gardening and lunch club. 'Have your say' meetings and student representatives promote student feedback and a regular PloE Supervisor Forum supports doctoral supervisors.

### iii. Equality and Diversity

The University of Plymouth is committed to equality, diversity and inclusivity, with comprehensive structures in place to support and empower all colleagues in fulfilling their career ambitions. Staff policies follow guidelines and procedures that provide an inclusive working environment. The Equality, Diversity and Inclusion Team oversee the implementation of the Equality, Diversity and Inclusion policy that outlines the university's commitment to and implementation of our legal obligations as outlined in the Equality Act (2010).

PloE works closely with Human Resources and the Equality, Diversity and Inclusion Team to advise staff on, and fully implement, policies such as the Equal Opportunities Policies, Flexible Working Policy and Religious Diversity Policy. All staff also complete training on Diversity in the Workplace and Unconscious Bias. Those involved in recruitment complete training on Recruitment and Selection for Panel Members with additional training for the chair of Recruitment Panels. Training completion is closely monitored, with staff being requested to renew their training every two to three years. Support structures include parity in terms of recruitment, level of posts, promotion, workload allocation and access to personalised support such as mentoring and staff development funds. The institution-wide approach is particularly important for the Education UoA as staff work across the University.

In November 2020, PloE was accredited for a Bronze Athena SWAN, recognising that the Institute has a solid foundation for eliminating gender bias and developing an inclusive culture that values all staff. Recognised challenges in ensuring women feel supported in their ambitions to develop their careers (including research and promotion opportunities) have been addressed (see 2i), supported by the renewed allocation of staff development monies. To facilitate gender equality there is a University-wide Women's Mentoring Scheme that provides mentoring support for promotion to female applicants. PloE has now formed an Equality, Diversity and Inclusion Committee to continue to review the Athena SWAN action plan.

Equality and diversity remain core to education research at Plymouth, building on our 2014 strengths in this area. Our life-wide and lifelong approach to research sees equality and diversity as a central strand to our research profile. Research projects regularly engage with and support



## Unit-level environment template (REF5b)

those that have been identified as marginalised communities. Research undertaken by both staff and PRGs has considered specific special educational needs such as Autism and Dyslexia (e.g. **Done, Georgeson, Stancer**), with other work looking at the professional development of Special Educational Needs Coordinators (**Georgeson and Passy**). Methodologically, colleagues are exploring innovative approaches to data collection to engage with a diverse group of participants. Projects have explored the use of music and sound to communicate with people whose communication is non-verbal and peer interviewing in association with the University of Third Age (**Quinn and Gristy**). **Quinn's** earlier work (2012) providing guidelines for the sector on women's mentoring in HE on behalf of the Equality Challenge Unit has led to her leading on PLoE's mentoring provision.

**3. Income, infrastructure and facilities****Income**

Research Income: 2013/14 - 2019/20

	2013/ 14	2014/ 15	2015/ 16	2016/ 17	2017/ 18	2018/ 19	2019/ 20	Total Income e £
Source	Incom e £	Incom e £	Incom e £	Incom e £	Incom e £	Incom e £	Incom e £	
BEIS Research Councils	10,348	142	12,016	-38	0	0	0	22,467
UK-Based Charities (Open Competitive Process)	50,330	81,276	95,602	9,273	63,581	66,974	40,330	407,366
UK-Based Charities (Other)	106,137	284,462	120,115	-3,052	113,796	-2,788	69,711	688,380
UK Central Gov. Bodies/Local Auth, Health & Hosp Auth.	397,602	228,133	404,171	249,537	40,834	54,219	78,382	1,452,878
UK Health Research Funding Bodies	69,809	116,251	112,792	210,560	82,111	228,993	47,525	868,041
UK Industry, Commerce & Public Corporations	0	3,222	11,633	1,950	0	0	0	16,805
UK Other Sources	1,737	9,803	0	0	0	0	0	11,539
EU Government Bodies	8,820	1,239	12,087	91,075	64,864	35,923	73,367	287,376
EU Other	6,880	0	0	12,474	-0	0	0	19,354
Non-EU Industry, Commerce & Public Corporations	0	4,250	0	595	0	0	0	4,846
Non-EU Other	0	0	0	0	0	0	0	0
	651,663	728,778	768,415	572,375	365,186	383,320	309,314	3,779,052

Over the REF 2021 period, education research has received over £3.7 million in funding, an increase of over £1million on our 2014 submission. Funding sources are diverse, with growth in sources relating to international and interdisciplinary research. Colleagues have had success in European Funding; in applying to prestigious research funders (e.g. British Academy/Leverhulme and Nuffield Foundation); in interdisciplinary bids (e.g. Arts Council England and NIHR); in applying to scholarly associations (e.g. Society for Research in Higher Education, Philosophy of Education Society); government bodies (e.g. Natural England, Department for Education) and local funders.

Colleagues are also involved in projects funded by other mechanisms to a total of about £3million.

Research income aligns with the four research excellence nodes and the three research centres as the following examples illustrate:

- The Children and Families node has undertaken funded research into the Knowledge, Skills and Attitudinal Competences for Quality Early childhood Education and Care (**Campbell-Barr** - Marie Curie Fellowship 109,679Euro, 2015-17), Child-centred Diversity for Quality Early Childhood Education and Care (Horizon 2020, 207,209Euro – **Campbell-Barr and Georgeson**, 2017-19), Child-centred Competences for Early Childhood Education and Care (Horizon 2020, 194,482Euro – **Campbell-Barr and Georgeson**, ongoing), Childminder Sustainability in England and Wales (Pacey, £10,000 – **Campbell-Barr, Georgeson and Hohmann**, 2020), and A Systematic Review of Early Years Degrees and Employment Pathways (Nuffield Foundation, £55,315 – **Campbell-Barr**, 2020).
- The Inclusion node of excellence projects include SAFE (Systematic Autism Related Family Enabling Intervention project (**Stancer**, 2017, awarded £293,796 across NIHR, charity and local government), Developing a critically inclusive pedagogy of relationship for the retention and success of ‘non-traditional’ students or ‘students at risk of exclusion’ (HEI, £14,370 – **Gibson**, 2014) and Future Development of Achieving Early (Esmee Fairbairn Foundation, £24,365 – **Georgeson and Passy**, 2018-19)
- Members of Learning Outside Formal Education (LOFE) have been involved in Go Out and Learn-High Quality Practices for Developing Key Competences in Primary School Education (GOaL – Erasmus, £27,598 – **Passy and Morgan**, 2018-19), Nurturing Affinity to Nature through Outdoor Learning in Special Places (NANOL – Erasmus, £11,350 – **Morgan**, 2018-19) and Emotional Health and Wellbeing Through Physical Activity Whole School Approach (Dorset Public Health, £15,000 - **Passy**). The Natural Connections Demonstration Project (Natural England, £340,424 – **Waite and Passy**, 2014-16) represents an ongoing strand of work that has led to other related projects as detailed in the case study *Embedding a new paradigm of Sustainable Education within Curricula for increased learner wellbeing and change towards sustainable societies*.
- The Education Policy node of excellence has undertaken research comparing and analysing teacher expertise at all stages of education, with a particular focus on the role of assessment within education (e.g. Comparing standardised assessment regimes and their effects – BAICE, £4,460 – **Kelly**, 2016-17 and Supervision of Professional Doctorates, SRHE, £10,000 – **Pratt**, 2017-18). From 2019, **Kelly** has been involved in a Framework Partnership Agreement with a European policy network on teachers and school leaders (European Commission, £9,869, ongoing).
- CAMERA’s research encompasses the whole of the clinical education continuum from becoming a health professions student through to clinicians in practice in the health workplace. CAMERA has attracted research funding from a diverse range of local (Health Education South West), national (National Institute for Health Research, the Health Foundation, Health Education England, General Medical Council, General Dental Council, Higher Education Academy, Tropical Health Education Trust) and international (Erasmus Plus, Medical Council of Ireland) funders. For example, the *Evaluating the development of medical revalidation in England and its impact on organisational performance and medical practice project* was awarded several grants, including £214,852 from the General Medical Council (**Gale**, 2015-19), and £69,808 for a NIHR Fellowship Revalidation policy project (**Archer**, 2016-18).
- The Centre for Sustainable Future (CSF) has an international reputation for being a centre of excellence in sustainable teaching and learning. **Warwick** is part of the Low Carbon Devon project, a £2.6million (external fund, split across partners) programme with the European Regional Development Fund. The CSF works closely with members of LOFE and

has international partnerships with colleagues in British Columbia to take forward the University's civic mission through sustainable engaged learning.

- CIMT has received funding from Daiwa Foundation (**Burghes**) reciprocal collaboration for maths teaching and training, UK charities and central and local government sources. Projects frequently combine research and knowledge exchange due to the strong pedagogical focus of CIMT in developing maths resources across all stages of the curriculum and into professional development. In 2020 CIMT was awarded £250,000 of Strategic Investment Funds to develop an online interactive resource to support personalised learning.

### Infrastructure and Facilities

Education researchers are housed in state-of-the-art buildings in the heart of the city of Plymouth. Medical education researchers access the multi-million pound Derriford Research Facility, with the future development of Intercity Place (2022) housing inter-professional clinical skills facilities to support our continued commitment to the professional development of nurses, midwives, paramedics, physiotherapists, and other allied health professionals. The facilities will enable staff to work together in one location to support the future health workforce.

Plymouth provides world-class facilities for researchers with IT support and access to relevant research software. Researchers (both staff and PGRs) can download software such as Nvivo and SPSS for research purposes under a university-wide licence. Training is provided centrally for both staff and PGRs in the use of such software. All staff have a secure online storage space that can be accessed by named staff externally if required. External partnerships are supported through a secure online SharePoint, enabling collaborative writing and research with international partners on a range of projects. For example, a European collaboration exploring child-centredness in early childhood education involved partners from six countries sharing data and associated research documents. Due to the data including images of children, online security was paramount and included regular monitoring from IT services. All staff have an allocated desk on campus, with the option for home-working. The Seal Hayne Library is well resourced with online and hard copy texts that support staff scholarship. A team of Technicians within PloE provide research equipment such as Dictaphones and video cameras on a loan basis for both staff and students.

Across the University, researchers are supported by core Administrative Staff, Research and Innovation, Finance (both pre- and post- grant teams) and the Legal team. Research and Innovation guide researchers through pre- and post- award processes, such as offering advice on grant applications and arranging mandates and other associated agreements with partners, while the Legal team advise on contracts and Intellectual Property Rights. Finance offer ongoing support on the management of grants and reporting to funders. Active research projects and UPPscale have dedicated webpages on which to update project progress and share relevant reports. The support structures enable staff to fulfil the objectives of maximising grant capture in support of internationally recognised research that can be shared to inform policy and practice. Staffs are enabled to be active researchers within their projects, with the support teams facilitating the structural aspects.

In PloE, the Research Strategy (and associated Bidding and Impact strategies) is overseen by the Associate Head of Research and PloE Research Committee that meets three times a year (see section 1). The PloE Research Committee consists of the Research Node and Centre Leads, EdD and PhD Programme Leads, a Knowledge Exchange partner, Early Career Researcher Representative, Faculty Research & Creative Industries Operations Manager and a Faculty Research Administrator. The PloE Research Committee receives reports on submitted grant proposals, live research projects, ethics applications and Doctoral completions. The PloE Research Committee reports to both the Faculty Research Committee and the Institute Executive Group (IEG), the latter meeting fortnightly. Reporting to IEG regularly reviews live grants, proposed grants, progress on research impacts and the overall strategic direction of PloE research. The latter supports decisions regarding Staff Development funding, where staff are expected to align

funding requests to the Research Strategy.

The CAMERA team receives support from the Faculty of Health. The group meets monthly to present and discuss developing ideas and work-in-progress. The group reports to the Faculty Research Committee. In addition to accessing the university-wide structures, CAMERA staff can access funds to attend key medical education, health policy and methodological conferences. CAMERA and PloE Associate Heads for Research meet six times a year, including relevant colleagues in meetings when needed.

Education research projects are scrutinised by the Education Research Ethics and Integrity Subcommittee, a sub-committee of the Faculty of Arts, Humanities and Business Research Ethics and Integrity committee to ensure adherence to Plymouth's Research Ethics Policy and the Code of Good Research Practice. The Code of Good Research Practice has been drawn up to conform with the principles laid out in other relevant policies, guidelines and codes of conduct, including those of funding bodies such as the Research Councils and the Universities UK's Concordat to Support Research Integrity. Research projects aligned with health, including doctorates, must receive ethical approval from the Faculty of Health Research Ethics and Integrity Committee, with some CAMERA projects also requiring external ethics approval from the Health Research Authority where these involve the NHS.

The four research nodes and Centre for Sustainable Futures receive funding from PloE to support research activity, such as hosting external speakers, pump-priming research or delivering staff training. Both CAMERA and the Centre for Innovation in Mathematic Teaching are self-sustaining. The CIMT has received funding from several sources, including the Gatsby Charitable Foundation, Esmee Fairbairn and Garfield Weston (£40,000).

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

##### i. Collaboration

In line with our Research and Impact strategies, education researchers at the University of Plymouth frequently collaborate with local, national and international partners representing our life-wide and lifelong approach to research. Our partnerships reflect how our research is focused on the needs of the education community, informing policy and practice locally, nationally and internationally. Our University Practice Partners initial local level collaborations have extended since 2014 to represent national-level partnerships, with this expanding to international since 2020 (see Impact Strategy). In addition to pre-, primary- and secondary- schools, partners include (for example) Devon Wildlife Trust, South West Arts Warehouse, Soundwaves, Univerzita Karlova and FMŠ Sluníčko pod střechem Czechia, UC Leuven and Vrije Basisschool Buitenschool de Bergop's Belgium, University of Santiago de Compostela and C.P.I. O Cruce, Cerceda Spain.

International collaborations are supported by Faculty level internationalisation funds and enhanced by staff and student exchanges funded by both the Erasmus scheme and Santander Scholarships. Funding sources also represent our international standing with several European projects in early childhood education and sustainable education. In line with our Research Strategy, international collaborations have grown and developed significantly since REF2014, developing many successful projects for example in Australia, South Africa, Singapore, Denmark, Spain, Italy, Germany, Norway, Bosnia and Herzegovina, Lebanon, Hungary, Finland, Netherlands and Croatia. For example, the Child-centred Competence project includes partners from Croatia, Denmark, Ireland, Italy, Spain and Romania. This includes working with Babeş-Bolyai University (Romania), facilitating their first involvement in a European funded project. Internationally, CAMERA's research activity reaches Australia, Liberia, Saudi Arabia, Sierra Leone, and Switzerland.

In line with our objective for international excellence, staff are encouraged to apply for research sabbaticals to further the profile of education research at Plymouth (see section 1). Through their international standing researchers have won prestigious international Research Fellowships, for example, a Marie Curie Fellowship (**Campbell-Barr**) and a Matteo Ricci International Research Award (**Quinn**). Collaborations have seen researchers appointed as International Visiting Scholars:

for example, to the University of Shiraz, Iran and University of the State of Rio de Janeiro, Brazil (**Haynes**) and their expertise has been recognised by appointments to international research councils: the Italian Research Council, (**Quinn**) and the Netherlands Initiative for Education Research (**Passy**) and bodies such as the British Council (**Gristy**).

Both the Associate Dean for Research within the Faculty of Arts, Humanities and Business, and the Research and Innovation team coordinate research calls and expressions of interest in line with relevant expertise to develop innovative interdisciplinary projects across the University. For example, a series of cross Faculty meetings have sought to enhance collaboration within the University through identifying research collaborations and associated sources of funding that will address the social and economic challenges of coastal communities.

The Centre for Sustainable Futures (CSF) has a university-wide remit for securing Plymouth's vision to grow an international reputation for being a centre of excellence in sustainability teaching and learning. The centre fosters pedagogic relationships across the University that has led to, for example, architecture and early childhood students collaborating on research on outdoor learning environments in early years education (**Wickett**). The Urban Dialogues seminar series has included presentations from early childhood specialists, drama specialists and partners from local schools about initiatives to support sustainable teaching and learning.

## ii. Contribution to Research Base

All staff regularly act as peer reviewers for a full range of education journals, with a number also being on the editorial boards of international Journals. For example, *Pastoral Care in Education-International Journal*, *International Journal Teaching in Higher Education* (**Gibson**), *Early Years: an international research journal* (**Georgeson**), *Australian and International Journal of Rural Education* (**Gristy**), *Childhood and Philosophy*, *Journal of International Council for Philosophical Inquiry with Children*, *Philosophy in Schools* (**Haynes**), *Journal of Education for Teaching*, *Journal of Experiential Education* (**Passy**), *Journal of Geoscience Education* (**Stokes**), *Educational Action Research Journal* (**Warwick**), *Journal of Geography in Higher Education* and *International Journal of Educational Development* (**Winter**).

Staff have also acted as guest editors on a number of international journals: *European Early Childhood Research Journal*, *Early Child Development and Care* (**Campbell-Barr**, 2017 25: 4), *Global Education Review* (**Campbell-Barr and Lavelle**, 2020, 7: 2), *Research in Comparative and International Education* (**Kelly**, 2016, 11: 4), *International Review of Qualitative Research and Cultural Studies: Critical Methodologies* (**Gale, K.** 2017, 10: 1).

**Georgeson** and **Passy** have acted as Specialist Interest Group (SIG) convenors for the British Education Research Association and **Gristy** and **Hohmann** are actively involved in SIGs with the European Educational Research Association (EERA). **Kelly** is also involved in the Politics and Policy in Education Network with EERA and is a member of their conference committee and the European School Heads Association. Staff are also involved in the British Association for Early Education (**Campbell-Barr**), Association for Professional Development in Early Years (**Georgeson**) and British Education Studies Association (**Gibson**). **Gibson** and **Gresty** have both been awarded Higher Education Academy Scholarships. **Gristy** is an international mentor for a British Council project 'Enhancing dialogic learning and school collaboration in rural Mexico' at the Universidad Iberoamericana, Mexico City. CAMERA staff sit on the European Board of Medical Assessors (**Gale, T.**).

Staff regularly act as grant reviewers (e.g. Health Research Board, Ireland, **Brennan**; Independent Social Research Foundation and Nuffield Foundation, **Campbell-Barr**; ESRC and Leverhulme, **Haynes**; SEDA, **Winter**). **Quinn** is a member of the ESRC peer review college and **Bryce** has reviewed for the National Institute of Health Research (NIHR). **Campbell-Barr** has also acted as a reviewer for the revised Level 7 and 8 early years Professional Awards Criteria and Guidelines for the Department of Education and Skills, Ireland.

Staff have examined over 45 doctorates e.g. Birmingham City University, University of Gloucester,

## Unit-level environment template (REF5b)

University of Reading (**Campbell-Barr**) Anglia Ruskin University, Australian Catholic University, University of Alicante, University of Sheffield, Liverpool Hope University, Leeds Beckett University (**Georgeson**), University of Derby (**Gibson**), Kings College, University of Queensland Dublin City, University of Cape Town (**Haynes**), Leeds Beckett, Exeter University, University College London, University of South Australia (**Warwick**). The international standing of colleagues has seen them examining Doctorates globally, including in Australia (**Cotton, Haynes and Warwick**), New Zealand (**Campbell-Barr**) and Spain (**Georgeson**).

CAMERA are involved in conference organisation for the European Board of Medical Assessors (EBMA), and have contributed invited workshops and symposia at national and international events including: academic conferences (International Clinical Skills Conference, Conference of Postgraduate Medical Education Deans, Society for Education in Anesthesiology (United States), UKMED Research Conference); and at conferences for policy and practitioner audiences (BMJ/Faculty of Medical Leadership and Management Leaders in Healthcare Conference; NHS England Responsible Officer Calibration and Operational Network; International Association of Medical Regulatory Authorities Conference).

Colleagues have organised international conferences including the Beyond Words conference in Plymouth (**Quinn**, 2017) and an Early Childhood and Care conference, Croatia (**Campbell-Barr**, 2016). Invited Conference Keynotes amongst colleagues in PloE include (for example): Rural Education, Czechia (**Gristy**, 2017), Outdoor Learning, Vienna (**Passy**, 2018), Early Childhood Ireland, Dublin (**Campbell-Barr**, 2018), 21st Century Robotics for Primary Schools University of Malta (**Georgeson**, 2018), conference of International Masters in Peace and Conflict Studies University Jaume I Castellon, Spain (**Haynes**, 2018).

### iii. Contribution to the Economy and Society

Plymouth has a strong commitment to its local community as a civic university. University Practice Partners (UPPscale) provide a structure within which academics work in partnership with local education settings. The range of settings is far-reaching, including working with Devon Wildlife Trust and South West Arts Warehouse. Staff collaborate with education settings across the life course, including preschools, primary, secondary and Further Education. Work with local education settings has included embedding them as research partners in international research. For example, Camborne and Truro Nursery schools were a part of the European Project on Child-centred Diversity for Quality Early Childhood Education and Care. Locally, CAMERA has worked with Health Education South West to evaluate a resilience and wellbeing training intervention for doctors training to become General Practitioners.

In support of our renewed focus on developing impact, staff work closely with national organisations in their research including Autistica (**Stancer**), British Association for Early Education (**Campbell-Barr and Georgeson**), the Professional Association for Childcare and Early Years - PACEY (**Campbell-Barr, Georgeson and Hohmann**) and the National Marine Aquarium (**Morgan**). Such national organisations and charities have both funded research and worked in partnership on projects. For example, Pacey has funded research into the sustainability of childminders in England and Wales and the British Association for Early Education is a partner in the European project on Child-centred Competences in Early Childhood Education and Care. The Pacey project is a direct response to the societal challenge of declining numbers of childminders, with the work of child-centred competence demonstrating the continued commitment to supporting the professional practice of educators. **Morgan** also collaborated with the National Marine Aquarium in creating online homeschooling resources during COVID-19.

Nationally, colleagues contribute to a range of organisations as Trustees (e.g. **Campbell-Barr** and Early Education and **Georgeson** and the Association for Professional Development in Early Years). Both **Campbell-Barr** (February 2018) and **Georgeson** (July 2018) have worked with the Department for Education on the revised Early Learning Goals. CAMERA has worked with the General Medical Council, the General Dental Council, and Health Education England on a range of projects, engaging directly with policy-makers to report findings on issues of concern to them (2016-18). For example, CAMERA's research has provided evidence to the General Medical

Council on how medical professionals experienced revalidation with the findings informing updated guidance for the UK's quarter of a million doctors (General Medical Council, 2018, *Guidance on Supporting Information for appraisal and revalidation*). CAMERA staff also sit on the General Medical Council's Board of Medical Assessors and the Royal College of Anaesthetists (**Gale, T.**), and have been invited contributors to the International Health Workforce Collaborative (**Bryce**).

CAMERA's research is reported widely in national press and specialist health media, including an interview with BBC World Service on training for healthcare workers tasked with controlling the spread of Ebola in West Africa (**Gale, T.**), and coverage of work on dental fitness to practise (**Bryce**). The Natural Connections Demonstration Project received national press coverage and the Sustainability of Childminders in England and Wales unusually received press coverage prior to data collection. Such press coverage demonstrates our continued drive to respond to educational challenges and to inform education policy and practice locally, nationally and globally.