

Institution: The Open University
Unit of Assessment: C23 Education
<p>1. Unit context and structure, research and impact strategy</p> <p>1.1 Context and structure of the Unit</p> <p>Educational research at the Open University sits within The Centre for Research in Education and Educational Technology (CREET). In REF 2014, CREET sat within the Faculty of Education and Language Studies (FELS). During the current REF period, FELS merged with the Faculty of Health and Social Care to become the Faculty of Wellbeing, Education and Language Studies (WELS) and as a result CREET is now managed by WELS. CREET researchers are located in three administrative units: The Faculty of Wellbeing, Education and Language Studies (70.41 FTE); The Faculty of Science, Engineering, Technology and Mathematics (7.0 FTE) and The Institute for Educational Technology (28.51 FTE). CREET has an international reputation for field-leading research that coheres around four substantive research clusters: Childhood, Youth and Sports; Education Futures; Language and Literacies, and Technology Enhanced Learning. Each cluster generates agenda setting programmes of impactful research through original theorising, methodological innovation, and sustained, creative partnerships with a diverse range of users. Researchers within these four clusters also contribute to two connected research centres, two research groups and two university wide interdisciplinary Strategic Research Areas (SRAs).</p> <p>Research Clusters</p> <p>During the current REF period the research of CREET has cohered around the same four substantive interdisciplinary research clusters areas as in REF 2014: in some cases the focus of their work has expanded.</p> <p>Research in Education Futures investigates teaching and learning in order to shape more equitable and innovative learning opportunities. Signature strengths of the cluster are the development and implementation of innovative and scalable methods for co-production. Researchers collaborate across two integral research groups Pedagogy and Learning (PaL) and Research into International Teacher Education and Sustainable Development (RITES). Research within PaL is underpinned by a socio-cultural understanding of learning and investigates pedagogy, learning, curriculum, policy, and assessment across a range of formal and informal learning contexts. Projects focus on creativity and creative teaching and learning, teachers and students' literacies, identities and practices, issues of inclusion and the use of new technologies. RITES' major interests include approaches for teacher education in international contexts and at mass scale; the use of digital technologies and open educational resources (OER) in teacher professional development.</p> <p>Childhood Studies has expanded to become Childhood, Youth and Sports. Research in this cluster employs a wide range of quantitative and qualitative research methodologies to examine children's, young people's and sportspersons' lived experiences, education, and development. The cluster has particular expertise in conducting interdisciplinary research underpinned by a commitment to social justice and well-being. Research therefore addresses real-world problems of disadvantage, discrimination, ill-health and disability in order to gain new insights and develop effective interventions.</p> <p>The Language and Literacies cluster has coalesced under a broader theme of Language and Applied Linguistics. Researchers in this cluster contribute to two integral research groups: Open Languages (OLRG) and Applied Linguistics and Literacies (ALLRG). OLRG focuses on research into the learning and teaching of languages and cultures in technology-mediated contexts and language education policy and practice. It has developed an International reputation for leading research into intercultural communicative competence and digital literacies</p>

development. ALLRG focuses on the social, cultural, and political dimensions of spoken and written language in a variety of contexts, including education.

Research in the **Technology Enhanced Learning (TEL)** Cluster has an international reputation for leading the development of new disciplines within the field such as Learning Analytics and leading new fields of inquiry such as Open Education Practices. Across the cluster research in this REF period has focused on five themes: Learning Design and Learning Analytics, Learning Futures, Learning in an Open World, Professional and Digital Learning, and Performance Augmentation. Learning Design and Learning Analytics research seeks to address questions such as the usefulness of learning analytics and learning design data for teachers and students, and how teachers and organisations can be effectively supported. Drawing on research in mobile and ubiquitous learning, citizen engagement, informal language learning and Massive Open Online Courses (MOOCs), Learning Futures research examines how best to respond to the needs of large numbers of dispersed and disadvantaged learners. Learning in an Open World explores the impact of Open practices on learners and educators alike. The Professional and Digital Learning research programme is working with partners in multinational companies, professional bodies, academic institutions, and civil society organisations to improve the ways people and organisations learn in response to global challenges. Performance Augmentation research is exploring augmented and virtual reality for learning.

Research Centres and Groups

In order to facilitate growth and innovations, we have supported, through the creation of two Centres and two Groups, research activity that draws on the expertise of researchers both within and outside of the research clusters. These centres and groups have flexible membership boundaries that extend beyond the Faculty and University.

Established in 2004 the **Children's Research Centre (CRC)** was unique in being the first university-based centre anywhere in the world to train and support children and young people to undertake their own research. This enables children and young people to have a research voice in society and to make valuable contributions to knowledge from their insider perspectives. The CRC works with diverse groups of children and young people in schools and community settings, to provide them with age-tailored research training and then support them to undertake original research of their choosing. Recently, membership of the Centre has expanded to include research-engaged practitioners.

As part of our initial work to develop *cross-faculty* interdisciplinary research that builds on the strengths of the newly formed Faculty, we have established the **Body Mind and Media Centre for Children and Young People's Wellbeing**. The aim of the Centre is to understand children and young people's experiences and worlds, to improve policy and practice in media, health, and medical care. Taking a children's rights stance, children, parents, and others are invited to share their views and experiences in these domains. Projects include 'The Science of Persuasion', where in collaboration with UNICEF UK Rights Respecting Schools, materials were co-created with young people to examine the science of persuasive design in digital media and how the advertising ecosystem works to influence their food behaviour.

Founded in 1978, The Computer Aided Learning Research Group (**CALRG**) focuses on the use of technologies in education. Membership consists of students and staff located with the Institute of Educational Technology (IET) as well as students and staff from maths and computing, health and social care, arts, social science, and business. CALRG is an active and supportive community that runs weekly events including seminars from external and internal speakers; and 'communicating research' sessions. CALRG also organises an annual research conference every summer and a key feature is that students and early career researchers are heavily involved in its organisation (e.g. **Iniesto, Murphy**) giving them valuable leadership experience. The **RUMPUS** Research Group is a multi-disciplinary group that examines the role of fun in learning. The group has secured a Faculty funded postdoc (**Okada**) and has collaborative projects in Nepal, Indonesia, and Brazil. For example, working in partnership with five Brazilian

Universities, the OLAF project is refining and validating an instrument designed to capture students' views about fun and distance education.

Approach to Interdisciplinary research

Our interdisciplinary work focuses on key challenges related to understanding how people can be enabled to realise their potential, lead healthy, fulfilling lives, create inclusive societies, and thrive in the context of change and uncertainty. Our approach to interdisciplinary research within the assessment period has focused on contributing to and leading cross-faculty initiatives (e.g. CALRG and The Body Mind and Media Centre for Children and Young People's Wellbeing) and cross-university initiatives. With respect to *cross-university* initiatives, we have received significant investment from the university in order to engage in two interdisciplinary initiatives that are of strategic international importance: **OpenTEL** and **International Development and Inclusive Innovation**. The aims of these two strategic research areas (SRAs) are to develop interdisciplinary research collaborations that address the global challenge of bringing about systemic transformation in order to address exclusion, increase participation and promote equitable approaches for individual learners.

The **OpenTEL SRA** investigates how innovative technologies can help people learn in different places and how these technologies can enhance learning and empower learners. This SRA is led by **Scanlon** and the Institute for Educational Technology (IET), which provides expertise in researching TEL to encourage the development of TEL research across the OU. This is achieved through events, such as termly 'Show & TEL' seminars, bidding workshops as well as the development and support of five Special Interest Groups focusing on Artificial Intelligence in Education, Citizen Science, Accessibility and Inclusion, Assessment and Interdisciplinarity. An example OpenTEL project is the ARCLIGHT project, funded by the British Academy in which CREET researcher **Gaved**, is using his expertise in participatory digital technologies to work with researchers in mental health (Mitchell) and international development (Berardi) to develop, implement and evaluate a capacity building and intervention programme for addressing the challenges of mental health in Guyana. The SRA also provides a supportive community for the development of interdisciplinary doctoral projects through the support of a number of PhD students with supervisory teams drawn from all four faculties of the university. In 2017, the OpenTEL SRA was the recipient of the 2017 Open Education Consortium award for Open Research.

The **International Development and Inclusive Innovation SRA** seeks to understand how innovations in pedagogy, technology and conceptions of language and culture can be used to increase participation in learning. **Wolfenden** and **Buckler** have served on the steering committee of the SRA and have contributed to cross-faculty reviews of bids. An example project is the research on transformation of the education workforce for the Education Commission conducted by **Wolfenden** and **Buckler** (with Santos from Faculty of Arts and Social Sciences). One of the recommendations from this research was that education workforce design draw on the concept of 'social capital' to design learning teams. This has informed country level work in Ghana where new education workforce design will integrate elements of a learning team approach such as greater differentiation in the role of the teacher.

Approach to developing an open research environment

The role that Open Education Resources and Open Educational Practices play in professional development and pedagogy is a key focus of research taking place across CREET. As well as researching 'open-ness', our researchers are committed to modelling good practice in terms of making the tools, data, and processes that they develop open to the wider community. For example, The EU-funded ERASMUS project ExpLOERer project (**Comas-Quinn, Pulker**) analysed current practice in the use and sustainability of OER and drew on the results of this analysis to develop an Open MOOC called 'Learning to (Re) Use Open Educational Resources, which won an award for excellence in 2016 from the Open Education Consortium.

In addition to placing research data and papers in institutional publication (ORO) and data repositories (ORDO) researchers in our unit of assessment also publish in Open Journals and with Open Book publishers such as Ubiquity Press. Examples of open journals that our researchers routinely publish in are the Journal of Interactive Media in Education (edited by **Weller** and **Jones**), Journal of Learning for Development, Open Praxis, European Journal of Open, Distance and E-Learning, Journal of Learning Analytics, Open and Interdisciplinary Journal of Technology, Culture and Education, Frontiers in Psychology: Cognition, The Eurocall Review, Journal of Universal Computer Science, Frontiers in Education (**Scanlon** is Speciality Chief Editor for Digital Innovation) and International Review of Research in Open and Distance Learning. Funding for gold access publishing is available to researchers from both institutional funds (e.g. library) and Faculty funds (Associate Dean for Research budget and Education REF budget).

How the unit supports a culture of research integrity

The Associate Dean for Research, the Cluster Directors and the Chair of the Education REF panel formally induct all new research and academic staff into the research culture and practices of the unit and the OU. This induction includes information about the University's Code of Practice for Research, the University's Human Research Ethics Committee (HREC) and the OU Research Data Management Policy. Prior to submission all research bids are required to gain outline ethical approval from HREC. In addition to guidance from HREC the ethical practices of our researchers are informed by guidance from the British Educational Research Association (BERA) and the British Psychological Society (BPS). Through internal seminars and workshops our researchers are supported to critically appraise the potential of ethical frameworks developed by colleagues within the unit of assessment. Examples include the CERD (consequential, ecological, relational and deontological) ethical appraisal framework (**Stutchbury & Fox**); the work by **Ferguson** highlighting the ethical challenges and goals for learning analytics research and practice; and the work by **Fox** and **Charitonos** examining ethical approaches to studying displaced peoples.

1.2 Strategic aims for research during the assessment period

Our REF 2014 submission stated that we would place the distinctive clusters of excellence at the core of our future strategy, seeking to develop and enrich them in order to increase the excellence of our research and contribution to the wider research and discipline base. In order to achieve these aims, within the four clusters we have made strategic appointments and promotions to secure leadership, developed partnerships with external partners (academic and non-academic), and developed applications for large-scale (250K+) funding and interdisciplinary initiatives.

Strategic appointments and promotions to secure leadership

Since REF 2014 we have appointed 39.11 (FTE) new staff and promoted 31 staff (see section 2.1 for more details). Examples of how this strategy has secured leadership and contributed to the conduct of excellent research include:

- The appointment of **Hempel-Jorgensen** has been made permanent and she was promoted from Research Associate to Research Fellow. Funded by the British Academy, Hempel-Jorgensen (with **Cremin**) led a project which aimed to understand boys' disengagement with reading for pleasure. One of the resulting papers from this project '[Pedagogy for reading for pleasure in low socio-economic primary schools: beyond 'pedagogy of poverty'?](#)', published in the journal, Literacy, was shortlisted for the Wiley Blackwell research paper of the year award 2019.
- The appointment of **Buckler** has been made permanent, and she was promoted from Research Associate to Senior Research Fellow. Buckler has led several funded projects including a recent award from the AHRC to develop and lead a network of expert and early career researchers focusing on storytelling approaches for understanding learning exclusions in urban schools in Sub-Saharan Africa (the iBali Network).

- **Wolfenden** was promoted from Senior Lecturer to Professor and through the TESS-Africa and TESS-India projects has led on award winning programmes of research that have sought to facilitate the integration of Open Education Resources into teaching practice through the accommodation of local cultural and institutional practices. In 2015, TESS-India won the Bond Innovation award and in March 2017, TESS-India was awarded the prestigious Guardian University Award 2017 in the 'International Projects' category.
- The strategic appointments of **Herodotou** and **Aristeidou**, to work alongside **Scanlon** and **Sharples** on participatory forms of inquiry learning have enabled the TEL cluster to engage in a range of collaborative projects. Examples include LEARN CitSci which is a four-year international collaborative research project that aims to understand how young people develop Environmental Science agency through their participation in Citizen Science programs at Natural History Museums. Funded by the National Science Foundation, Wellcome and ESRC the project is a collaboration between Citizen Science practitioners at two prestigious Natural History museums and the California Academy of Sciences in San Francisco, and Educational Researchers from UC Davis and the University of Oxford.
- The strategic appointment of **Rienties** as Reader (and later promotion to Professor) has enabled the TEL cluster to develop a reputation as a world-leader in learning analytics research. **Rienties**, (with **Ferguson** and **Ullman**) contributed to two EU funded projects on Learning Analytics: LAEP and LACE. The objectives of the Learning Analytics Community Exchange (LACE) project were to promote the creation and exchange of knowledge, to build the knowledge base, to help guide the development of the field and to build consensus on interoperability and data sharing. A key outcome of this work was the LACE Evidence Hub which brings together positive, negative, and neutral evidence and presents it in searchable form. LACE has also investigated possible futures for learning analytics and has used this work to inform research and policy agendas.

Long-term strategic partnerships with external partners (academic and non-academic)

Our commitment to engaged research (see section 1.4) has enabled us to develop a wide range of successful partnerships with both academic and non-academic partners. Examples include the following:

- In order to demonstrate the learning gains that can be achieved through the mainstreaming of 'virtual exchanges between university students in different countries a strategic partnership with European Universities, European Ministries of Education and NGOs was developed by researchers in the OLRG and TEL clusters. In the first collaborative project EVALUATE (Evaluating and Upscaling Telecollaborative Teacher Education), **Hauck, Lewis and Rienties** were part of a consortium of five European public authorities and seven European universities that worked on a European Policy Experiment Project funded by Erasmus+ Key Action 3. Between 2017-2018, the project consortium trained teacher trainers and organised virtual exchanges which involved over 1,000 student teachers at initial teacher education institutions. This entailed students interacting and collaborating with partner classes from other countries as an integral part of one of their courses. The research team then analysed the learning gains from these exchanges. They also worked with representatives from European ministries of education to understand how virtual exchange could be upscaled in teacher education across Europe. Building on the success of this collaborative project, **Hauck, Lewis and Wilton-Godberfforde** were part of a follow-up project 2018-2020) called EVOLVE (Evidence Validated Online Learning through Virtual Exchange) in which they collaborated with seven European Universities and two not-for-profit organisations to mainstream Virtual Exchange (VE) as an innovative form of collaborative international learning across disciplines in Higher Education (HE) institutions in Europe.
- In order to co-produce, implement and evaluate an approach to inclusive teaching in Indonesia **Sheehy** formed a long-term partnership with researchers from the State University of Surabaya, Indonesia and the Indonesian Ministry of Special Education. The outcome was a unique, culturally sensitive keyword signing approach for inclusive classrooms called SignAlong Indonesia This has transformed the inclusive practices and beliefs of nearly 6,000

teachers and their pupils (See impact case study '**Signalong Indonesia: a new tool for inclusion**').

- In order to improve English language teaching and learning in primary and secondary schools across Bangladesh, **Power, Woodward** and **Shrestha** worked with international partners BMB Mott McDonald and BBC Media Action, as well as local NGOs on the English in Action project to develop an approach that involved using i) material delivered by mobile technologies; ii) teacher development activities in the workplace and iii) peer support opportunities. In 2017 the scale and quality of impacts achieved by the EIA project were recognised through two awards: the THES award for International Impact (November 2017) and the Pie-oneer Award for Progressive Education Delivery in H.E (September 2017).

Applications for large-scale funding and interdisciplinary initiatives

In Section 3.1 we provide details of successful applications for large-scale funding. Examples of our success in securing prestigious funding for interdisciplinary initiatives include:

- **Rix** (with **Seale** and **Sheehy**) led the research component of the European H2020 funded ARCHES project (£451k). ARCHES (Accessible Resources for Cultural Heritage EcoSystems) was a collaborative project involving six world-renowned museums and five technology companies from across Europe that used participatory methods to develop a range of innovative technologies that enabled people with learning and sensory impairments to access museums. ARCHES was described by the EU's independent project monitors as going "*beyond the state of the art*" and in September 2020 it was shortlisted for the Horizon Impact Award.
- Drawing on well-established partnerships with three local authorities **Leedham** and **Twiner** contributed to the interdisciplinary ESRC funded Writing in Social Work project which used a text-oriented ethnographic approach to build a rich picture of what it means to write and record in contemporary social work practice (£250k). They interviewed 50 social workers, conducted 10 weeks of observation; gathered activity logs covering 1000 social worker days and built a one-million-word corpus of written texts. The results and implications for social work training have been shared with the Chair of Social Work England and disseminated in three high quality journal articles.
- **Astruc, Alvarez** and **Fuertes Gutierrez** (in partnership with researchers in Kings College London, Queen Mary University of London and University of Westminster) led one strand of the AHRC funded flagship project, Language Acts and Worldmaking, focusing on Diasporic identities and the politics of language teaching (£523k). The researchers worked with language teachers to understand how they see themselves in their role as mediators between languages and cultures and how they perform this role in their teaching practice. Academic outcomes of this project so far include 5 journal articles and two reports published with the University Council of Modern Languages.

1.3 Future strategic aims and goals for research

Over the next 5-7 years our overall aims are to continue developing and nurturing: i) world-leading, impactful research both in existing sustainable areas of excellence and emerging areas of excellence and ii) creative, inclusive, and vibrant research communities. We will achieve these through the following four key initiatives.

Creating new research centres

We will maintain our four existing substantive research clusters whilst allowing emerging areas of excellence to cohere in new interdisciplinary Centres where appropriate. For example, we have already begun to implement plans to create two new Centres to showcase our expertise in literacies and international development research.

The Literacies for Social Justice Centre will be led by **Cremin**. Its development is being supported through the appointment of a Research Associate. This Centre will advance research

and influence policy and practice in order to address inequalities in children's literacy experiences. It will seek solutions to current challenges, build collaborative capacity in teachers, schools, and homes to further social justice for young readers and writers. We have also invested in the appointment of a Professor of Reading and Children's Development (**Kucirkova**) in order to expand our existing literacy focus into the realm of digital literacy.

The Centre of Research for International Development (CRID) will be led by **Akyeampong** and we have invested in the appointment of a Research Associate (**Ebubedike**). CRID aims to expand our already successful funding base in this field. It will have an interdisciplinary focus and contribute to international and national debates on the effects of health, nutrition, livelihood, and well-being on learning.

Increasing the size and diversity of research grants

In order to maintain our reputation for innovative interdisciplinary, collaborative, and participatory research we will continue to manage a large and diverse portfolio of research funding sources. Within this context, however, we will place greater emphasis on the pursuit and acquisition of higher value, longer term research funding awards (which will vary in magnitude according to discipline context) both led by our researchers and in collaboration with partners. We will also seek further diversification of funding sources, for instance, from charitable funders, international development agencies and the commercial/business sector. Support for the development of funding bids will continue to be offered by the research cluster leads and will be complemented by monthly research grant surgeries designed to support the development of funding applications as well as a rigorous process of research bid peer evaluation. Appraisal processes will be used to plan and review the bidding activity of individual research-active academics who will be encouraged to bring in external income commensurate with their position. Bids in the pipeline include an application to the Spencer Foundation to undertake a narrative enquiry into how academic selection has impacted upon life histories, a UKRI Fellowship bid to investigate storytelling for inclusion and an outline bid to EC to examine the role of intergenerational open schooling in sustainable STEM education.

Maintaining a commitment to academic renewal

Our staffing strategy will have clear priorities for academic renewal that are sensitive to anticipated retirements, current research capacity, and priorities for recruitment. In particular we aim to appoint new staff who can research at the intersections of our research clusters by examining for example the impact of globalisation on transnational childhoods, children's in-school language practices and the representation of identity in children's literature.

Increasing funding streams for doctoral students

It is crucial that we continue investing in doctoral students who represent the next generation of researchers who will play a critical role in meeting society's challenges. We will therefore explore in conjunction with the Graduate School how to increase the number of externally funded students and seek to improve our success rate in obtaining additional studentships through the ESRC (Grand Union) Doctoral Training Partnership. One example is scoping the potential for developing a formal co-funding programme with members of our extensive network of NGO partners. This year we have also embarked on a partnership with Beijing Foreign Studies University whereby 5 of their lecturers have joined our EdD Programme.

1.4 Strategic aims for impact during the assessment period

During the assessment period, there have been three main components of our impact strategy: embedding impact in the culture of the unit of assessment, building on our strengths in conducting 'Engaged Research', and developing processes and structures to support effective and sustainable impact practices.

Embedding impact in the culture of the unit

We have sought to embed impact into our practice by conceptualising impact in terms of the OU's core mission regarding social justice and openness, therefore linking impact to what our academics already do. With respect to *Social Justice*, in order to bring about change for the excluded and disadvantaged we are committed to ensuring that 'what' we research is meaningful to our partners in the contexts in which they are living and working. This contributes to our ability to sustain impactful relationships with research beneficiaries. One example of this is our work on Ubiquitous learning and smart city approaches for migrants and refugees. Funded by the EU Social Inclusion Programme and MK Smart/HEIF respectively the MASELTOV (**Kukulska-Hulme, Jones, Scanlon**) and SALSA (**Gaved**) projects engaged with groups of migrants across Europe to investigate how mobile technologies can support migrants and facilitate language learning as part of daily experience. The SALSA project explored how a Bluetooth beacon system could be used to trigger language activities on smartphones for language learners travelling around Milton Keynes. In a follow-up EU funded project (MAZI), this was re-purposed and used by a community partner in London to explore the potential for triggering local stories related to a local waterway, using bridges as focal points. Another example is the In-the-Picture project (**Rix and Parry**), which has developed an innovative approach to supporting communication between adults (parents and early years practitioners) and very young children with learning disabilities. Funded by the Department for Education (through the National Portage Association) training in this niche area has been delivered to over 400 home visitors, impacting on the lives of the families of disabled children they support. Evidence of the success of our strategy to align impact with Social Justice can be seen in our impact case studies '**Transforming English Language Teaching across Bangladesh**'; which aimed to improve English language teaching and learning in primary and secondary schools across Bangladesh and '**Signalong Indonesia: a new tool for inclusion**' which developed a context sensitive keyword signing system designed to improve communication methods within inclusive classrooms.

In the context of the OU, Openness is understood as being *Open to people, places, methods and ideas*. In the context of developing pathways to impact, we have applied open education research methods and principles in order to reduce barriers to engaging with us and our research. For example, making our educational 'interventions' openly available to our publics through freely available online open courses (e.g. Open Learn). Evidence of the success of our strategy can be seen in our impact case studies: '**Transforming professional teacher development in India**' and '**Transforming Education through Open Practices**'. At the core of the TESS-India approach was an Open Educational Resources toolkit comprising text and video materials in multiple formats to support the professional practice-based learning of primary and secondary teachers of literacy, maths, english, and science. The OER Hub has exercised leadership in Open Practice by seeking to model open education practices through making openly available: 1) their research tools, datasets, and 2) courses aimed at informing and transforming open education practices. The importance of this dual role in supporting the development of a community of OER practitioners has been widely recognised. For example, In February 2015, the Hub won a RCUK/OU Engaging Research Award with judges commenting on how "publics were engaged meaningfully in this densely participative research".

Building on our strengths in conducting Engaged Research

We have built on our strengths in conducting '*Engaged Research*' by using participatory, inclusive, and other methods to engage our partners in all aspects of the research from identification of research questions, through to analysis and communication of findings. Examples of this include the European H2020 *ARCHES* project (See Section 1.2) and the UKRI funded School-University Partnership Initiative (SUPI). SUPI was a partnership between OU researchers (**Holliman, Scanlon, Adams, Collins**) and the Denbigh School Teaching Alliance in Milton Keynes (See Section 4.2 for more details).

Two of our impact case studies illustrate the success of our 'Engaged Research' strategy. For the '**Supporting language teachers in Europe to teach online**' case study, practitioners from 25 European countries were brought together to undertake a needs-analysis survey and contribute to the establishment of a ranked list of ten useful ICT tools for language teaching. Training activities were then created for these tools, trialled with 56 language teachers, and then adapted following feedback. For the '**Developing Effective Reading for Pleasure practices in primary schools**' case study, a key pathway to impact was an interactive website. Advised by a reference group of current teachers, the website hosts accessible resources which engage teachers with the OU research-informed approach to effective Reading for Pleasure practice. These include summaries of each research finding, materials for CPD meetings and tools such as children's reading surveys. Users can upload 'Examples of Practice' explicitly linking change in their Reading for Pleasure practice to the research.

Developing processes and structures to support effective and sustainable impact practice

We have focused on four main areas of work in order to strategically support the development of effective and sustainable impact practice across the unit of assessment: Impact Leadership; Capacity-Building; Resourcing and Workload Allocation.

With regards to *Impact Leadership* we have put in place a team of five 'Impact Champions': **Seale** (leader of the OU education unit of assessment and REF 2014 Education panel member), **Rix, Reeve, Holliman** (Professor of Engaged Research) and **Adams** (Professor of Engaged Practice and Research). The role of the team has been two-fold: to provide targeted support for potential REF impact case studies and to *build capacity* for impact across the whole unit of assessment. The five impact champions have delivered impact focused workshops to staff at all levels across the unit of assessment including early career researchers, Impact Case Study Leads and doctoral students. They have also provided extensive one-to-one mentoring which has been supplemented with input from external consultants such as Professors Mark Reed (Fast Track Impact) and Professors Cathy Nutbrown and Judy Sebba (REF 2014 Education panel members).

In terms of *Resourcing*, we have invested £100k+ in supporting the implementation of creative and innovative pathways to impact (for example, the production of 6 animations designed to raise awareness of how digital marketing of unhealthy foods targets children and young people which are now freely available via the OU Open Learn platform), teaching buy-out for impact case study leads, capacity-building initiatives and advice and guidance resources. We have also employed two Research Associates to assist in the capture of impact evidence and resourced impact work by negotiating with line managers for potential impact case study team members to be allocated up to 15 days a year for impact activities in their annual *workload allocations*.

1.5 Future strategic aims for impact

Our plans for enhancing our impact practices post REF 2021 focus on: i) extending the impact leadership team i) leveraging more external funding for pathways to impact and iii) developing stronger links between our knowledge exchange and impact activities.

With regards to *extending the impact leadership* team we plan to work with Heads of School and the Faculty Executive Team in order to embed the role of impact champion within the leadership structures of each of the research clusters (four champions), research centres (four champions) and strategic areas (two champions). Examples of *leveraging external funding* for pathways to impact in the current assessment period include: the '**Innovative methods for supporting professional development and organisational learning**' impact case study, where Adams received an Impact Accelerator Award from Oxford University to work with the PGCE Science Team at Oxford University in order to explore the value of the Tricky Topics Process in helping trainee teachers identify and address stumbling blocks to learning in the classroom. In the

context of the 'Developing Effective Reading for Pleasure practices in primary schools' impact case study books have been donated by the UKLA and commercial publishers for Teachers Reading Groups (local CPD-focused groups run by volunteer leaders). Building on the experience gained from these two initiatives, we aim to increase the level of external funding for impact work with the support of our recently appointed Senior Manager for Research and Enterprise by: i) increasing engagement with the Oxford University led Impact Accelerator Programme; ii) encouraging and targeting applications to the Higher Education Innovation Fund; iii) encouraging and targeting applications to the Industrial Strategy Challenge Fund (where possible proposing new collaboration themes in line with our core competencies) and iv) enabling our impact leaders to confidently negotiate with research partners and beneficiaries regarding the extent to which they might contribute to the resourcing of pathways to impact.

2. People

2.1 Staffing and recruitment policy and evidence of its effectiveness

We are returning 105.92 (FTE) staff in this submission period. Of these 5.21 (FTE) are on short-term contracts and 14.2 (FTE) are Early Career Researchers.

Role	FTE
Lecturer/Staff Tutor	29.80
Research Associate	4.20
Senior Lecturer	45.90
Research Fellow	2.00
Reader/Professor	20.02
Senior Research Fellow	4.00

Our senior career researchers are heavily involved in current management of research activity: **Rix** (Education Futures), **Sheehy** (Childhood, Youth and Sports), **Angermuller** (Language and Literacies) and **Scanlon** (Technology Enhanced Learning) are cluster leads. **Cremin**, **Buckler**, **Weller**, **Rienties**, **Adams** and **Kukulska-Hulme** lead research themes or groups within these clusters. **Seale** leads the education REF submission and **Hampel** is Associate Dean for Research. In addition, several of our mid-career and early career researchers are also taking on leadership roles within the unit. For example, **Chamberlain** and **Collins** co-lead The Children's Research Centre, **Tatlow-Golden** co-leads the Body Mind and Media Centre for Children and Young People's Wellbeing; **Reeve** is an impact champion; **Langdown** leads the sports research activities, **Fuertes Gutierrez** leads OLRG and **Jones** and **Gaved** lead CALRG.

In order to ensure a steady pipeline of researchers capable of conducting and leading excellent research across our four clusters our staffing and recruitment strategy during this REF period has been to: i) to recruit researchers across all three career levels ii) to develop and maintain opportunities for our PGR students to start their research careers with us and iii) to invest in an extensive capacity-building programme in order to support internal promotions to leadership positions and benefit from 'home-grown talent'

Recruiting researchers across all three career levels

Since REF 2014 we have appointed 39.11(FTE) new staff. New appointments to senior career positions include **Akyeampong**, **Angermuller**, **Payler**, **Kucirkova**, **Rienties**, **Seale** and **Wild**. These new staff have made significant contributions to the vitality and leadership of research in the unit. For example, **Payler** has led the Children's Research Centre and contributed to research within CYS, for instance researching workforce composition and qualifications in English Montessori early childhood education and care settings. **Rienties** has contributed to several externally funded Learning Analytics projects which have produced many high-quality publications and helped to make the OU a world-leader in the field of Learning Analytics.

Appointments to mid-career positions include **Astruc, Fuertes-Gutierrez, Fox, Forsythe, Langdown, Owton, Smith, & Twitchen**. These new staff have made significant contributions to their fields, particularly in relation to knowledge exchange and engaging publics. For example, **Astruc** and **Fuertes-Gutiérrez** have both contributed to the AHRC funded flagship project, Language Acts and Worldmaking, including a two-year partnership with Counterpoints Arts culminating in a week-long migration exhibition at the Tate Modern, where researchers presented two interactive installations. **Fox** has helped to foster school-based research through a range of partnership activities and has recently launched the open access online journal 'Research4&BYteachers', as a vehicle for sharing the knowledge gained from such research with other practitioners, setting up an editorial team which spans school and University representatives. **Smith** and **Forsythe** work closely with schools and colleges via the government funded Maths Hubs. Smith also serves on the Expert Advisory Group of the EEF Centre for Excellence in Mathematics. **Heaney, Langdown, Owton** and **Twitchen** have made a significant contribution to raising the profile of sports related research at the OU through the organisation of a series of conferences. For example, in 2019, they brought together world-renowned researchers in the field of youth development in sport with coaches, parents and teachers to examine contemporary issues such as parental support for talented athletes and coaching considerations when working with children.

Appointments to early-career positions include: **Aristeidou, Charitonos** and **Fensham-Smith**. **Aristeidou** is currently leading a COST funded project in collaboration with the Leibniz Institute for Science and Mathematics which aims to develop and pilot a methodology for applying diary studies in citizen science as a way of capturing citizen engagement. **Charitonos** has been a PI and CI on a range of externally funded projects including the AHRC GCRF funded Network 'Mobile Arts for Peace' (2020-2024). **Fensham-Smith** is currently convenor of the BERA Alternative Education Special Interest Group and submitted evidence to the 'Home Education' Inquiry of the UK Parliaments' Education Committee (November 2020).

PGR and ECR Pipeline

Our commitment to developing and maintaining a vibrant PGR community has enabled us to identify and recruit a range of Early Career Researchers who have undertaken their doctoral studies with us. Examples include: **Aristeidou, Bektik, Chamberlain, Charitonos, Dawadi, Iniesto, Kucirkova, Murphy, Rodriguez-Leon, and Twiner**. Aristeidou was awarded a PhD in 2016, following on from this (initially funded by the OpenTEL SRA) she was employed as a Postdoctoral Research Associate. Charitonos was awarded a PhD at the OU in 2015, appointed as a lecturer in 2017 and promoted to senior lecturer in 2020. Following the award of an OpenTEL PhD studentship, Murphy was awarded an OpenTEL post-doctoral post and was supported in 2020 to successfully apply for an ESRC funded Grand Union DTP Fellowship.

Capacity building to support Internal promotions.

In section 2.3 we outline our investment in building the research capacity of our staff. One key outcome of this investment is that since 2014 we have promoted 7 people to Professor, 20 to Senior Lecturer, 3 to Senior Research Fellow and 1 to Research Fellow.

2.2 Procedures to stimulate and facilitate exchanges between academia and business, industry or public or third sector bodies

We facilitate exchanges between our research staff and external organisations through a range of mechanisms including secondments and Visiting Fellowships. Examples of secondments include **Wolfenden** who was recently seconded to act as Education Director of the Girls Education Challenge (GEC), a large DFID funded programme supporting the learning of over 1.3M marginalised girls in 17 countries. Between 2014-2016, **Hauck** was seconded to act as Professional Development Lead at the Center for Collaborative Online International Learning (COIL)/State University of New York (SUNY), USA. Her research influenced the design of over

200 non-accredited COIL modules. Hauck would draw on this experience in two subsequent EU funded projects which aimed to promote telecollaboration in Europe (EVALUATE and EVOLVE). One innovative example of facilitated exchanges is the OER Hub Fellowship Scheme. Funded by the Hewlett Foundation, these fellowships involved a researcher in the OER Hub Team (**Weller, Pitt, Farrow**) working with an Open Education related organisation and an individual from that organisation visiting the Open University for an extended period. The OER Hub developed the research skills of the individual and collaborated with them to address a specific research question that the organisation wished to pursue. In each case the collaborations produced evidence that helped shape the future development of the organisation. Evidence of the success of this scheme can be found in our impact case study '**Transforming Education through Open Practices**'.

2.3 Staff Development

We support the professional development of all researchers throughout their careers and promote a vibrant, interdisciplinary research culture and community. All academic staff on contracts of two years or more are allocated ring-fenced 35 days research time and 44 days of study leave per annum (pro rata) which is a contractual entitlement. Every member of staff has a Research and Scholarship Development Planning conversation with a senior research academic at least once a year to help them plan and develop their research profile. This feeds into the annual cycle of Career Development and Staff Appraisal (CDSA) which provides opportunities to identify and put measures in place (including access to funding) to support their career development. Cluster Directors and other professors provide research career guidance and leadership, mentoring for early and mid-career researchers and peer mentoring for senior academics. Staff can access financial support for attendance at UK and overseas conferences and financial support/facilities for pump-priming projects. At cluster level, engagement with research is also fostered through annual programmes of colloquia, reading groups, research conversations, writing workshops, annual conferences, research methods training and work-in-progress seminars.

Designed to complement these cluster activities we have also implemented a unit wide '*Inspiring Excellence*' programme, which aims to support colleagues to foster excellence in their work through a focus on the development of strong, theorised research contributions. This programme intends to both enrich the research environment and accomplish academic renewal through supporting colleagues to develop field-leading research contributions rooted in their distinctive research strengths and expertise. Activities within this programme have focused on academic writing for publication, research bidding, and research career development.

We have offered a range of activities to support academic writing for publication. Mentoring has been provided to enable staff to obtain feedback on early drafts of papers prior to submission. A total of 14 writing retreats for 167 participants have been organised in order to create and model effective writing cultures and practices. Alongside this, an online peer resource has been developed which includes annotated examples of '3 star' and '4 star' papers.

We run monthly Research Funding Application Surgeries that afford opportunities for staff to discuss the development of applications for research funding. The specific focus has been on developing the 'Case for Support'; ensuring that the case for research excellence (not just research activity) is clearly articulated.

With regards to career development, we have implemented three professional development opportunities. An *Envisioning your Research Future* initiative comprises one-day workshops and one-to-one follow-up sessions designed to encourage participants to characterise their distinctive 'intellectual footprint'. This is then used as a basis for considering the ways in which participants can build on their signature strengths to develop ambitious visions for their future research (and, where appropriate, that of their teams) that are rooted in excellence. Our *Mid-career research development programme* has focused on transitioning away from undertaking research activities that are often not part of an overall design, to planning a more focused

contribution to research. Evidence of our success in supporting mid-career researchers includes the British Academy mid-career fellowship awarded in 2017 to **Herodotou** and the UKRI Future Leaders award in 2020 to **Hultgren**. We have run two-day CREET Academies for 25 *Early Career Researchers*. The overall aims of the Academy are to support newcomers to the education research community to build research capacity and confidence and to enable them to make informed and meaningful decisions regarding their future research projects and careers. Participants are provided one-to-one mentoring and access to a ring-fenced pot of funding aimed at pump-priming initial research and impact ideas.

2.4 Research students

Most of our PhD students follow a full-time programme of study, whilst our recently updated and approved EdD is a programme of part-time study explicitly designed for senior professionals in education, and related areas, to extend and deepen their knowledge and understanding of contemporary educational issues. In this submission period there have been 152 successful completions (compared to 136 in REF 2014).

Academic Year	PhD	EdD	Totals
1 Aug 2013 – 31 July'14	19	10	29
1 Aug 2014 – 31 July'15	26	4	30
1 Aug 2015 – 31 July'16	9	6	15
1 Aug 2016 – 31 July'17	12	5	17
1 Aug 2017 – 31 July'18	10	5	15
1 Aug 2018 – 31 July'19	13	2	15
1 Aug 2019 – 31 July' 20	16	15	31
Totals	105	47	152

Recruitment and funding

Applications from all sections of the community are explicitly encouraged in our PGR recruitment literature. A key strategic imperative has been to invest internal funding in our research degrees programme. Since 2014 we have fully funded 29 CREET studentships and 5 OpenTEL studentships. We have also granted an additional 3 fee waivers for part-time study. Prestigious external funding includes The Leverhulme Trust Open World Learning (OWL) Programme which has funded 18 PhD studentships. In 2016 our OWL programme of studentships received the 2016 Award for Open Education Excellence at the Open Global 2016 conference. We have also secured funding for PhD studentships from 2 other external organisations: Globe Education (£33k over 3 years) and World Vision (£18,822K over 3 years).

Support mechanisms

The postgraduate team, led by the Director of Postgraduate Research Studies, is responsible for the PhD and EdD programmes and the administration and pastoral support of PGR students. They report to the WELS Research Management Group and work closely with the University's Graduate School. Students can access career services and dedicated personalised Library support. The induction programme, regular formal reporting, and a Year 1 probationary assessment ensure doctoral student progress.

Full-time PhD students have their own personal desk space and a £1000 annual research training grant which supports conference attendance and bespoke training. Additional resource is available to support overseas fieldwork. Part-time PhD students interact with full-time students at induction sessions, research days and seminars. Support for part-time PhD and EdD students is tailored personally. It typically comprises attendance of events/supervisions at the OU, as well as phone, letter, internet, and email support. There are also opportunities for students to work together through cluster-related activities and showcase events (e.g. The Educational Futures and CALRG annual conferences). Students are also supported to apply for grants that enable valuable knowledge exchange experiences. For example, **Iniesto** (with supervisor **Coughlan**)

has developed a sustained collaboration with UNED in Spain focusing on access to open education for disabled students. This has been facilitated in part, by a Santander Mobility grant. Outcomes of this collaboration include YourMOOC4All, a course recommender system for disabled students.

Training and supervision of PGR students

All research students have at least two supervisors and have access to an independent third party for additional mentoring and guidance. All supervisors and mentors receive initial and ongoing training through the University's Graduate School and within the Faculty.

Training is designed to equip students with the skills and knowledge needed to plan, conduct, evaluate, and disseminate their research while confidently engaging publics and ensuring impact beyond the academy. Such training also supports the development of employability skills.

There are three major training sources for our PGR students: The Graduate School, The ESRC funded Grand Union Doctoral Training Partnership (between Oxford University, Brunel University and the Open University) and the Faculty/unit of assessment. Within the Grand Union Doctoral Training Partnership, examples of support include the regular bi-weekly Advanced Research Methods seminar led by **Stickler**, which are presented in dual mode (online and face to face) to students across the university. Within the Faculty/unit of assessment examples of support include:

- The Education Futures cluster supports students to both present at and organise reading groups and seminars. They are also offered funded opportunities to work on staff research projects.
- CALRG offers weekly seminars which includes work in progress seminars and talks from alumni.
- OpenTEL funded students are included in bid preparation workshops and shadow staff who are preparing funding bids.
- Leverhulme and OpenTEL funded students are offered an annual 5-day writing camp which gives them the opportunity to come together with their supervisors to share good practice, discuss innovative research ideas, and explore possibilities for crossing interdisciplinary boundaries.
- In 2020 we launched a programme offering students opportunities to be involved in a range of teaching activities across the WELS Faculty.

2.5 Promoting equality and diversity

Given the OU's widening participation and social justice mission; the strategy for recruitment within the Unit is to recruit, retain and develop the careers of a diverse pool of staff, therefore applications from underrepresented groups are explicitly encouraged in our recruitment literature. In addition, this academic year we have set up an initiative whereby staff from minority groups can volunteer to be added to a 'Panel Diversity Database' and thus help diversify the composition of recruitment panels. The diversity of our staff is evidenced by 74.77% of staff submitted to the education unit of assessment identifying as female, 7.69% are categorised as BAME and 2.7% having declared a disability. Furthermore, 74% of those promoted within this current REF period were female and 9.6% were identified as BAME.

Our approach to promoting equality and diversity within the Unit is twofold: firstly, to proactively embed a variety of mechanisms that support our researchers irrespective of their individual circumstances and secondly to offer individualised reactive support for specific circumstances when needs arise. Examples of the former include:

- remote working is a common practice which many staff take advantage of in order to suit their caring arrangements or health circumstances. All staff who work remotely are given a laptop which is connected to university systems such as library and shared folders.

- all researchers are offered support with writing, bidding, and career development (see Section 2.3).
- all researchers are encouraged and entitled to bid for funding for conference attendance, equipment or pilot work from annual Faculty, REF, or cluster budgets.

Examples of support tailored for more specific circumstances include:

- supporting a researcher with dyslexia by peer reviewing draft publications for grammar and spelling.
- paying for overnight accommodation for a researcher with physical disabilities who finds it painful to travel to campus on consecutive days.
- enabling staff returning from maternity cover or ill health to renegotiate their workload in order to prioritise the achievement of research goals (e.g. completing doctoral studies).

We recognise too that equitable outcomes require more than equality of opportunity. Therefore, as part of our working culture we seek to ensure a diverse mix across research management roles and encourage people with protected characteristics to apply for key roles. For example, Education Futures has eight people who are gaining management experience by organising the programme of activities across the year; two of these are disabled people, one person is identified as BAME, six are women and three are early career researchers.

In the construction of our REF submission we have paid attention to equality and diversity issues by ensuring that membership of the Education REF strategy group (which makes decisions on unit size and make-up) reflects the diversity of the unit as a whole and requiring all members of the REF strategy group, publication reading panel and impact case study review panel to attend unconscious bias training.

3. Income, infrastructure and facilities

3.1 Income

In this assessment period we have secured £10,039,668 of grant income, an increase compared to REF2014. This income comprises 166 external grants from 84 different funders. Our income has increased by 183% for grants from EU based charities/other; by 138% for grants from UK-based charities; by 71% for UK central government body grants and by 92% for grants from EU government bodies. Our ability to sustain a large amount of research income has enabled us to: i) make significant investments in the recruitment of new staff (39.11FTE); ii) strengthen and expand our research clusters, centres and groups and iii) resource a comprehensive capacity-building and impact development programme (£435k).

Major and prestigious grant awards made by external bodies on a competitive basis

Five of our largest awards have funded research that underpins three of our impact case studies. Funding for research that underpins the **Transforming Education through Open Practices** impact case study includes £583,922 from the Hewlett Foundation for the Open Education Hub, £339,352 from the William and Flora Hewlett Foundation for Phase 2 of the GO-GN Network and £223,624 from the from the William and Flora Hewlett Foundation for UK Open Textbook Network. Funding for research that underpins the **Transforming English Language Teaching across Bangladesh** impact case study includes a grant for £445,572 from DFID for the English in Action project. Funding for research that underpins the **'Innovative methods for supporting professional development and organisational learning'** impact case study includes a grant for £367k from the EU FP7 programme for the Juxtalearn project.

RCUK awards include £250,440 from ESRC for the project 'Writing in professional Social work Practice in a changing communicative landscape (WiSP); £522,552 from the AHRC for Language Acts and World Making project, £34,720 from AHRC for the iBALI Network and

£9,258 from EPSRC for the Fair and Equitable Research project. Charitable grants gained in open competition include £112,300 for an international network (Ed-ICT), and £94,298 from the Wellcome Trust for the Examining Learning Processes project.

Strategies for generating income

In order to maintain and expand our portfolio of interdisciplinary, collaborative, and participatory research our strategy has been to manage a large and diverse portfolio of research funding sources and to adopt a targeted approach to bidding for strategically aligned research grant funding. We have prioritised an overall increase in research grant income, and the further diversification of funding sources, for instance, from charitable funders, international development, and the commercial/business sector. Support for the development of funding bids is provided by research clusters, complemented by monthly research grant surgeries designed to support the development of funding applications (See Section 2.3) and a rigorous process of research bid peer review. Interdisciplinary and cross-faculty bidding is supported through the activities of the OpenTEL SRA and the International Development and Inclusive Innovation (IDII) SRA.

3.2 Infrastructure and facilities

Organisational infrastructure

The overall research of CREET is overseen by the WELS Research Management Group (WRMG). WRMG is chaired by the Associate for Dean for Research and membership includes the Deputy Associate Dean for Research, Directors of the four Clusters and the Strategic/Priority Areas, the Director of the International Development Office, the Director of Postgraduate Research Studies, the Chair of the Education REF panel, Representatives of the PhD and EdD student community, a Senior Manager of Research Planning and Operations and a Senior Manager for Research and Enterprise. The Chair of WRMG is a member of the Open University's Research Committee ensuring alignment with, and contribution to, the strategic objectives and research targets of the university. The role of WRMG is to i) develop overall research strategy, ii) ensure appropriate support and resources are in place to enable the implementation of strategy across the unit and iii) to monitor opportunities for growth and investment.

At a cluster level, research and impact activity is co-ordinated by an overall Cluster Director, supported by leaders of sub-groups or themes within each Cluster. The Childhood Youth and Sports Cluster is led by **Sheehy**, supported by **Langdown** who leads sports and fitness research activities. The Education Futures Cluster is led by **Rix**, supported by **Buckler** who leads the Research into International Teacher Education and Sustainable Development group and **Cremin** who leads the Pedagogy and Learning Group. The Language and Literacies Cluster is led by **Angermuller** and supported by **Fuertes-Gutierrez** who leads the Open Languages Group. The Technology Enhanced Learning Cluster is led **Scanlon** and supported by **Rienties** who leads the Learning Design and Learning Analytics theme, **Kukulska-Hulme** who leads the Learning Futures theme, **Adams** who leads the Professional and Digital Learning theme, **Weller** who leads the Learning in an Open World Theme and **Wild** who leads the Performance Augmentation theme.

Operational infrastructure

The research of our staff is facilitated by two research support teams located within the WELS Faculty and IET. Within WELS the senior management team comprises: Associate Dean and Deputy Associate Dean for Research; Director of Postgraduate Research Studies; Professor of Education with responsibility for leading capacity-building, REF Unit of Assessment Panel Chair; Director of the OpenTEL Strategic Research Area, a Senior Manager for Research Planning and Operations and a Senior Manager for Research Enterprise. They are supported by three Research Managers (including a REF co-ordinator) and four research administrators. Research

in IET is supported by an Associate Director Research and Innovation, an Associate Director for Knowledge Exchange, a senior Research Manager, a research manager responsible for OpenTEL and two research administrators.

The International Development Office (IDO) has recently joined the WELS Faculty. IDO provides support to our researchers by brokering and facilitating partnerships with governments, NGOs, and private organisations in order to harness the OU's world class expertise in Open and Distance Learning to deliver innovative, responsive, and scalable development projects. Two highly successful projects supported by IDO and led by researchers in our unit are English in Action and TESS-India. As part of a Faculty vision to secure increased external funding for research and knowledge exchange and increase impact on society, plans are currently underway to integrate IDO with WELS research support teams.

Facilities

All our researchers have access to the world-class OU library including the world's largest collection of open access full texts. Researchers in the TEL research cluster and the OpenTEL SRA have access to the Jennie Lee Research Laboratory housed within IET to carry out key research in usability, accessibility, and developmental testing of online materials.

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

4.1 Research collaborations with academic colleagues and relationships with key research users, beneficiaries, or audiences

Research collaborations with academic and non-academic partners are supported through a range of measures including support to undertake secondments; funding through cluster budgets to support attendance at conferences, network meetings and sand-pit events; support to apply for mobility grants and seed-funding to identify potential collaborators and initiate early discussions with them regarding collaborative grant proposals. In section 1.2 we provided some examples of long-term strategic partnerships with external partners. Other examples of successful collaborations with academic partners include:

- **Hempel-Jorgensen** collaborated with academics from The University of Lancaster and UCL on the Society for Educational Studies funded project 'New Purposes, New Practices, New Pedagogy'. This project explored the digital practices that children engage with outside school and the extent to which these are influencing teachers' pedagogy inside classrooms. This collaborative research resulted in a Digital Practice Framework, a series of recommendations for policy makers, teachers, school leaders and researchers; a detailed research report and joint conference presentations at AERA and the World Conference on Computers in Education.
- For the DOTS project, funded by the European Centre for Modern Languages (ECML) in the previous REF period; **Hempel** and **Stickler** collaborated with academics from Universitat Oberta de Catalunya, Spain, University of Zagreb, Croatia and University of Ottawa, Canada to research and develop a pedagogical framework to help language teachers teach online. This collaboration has been sustained into this current REF period through follow-on funding from ECML for the ICT-REV workshop training initiative. These collaborative activities have resulted in a range of publications including a 2015 [edited book](#), the recent setting up of an Association Internationale de Linguistique Applique (AILA) Research Network and the organisation of a symposium at the AILA 2021 conference.

Other examples of successful collaborations with research users include:

- **Langdown** has worked with the Professional Golfers Association (>8000 members in 80 countries) who as a consequence of engaging in his research into shot type, golf-swing variability and warm-up protocols have reshaped their undergraduate coach education curriculum.

- With funding from the BBC/OU partnership, **Herodotou** and **Scanlon** have redesigned the citizen science platform, nQuire. This well-developed relationship with the BBC has provided opportunities for wide dissemination of research activities through BBC audiences and the ability to implement large-scale citizen science investigations. Examples include an investigation run in partnership with the BBC GardenWatch series and the British Trust for Ornithology in which over 200,000 members of the public participated. In 2020, nQuire won the Guardian research impact prize.

A key feature of our collaborations is the bringing together of external academic partners with non-academic partners. Examples include:

- In partnership with the charity Arvon and researchers from the University of Exeter, **Cremin** contributed to a project funded by EEF and RSA investigating the effect of a residential writing experience for teachers at Arvon, where teachers work with professional writers learning about writing and being a writer.
- For the EU H2020-funded TeSLA project, **Whitelock** (with **Okada**, **Cross** and **Edwards**) collaborated with seven universities in the UK and Europe and TELECOM Sud Paris to develop a suite of tools to automatically and robustly authenticate student authorship in high-stakes e-assessments.

4.2 Wider contributions to the research base, economy, and society

Contribution to policy discourse and development

Researchers in the unit contribute to policy discourse and development by submitting evidence to government consultation exercises, engaging with parliamentary committees and serving on expert groups that advise government. Examples include:

- In 2019 **Tatlow-Golden** drew on her research into digital marketing and children's rights to make a joint submission to a government consultation exercise regarding restricting food marketing to children. This resulted in an invitation to meet government representatives to discuss the evidence and contributed to a change in government policy regarding the 9pm watershed for advertising unhealthy foods to children and young people (See '**Tackling the negative effects of digital food marketing to children**' impact case study).
- **Cremin** was asked by the Department for Education to Chair their Reading for Pleasure subcommittee and to serve as one of three 'reading experts' on the English Hubs Council programme. Through such appointments Cremin has made a significant contribution to the national Reading for Pleasure initiative including the initiation and launch of the first National Reading Together Day in July 2020 (See '**Developing effective Reading for Pleasure practices in primary schools**' impact case study).
- In 2017 **Kukulska-Hulme** was interviewed for the UK All Parliamentary Group on Social Integration regarding her research into the role that mobile technologies can play in the integration of migrants. This informed the ensuing public report: 'Integration not Demonisation'.

Contribution to knowledge exchange & public engagement

In Section 1.4 we highlighted how our impact strategy built on our strengths in conducting '*Engaged Research*' by using participatory, inclusive, and other methods to engage our partners in all aspects of the research from identification of research question, through to analysis and communication of findings. In addition to the projects described in earlier sections, other examples include:

- **Fox** led a schools' debate of teachers and pupils about the value and challenges of using social media for education at the National Space Centre as part of the ESRC Festival of Social Science (2014) which led to a schools' charter for social media use.

- The UKRI funded School-University Partnership Initiative was a partnership between OU researchers (led by **Holliman**) and the Denbigh School Teaching Alliance in Milton Keynes. The project directly engaged with 11 schools and more than 6,577 people within Milton Keynes. It offered opportunities to participate in mutual learning and develop relevant and useful skills and competencies in how to access, assess, analyse, and respond to contemporary research. Key outcomes from the partnership included: sharing learning with STFC and NERC as they produced fresh strategies for public engagement; support for an STFC Working Group that explored the attitudes, culture and ethos of physical science researchers in relation to public engagement; written evidence submitted to the House of Commons Select Committee Inquiry on Science Communication, and to the HEFCE Consultation about REF 2021.
- Between 2015 and 2017 **Adams** served as the Associate Director for knowledge exchange and technology pathways in 'The National Centre for Policing Research and Professional Development'. This project was funded by a grant from the Home Office and the Higher Education Funding Council for England and managed by the College of Policing. In this role, Adams collaborated with key stakeholders to develop the Evidence Café Method as a tool for facilitating the sharing of knowledge between those working in the police service and academics. This has had a significant impact on professional development and organisation learning within UK policing (See '**Innovative methods for supporting professional development and organisational learning**' impact case study).

4.3 Evidence of the unit's support for and exemplars of interdisciplinary research and responsiveness to national and international priorities and initiatives.

Exemplars of interdisciplinary research

In section 1.1 we outlined, with exemplars, our strategy for promoting interdisciplinary research through the development of cross-Faculty and cross university initiatives. Other ways in which interdisciplinary research is facilitated is through our collaborations with external partners who operate in non-educational contexts. For example:

- **Cooper** and **Payler** collaborated with the charity, Hope Support Services, to conduct research exploring children and young people's lived experiences of a family health crisis. The final research report was launched at the House of Parliament in March 2018. It made recommendations for local and national policy makers including the need to train education, health and social care professionals with regards to understanding the needs and experiences of children and young people living through a family health crisis.
- In 2019 **Hultgren** collaborated with political scientists in Denmark to embark on a £1.4 million UKRI-funded interdisciplinary project that brings together linguistics and political science to understand how specific forms of academic governance have been leading to a shift towards English as a Medium of Instruction in European universities.

Responsiveness to national and international priorities and initiatives

Much of our research in the international development field responds to UN Sustainable Development Goals and GCRF challenges. Examples include:

- The Supporting Adolescent Girls into Education (SAGE) project which addresses SDG 4 (Quality Education) and SDG 5 (Gender Equality). Led by **Buckler** and **Chamberlain** the project is a collaboration between the OU and Plan International (an independent development and humanitarian organisation). Working with Plan International as co-researchers, this research is using a storytelling approach to map girls' aspirations as they participate in a community education programme in Zimbabwe. The career aspirations that the girls shared have also been embedded into module materials and have fed directly into wider programme developments.
- The AHRC funded iBALi Network addressed the GCRF challenge relating to inclusive and equitable quality education. Led by **Buckler** this project created a network of expert and

early career researchers (ECRs) and practitioners. Their work coalesced around using participatory storytelling to tackle social issues relating to inclusive and equitable quality education, sustainable cities and communities, poverty, inequality and gender. Through a focus on in-school youth and storytelling, the iBali Network integrated international, scholarly, and indigenous narratives and helped surface and give value to different forms of knowledge.

- The Migration for Inclusive African Growth (MIAG) Project (**Adams**) was funded by ESRC under the GCRF- Inclusive Societies Initiative. This project brought together migration stakeholders in four of Africa's largest and fastest growing economies. It mapped and compared knowledge regarding the flow of migrants and their population sizes, motivations, organisation, and impacts.
- The AHRC GCRF funded Network 'Mobile Arts for Peace' project (CI **Charitonos**) is a collaborative project between universities, cultural artists, and civil society organisations. It seeks to provide a comparative approach to the use of interdisciplinary arts-based practices for peacebuilding in Kyrgyzstan, Rwanda, Indonesia and Nepal. One component of this work is an examination of the co-design, delivery and evaluation of peace-building curricula.

More recently, our research has informed responses to the covid-19 pandemic. Examples include:

- **Cremin** was invited by the Department of Education to collaborate with the BBC on its BBC BiteSize videos aimed at supporting parents to home school. Her research into reading for pleasure informed the literacy element of programming.
- In May/June 2020, the DOTS / ICT-REV team, led by **Stickler** collaborated with the European Centre for Modern Language to run a series of free webinars for language teachers in English, French, and German aimed at helping them take their teaching online. The content of these webinars drew on their research regarding the basic competencies of online language teaching and how best to help teachers apply these to their own practice.
- **Hendry** was awarded a HEIF grant to convene an intersectional knowledge exchange involving a range of stakeholders including UNESCO, DFID, World Vision and UNICEF. It focuses on developing low resource, at scale training for early childhood development practitioners.
- **Buckler, Power, Stickler** and **Ebubedike** received funding from the FCDO's EdTech Hub to research community mobilisation for children's learning during school closures in Zimbabwe.

4.4 Indicators of wider influence, contribution to and recognition by the research base

Journal editorships and editorial board membership

Our researchers have edited 24 journals that span the interests of the four research clusters. Examples include: Montgomery, Editor in Chief of Childhood Studies and Co-editor for Children and Society; Owton, Editor of Chief of Qualitative Methods in Psychology Bulletin and Assistant Editor of Psychology of Women's Section Review; Tatlow-Golden, Associate Editor of Irish Journal of Psychology; Cremin, Co-editor of Thinking Skills and Creativity; Fletcher-Campbell, Co-editor Educational Research; Smith, Editor of Teaching Mathematics and its Applications; Kucirkova- co-editor of Literacy, Associate Editor International Journal of Child-Computer; Hauck, Associate Editor of CALL; Shrestha, Editor in Chief of the Journal of the Nepal English Language Teachers' Association and Founding Editor of Journal of Language and Education; Astruc, Co-editor of System; Márquez-Reiter, associate Editor of Pragmatics and founding Editor of Spanish in Context; Goshtasbpour, Associate Editor, Journal of Interactive Media in Education; Whitelock, Co-editor of The Journal of Open, Distance and E-learning; Kucirkova, co-editor of Literacy, Associate Editor International Journal of Child-Computer Interaction and BMC Psychology and Research for All; and Wild Associate Editor of Frontiers in AI (AI for Human Learning and Behaviour Change).

Our researchers have acted as guest editors for 13 journal special editions including: Journal of Interactive Media in Education (Iniesto); International Journal of Educational Research (Rix);

International Journal of Research and Method in Education (Seale); International Journal of the Sociology of Language (Márquez-Reiter); London Review of Education (Kucirkova); and Journal of Universal Computer Science (Wild).

Researchers in our unit also serve on the editorial boards of 46 journals including: Compare (Wolfenden) ReCALL (Hampel, Kukulska-Hulme); Text & Talk (Angermuller); Distance and Mediation of Knowledge (Pulker); Literacy (Chamberlain); JALTCALL (Stickler); Computers & Education (Rienties); System (Kukulska-Hulme) International Arab Journal of English for Specific Purposes (Márquez-Reiter) Journal of Early Childhood Literacy (Kucirkova) and Journal of English Medium Instruction (Hultgren).

Refereeing academic publications

Researchers in our unit have reviewed for 124 academic journals that span the interests of the four research clusters. Examples include: British Journal of Education Psychology (Sheehy); Child Development (Tatlow-Golden); Childhood and Society (Montgomery); Early Years Education (Montgomery); Journal of European Early Childhood Education (Canning); British Education Research Journal (Smith); Educational Research Review (Fox); Journal of Curriculum Studies (Farrow); Review of Educational Research (Rix); Teaching and Teacher Education (Hampel, Fox, Rix); Discourse (Rix); Journal of Research Into Reading (Sheehy, Chamberlain); Journal of English for Academic Purposes (Shrestha, Leedham, Hultgren); Journal of Multilingual and Multicultural development (Hultgren); TESOL Quarterly (Shrestha); British Journal of Educational Technology (Whitelock, Herodotou, Farrow); Internet & Higher Education (Herodotou); Journal of Computer Assisted Learning (Whitelock, Scanlon, Herodotou, Hultgren); Comparative Education Review and International Journal of Educational Development (Akyeampong); and Studies in Higher Education (Angermuller, Whitelock, Hultgren).

In addition, our researchers have reviewed for a range of interdisciplinary journals including: Inquiry: An interdisciplinary journal of philosophy (Farrow); Medical Anthropology Quarterly (Montgomery); Philosophy and Technology (Farrow); Social Science and Medicine (Tatlow-Golden, Montgomery) and QWERTY - Open and Interdisciplinary Journal of Technology, Culture and Education (Fox).

Refereeing research proposals and participation on grant committees

Researchers in our unit have reviewed grant proposals for a range of funders. Examples include:

- *UK research Councils*: ESRC (Scanlon, Seale, Rix, Shrestha, Rix, Leedham, Hultgren), MRC (Scanlon), EPSRC (Scanlon, Adams) and British Academy (Hultgren)
- *The EU*: (Whitelock)
- *International Research Councils and Foundations*: Social Sciences and Humanities Research Council of Canada (Fox, Whitelock, Kukulska-Hulme), Dutch Research Council (Adams, Sheehy, Seale), Research Council of Norway (Kukulska-Hulme), National Science Centre Poland (Kukulska-Hulme), Israel Ministry of Science, Technology and Space (Kukulska-Hulme), Austrian Science Fund (Hubscher-Davidson), National Research Council of Estonia (Hultgren), National Council for Special Education Ireland (Rix), Swiss National Foundation (Rienties, Marquez-Reiter), Spanish Ministry of Science Technology and Innovation (Marquez-Reiter), Kazakhstan National Centre of Science and Technology Evaluation (Rix, Sheehy), Czech Science Foundation (Sheehy), Luxembourg National Research Fund (Fox), Mauritius Research Council (Sheehy) and European Science Foundation (Seale)
- *Prestigious charities*: Leverhulme (Whitelock) and Wellcome (Scanlon).

In addition, Rix chairs the RTR Foundation which funds research focused on people with learning disabilities. Seale served as a member of the ESRC panel convened to assess submissions to the 2020 Research Methods Development Grant call.

Fellowships, Prizes and Awards

Cremin is a Fellow of the Academy of Social Sciences, the Royal Society of Arts and the English Association; **Scanlon** is Fellow of the Academy of Social Sciences; **Herodotou** is a Fellow of the British Academy and **Hultgren** was a member of the Young Academy of Denmark (The Royal Danish Academy of Sciences and Letters); **Kucirkova** is a Fellow of the Royal Society of Arts and in 2020 received a Jacobs Foundation Fellowship in recognition of her research into the impact of multimedia personalised stories made by and aimed at young children.

Research leaders within our unit have been awarded a range of prizes: **Adams** won the 2017 WISE Tech Innovation Award which recognises the outstanding contribution of women in STEM; **Chamberlain** was shortlisted for the UKLA/Wiley Literacy Award in 2019 and 2020; **Owton** received the 'Qualitative Methods in Psychology' Citation For Excellence award (British Psychological Society) in 2015 in recognition of her innovative research; **Scanlon** (as CI on the Open Science Laboratory project) won the THES award for ICT development of the year and in 2017 an OER Global Research Award for OpenTEL. In 2016 she was awarded the OBE for services to education.

Membership of Research Council or similar national and international committees

Whitelock has served as Panel Member for the EPSRC ICT (Information and Communication Technologies) Prioritisation Panel. She has also acted as an Expert Advisor to the ESRC/NRF Higher Education in South Africa Call. **Scanlon** was External appointed member, Excellence Research Australia, Human Sciences Panel (2018-2019) and external appointed member for the Swiss National Research Council initiative on Digital Transformation (2019-2020). **Holliman** is a member of the Science and Technology Facilities Council Advisory Panel for Public Engagement. **Kukulska-Hulme** has acted as an expert advisor for the Institute for Prospective Technological Studies (European Commission). **Weller** holds a Chair in OER from the International Council for Open and Distance Education and is a member of a network of The ICDE Chairs in OER that works in collaboration with UNESCO Chairs in OER. **Akyeampong** is a member of the Global Education Evidence Advisory Panel co-hosted by the Foreign, Commonwealth and Development Office and the World bank, which provides guidance to education policy makers in low and middle-income countries.

Invited keynotes, lectures, conference chair roles and conference organisation

Our researchers have been invited to give over 50 keynote speeches at UK and international Conferences including: **Hauck**, for the International CALL Research Conference at the Education University of Hong Kong in 2017; **Hampel** for the IELT International Congress on Didactics, in Colombia in 2019; **Rix** at the STAPED Conference in Oslo 2016; **Rienties** at the EARLI 2017 conference; **Kukulska-Hulme** for the Ministry of Education WSA-EC Forum in Singapore 2018; **Adams** at the Congress International for Educational Resource Innovation, Spain 2017 and **Hultgren** for the ESRC funded conference on the Linguistic Landscape in Higher Education, UCL 2016.

Researchers in our unit have also contributed to the convening and organisation of 18 national and international conferences including: 1st and 2nd International Conference on Mathematical Resilience (**Lee**); British Society for Research into Learning Mathematics conference 2019 (**Forsythe**); 1st International Virtual Exchange Conference 2019 (**Hauck**); International Conference on MOOCs Language Learning and Mobility 2019 (**Fuertes Gutierrez**) and International Conference on Mobile Applications for Empowerment and Social Inclusion of Immigrants 2015 (**Kukulska-Hulme**).