Unit-level environment template (REF5b)

Institution:	University of Cambridge
Unit of Assessment:	23–Education
1. Unit context and structure, research and impact strategy	

The approach that the Faculty of Education at the University of Cambridge takes to research starts from the principle that education itself is inseparable from the biggest challenges facing society. It is impossible to address questions such as climate change, inequalities, mental health and wellbeing, or the future of democracy, without recognising that education policy and practice are fundamental to the solution.

The Faculty's research is structured not only to enable improvements within education itself, but to achieve a far wider range of associated impacts that emerge from the unlocking of potential and the enablement of new opportunities and of happier, healthier lives.

As one of the world-leading departments of education, the Faculty's research aims to generate results both within the UK and internationally. Research during the review period has, for example, both supported communities in specific low income areas in the UK and led to transformational programmes in low-income countries. Researchers are encouraged to work in partnership and collaborate across sectors, disciplines, and geographical, political and cultural boundaries.

Unit Context and Structure

The Faculty comprises 47 academic staff, 53 research staff, and 119 teaching and other support staff. It has also grown substantially during the review period; research income having increased from £5.5m in the previous REF period to £23.7m during the period for REF2021.

The Faculty has organised the large and diverse portfolio of research prominent in our previous REF submission into eight overlapping Research Groups. These also incorporate three, higher-profile Research Centres, which have considerable external visibility and can facilitate larger-scale projects, more effective dissemination, and wider impact.

These groups provide researchers with an opportunity to work with others with similar substantive interests and to develop and realise joint research ambitions. The scope and activity of these groups is reviewed annually. Each group directs a number of research programmes towards the delivery of clear-sighted evidence, information, guidance and recommendations for policy-makers and practitioners. Groups include all research staff and postgraduate research students; staff may belong to more than one.

The academic groups and their foci are described briefly below (in alphabetical order).

1. **Arts & Creativities (lead: Professor Pam Burnard).** Arts and Creativities is a broad and interdisciplinary research community. It is focused on what uniquely constitutes the role of the arts and their different forms of engagement within education, society, work and the natural world.

2. **Centre for Research in Children's Literature at Cambridge (lead: Professor Karen Coats).** This centre was jointly established by the Faculty of Education and Homerton College in 2009,

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to consolidate their long tradition of research into children's literature. The centre includes a diverse group of researchers, scholars and practitioners focused on literary analysis and the role of children's literature in teaching and learning.

3. **Cambridge Educational Dialogue Research Group (CEDiR) (leads: Dr Sara Hennessy and Professor Rupert Wegerif).** The Faculty has a rich history of world-leading research on educational dialogue and this group is extending this interdisciplinary research across a range of diverse contexts to achieve impact on theory, policy and practice.

4. **Knowledge, Power & Politics (KPP) (lead: Professor Susan Robertson).** Research in KPP is focused on the politics of knowledge; place, social conflict and social exclusion; social inequalities and social justice; transformations of the state, education policy and market making; and big data, infrastructures and new modes of governing.

5. **Psychology, Education & Learning Studies (PELS) (lead: Dr Michelle Ellefson).** Research covers four areas: Students' learning, thinking and development; Teachers' teaching and professional learning; social, emotional and relational aspects of learning and development; and Play in education. PELS is the academic home for the **PEDAL Centre (Play in Education, Development and Learning)**, a new centre funded primarily by The Lego Foundation and led by Professor Ramchandani.

6. **Research for Equitable Access and Learning Centre (REAL) (lead: Professor Pauline Rose).** The REAL Centre is focused on the role of education in international development. REAL has undertaken pioneering research into overcoming barriers to education, such as poverty, gender, ethnicity, language and disability. Projects involve collaborations with partners in the Global South, and adopt interdisciplinary, mixed methods research with research teams that include economists, sociologists and psychologists.

7. **Second Language Education (SLE) (lead: Dr Linda Fisher).** SLE specialises in researching a range of theoretical, empirical, policy and practice-related topics on multilingualism and education. The group adopts an interdisciplinary focus on language learning, drawing on perspectives from the social sciences and applied linguistics.

8. **Science Technology and Maths Education (STEM) (lead: Professor Andreas Stylianides).** The STEM group provides a critical evidence base and research-informed guidance that will maximise the impact of teaching and learning in these subjects, as well as contributing to theoretical advances in the fields of science, technology and mathematics education.

Notable recent developments have focused on three priorities highlighted in the Faculty Research Strategy: (a) education and international development, (b) psychology of education and (c) policy-focused research. In alignment with this strategy, two of the Research Centres were established during the review period: The Research for Equitable Access and Learning (REAL) Centre and the Centre for Play in Education, Development and Learning (PEDAL). Both these centres have received substantial external funding. They join the longer-established Centre for Research in Children's Literature at Cambridge.

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The Faculty has a Research Committee which reports to the Faculty Board. The Research Committee is chaired by the Director of Research (Ramchandani) who also serves on the Senior Leadership Team of the Faculty. He is supported by two Deputy Directors (Ellefson and Sabates), which also facilitates succession planning. The Committee exercises strategic leadership of research activity and development across the Faculty. All professors and readers in the Faculty belong to the Research Committee, which also has representation from other staff groups and students.

Research Objectives

The Faculty has built on its success in the 2014 REF, expanding its research activity and investing in our areas of particular strength. This has enabled us to recruit and retain world-class academics and to develop our international research profile still further. The overarching aim of its research strategy continues to be to address the key research challenges of the discipline of education and to impact policy and practice, both in the UK and internationally. Additionally, over the 2013-2021 period, the Faculty prioritised the following three research areas; education and international development, psychology of education, and policy focused research. The success of this strategy is illustrated by selected highlights below:

Education and international development

- We established a new Chair (Rose), funded from Faculty reserves, and launched the REAL Centre. REAL has grown rapidly and now has new posts in the area of international development (Sabates, Grujter) and two additional Chairs via promotion (Singal, Sabates).

- REAL has led 15 research projects in eight countries in sub-Saharan Africa and South Asia. It has undertaken ground-breaking research on the importance of high-quality early years and primary provision in low income countries, which has led to a shift in policy and funding priorities by the UK Department for International Development (see CS-23-681).

Psychology of education

- We expanded our psychology of education research portfolio, with a new Lego Foundation endowed Chair to lead PEDAL (Ramchandani) and new appointments (Gibson, Wegerif, Harold).

- Our new PEDAL centre has established itself as an authoritative voice on the importance of play in children's development and policy, and has recently had a renewal of its funding for a further five-year period (£3.1M; 2018-23).

- Researchers from PELS (Ilie, Vermunt and Vignoles) secured funding for a large HEFCE Learning Gain project that has led to high-quality publications on widening participation in higher education and learning gain which have influenced higher education policy in the UK (see CS-23-683).

Policy focused research

- We have boosted our policy-focused research, particularly research into inequalities in education access and achievement, and higher education. Specifically, new appointments

with a strong policy focus have been made across a number of research groups (Grutjers, Hartmann, Hoffman, Ilie, Maber, Sabates, Robertson and Rose).

We have also continued to build on *areas of existing strength* identified in the last REF:

- The establishment of our KPP group has consolidated our expertise in the sociology of education, with four new appointments from that disciplinary background (Robertson, Sriprakesh (recently promoted to a Chair at the University of Bristol), Hartmann, Grujiters).

- We have continued to develop our research excellence in arts, language and culture with the recruitment of a new Professor of Children's Literature (Coats) and key promotions to Chairs (Burnard, Hickman).

- In the 2014 REF, the Faculty also noted its commitment to growing its quantitative methods capacity, with the appointment of a Chair (Vignoles). This area has grown significantly both in terms of the number of researchers who are using quantitative methods (Baker, Gibson, Grujter, Ellefson, Harold, Ilie, Ramchandani, Rose, Sabates, Vignoles) and in terms of the number of research students who are trained to an advanced level. Vignoles has been appointed as Director of the Leverhulme Trust commencing 2021 and will be replaced by a Chair with strong quantitative expertise.

We also continue to prioritise research into *pedagogy and classroom practice*:

- The Faculty has invested in our work on dialogic teaching, with the recruitment of Wegerif to replace Mercer (following retirement). **CEDiR** has secured a large (€4.4m) pan-European project (DIALLS), focussed on the use of dialogic approaches in different cultures (led by Maine), and have published a landmark contribution to the field (The *Routledge International Handbook of Research on Dialogic Education,* Mercer, Wegerif & Major, 2019). It features 92 contributors across six continents, including 15 Faculty members. This handbook marks the coming of age of dialogic education as a distinctive area of applied educational research and places the Faculty in a leading role.

- The Faculty helped establish the University of Cambridge Primary School (UCPS) in 2015 based on many of the principles outlined in earlier Faculty research, namely The Cambridge Primary Review (Alexander, 2010). Faculty researchers have a collaborative relationship with the UCPS which has ensured a research informed curriculum and creative pedagogies. The UCPS has also been a seed-bed for further research (see CS-23-682).

- Our **Arts and Creativities** group has been working with the British Education Research Association reviewing the potential and the challenges of developing STEAM (Science, Technology, Engineering, Arts and Mathematics) education through creative pedagogies (BERA Research Commission Report).

- Our **SLE** group has been awarded an AHRC large grant (£3.2m) for its Multilingualism Empowering Individuals, Empowering Society (MEITS) project. This investigates multilingual identity and language learning and involves international collaborators and language practitioners in schools.

- The **STEM** group, along with the Faculty of Mathematics, Cambridge Assessment and Cambridge University Press, hosts *The Cambridge Mathematics project* which is creating a curriculum framework for a world-class mathematics education for all students aged five to nine years old.

The success we have had reflects our emphasis on:

- supporting Faculty members to undertake internationally leading research that underpins our teaching;
- encouraging interdisciplinary national and international collaborations;
- undertaking research that has a tangible impact on policy and practice;
- sustaining a broad portfolio of high prestige research grants and donations to support our research.

Looking forward to 2026, our recent grant and philanthropic donation success gives us confidence that we can sustain our research groups, even in the face of a constrained financial environment. We also intend to increase our policy and practice focused research still further, particularly in the area of higher education. There continues to be considerable national policy emphasis on, and funding for, widening participation activities and Faculty members are well placed to undertake research in this area. We have plans in place for a wider university collaboration with the newly established Cambridge Centre for Teaching and Learning. This centre focuses on, among other activities, implementing programmes to support non-traditional students at Cambridge and the Faculty will support both the development of such programmes and their evaluation.

Enabling Impact

Achieving impact on policy and practice is a long-standing core aim for the Faculty (as evidenced by our strong 4* impact case studies in the last REF) and a vitally important aspect of our research environment. An Impact Director has been appointed (Vignoles) and the Faculty recognises that planning for impact needs to be reflected in the research design and methodology used in our projects. The Faculty actively encourages and mentors researchers to consider impact at an early stage. Internal funding and training is provided to support dissemination and impact activity. Workshops have been held annually to develop researcher skills in dissemination and impact, and the appointment of a communication specialist has been key to raising the profile of our research.

Researchers have also made good use of external funding opportunities to achieve impact, with the award of 19 grants since 2013 from the ESRC Impact Acceleration Fund and, internally, success with the Vice-Chancellor's Impact Awards, e.g. Nicholl's project *Designing Our Tomorrow*, described below.

A major investment by the Faculty is its **Education Reform and Innovation Team (ERI)** which specialises in research-informed systemic education reform. ERI is involved in international projects of development, research, monitoring and evaluation. This ensures that the Faculty's research has a clear route into practice and policy. ERI undertakes an extensive range of professional development activities with schools and school leaders nationally and globally. It has received

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significant pump priming funding from the Faculty (see section 3), enabling it to develop rapidly and achieve impact at scale (see CS-23-680).

We also have several important teacher and school leader networks, such as the Leadership for Learning Network (1981 members in over 100 countries) and the SUPER network (15 schools across the region). These are long-standing networks that have provided clear routes for the research of the Faculty to reach school practitioners.

Interdisciplinary Research

The Faculty maintains a strong commitment to interdisciplinary research. The research challenges facing Education are inherently interdisciplinary, ranging from the need to address the rising prevalence of poor mental health among children and young people, through to reducing the large inequalities we see globally in children's educational access and outcomes.

A large number of Faculty researchers are members of, or play leadership roles in, University Strategic Research Initiatives (SRIs), Networks and Interdisciplinary Research Centres (IRCs). These are formal structures designed to increase interdisciplinary working and supported with internal funds from the University.

- Rose is co-Chair of the *Global Challenges Strategic Research Initiative* which undertakes research addressing the Sustainable Development Goals (SDGs) and with a focus on the poorest half of the world's population.

- Vignoles is co-Chair of the *Centre for Data Driven Discovery (C2D3)* and seven Faculty researchers are members (Baker, Burnard, Ellefson, Gibson, Ilie, Liu, Rose). C2D3 is an interdisciplinary research centre that brings together experts with technical, mathematical and topic knowledge to work on tackling the challenges of big data.

- Jaques and Nikolajeva are members of the *Cambridge Digital Humanities* network.

- Rose and Vignoles are on the Steering Committee of *The Cambridge Public Health Network*, and Gibson and Ramchandani are also members.

- Robertson and Liu are on the Steering Committee of the Centre for Global Human Movement, while Maber is a member.

- Rose is a member of the *Cambridge-Africa* steering group and a number of Faculty of Education researchers (Hayward, Rose, Sabates, Singal, Winterbottom) have secured research funds as part of this initiative.

The Faculty has provided additional in-house support to encourage interdisciplinary working. This includes an internal competitive funding stream to support the development of cross disciplinary

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ideas and grant proposals. The success of this is illustrated by the number of large interdisciplinary projects that are led by Faculty researchers. These include:

- The EU-funded (Euro 4.4m) [PI: Maine] 2020-23 programme on dialogue and argumentation (*DIALLS*) mentioned earlier;
- The AHRC Open World Research Initiative (£482k) [PI: Fisher] on Multilingualism: Empowering Individuals, Transforming Societies (*MEITS*), also mentioned earlier;
- An ESRC Transformative Research Grant (£200k) [PI: Gibson] with researchers from computer science, psychology and landscape architecture, investigating children's play and social interaction in schools (*Hopscotch*);
- An NIHR-funded Randomised Control Trial (£472k) [PI: Ramchandani] with Imperial College, Kings College, Oxford, Warwick, Amsterdam (VUA) Universities, on children's early socio-emotional development (*Healthy Start, Happy Start*);
- A Singapore National Research Foundation project (SGD 5.5m) [PI: Ellefson] joint with the Departments of Neuroscience and Psychology. The project emerged from engagement with the Cambridge Centre for Data Driven Discovery (C2D3) and the Public Health network.

Open Research and Data Sharing

We have an active programme of staff training in open research practices (including data management, sharing, copyright). This is a rolling programme specifically tailored to Faculty needs, with two recent training events held in Spring 2019 (training in 2020 was cancelled, another course is planned for 2021 and will be open to PhD students). We have invited external experts in open science to lead seminars (e.g. Chris Chambers, April 2019). The Faculty is represented on the University's Open Research Steering Committee and engages in strategic University-wide planning and regular awareness-raising sessions. Evidence of our progress towards an open research environment is that 93% of our recent (2019/20) research outputs are open access (and the rate is increasing).

Ethical Research and Research Integrity

We have established systems in place for ethical review of all research projects undertaken by Faculty staff and students, with approved documentation logged and saved centrally for ongoing review. Student projects are reviewed by course ethics committees and projects led by staff are reviewed by an independent member of staff. Where issues arise, further independent review is sought and referred to a panel for final decision. The Faculty endorses the BERA ethical guidelines which cover the major aspects of ethical practice in educational research. Where more appropriate, projects may choose the alternative of seeking approval under the University's scheme for psychological research. The Faculty ethical approval procedures were recently updated (2019) to comply with GDPR (and have been audited by Deloitte). This review was led by Taber and Hennessy, who chaired the 2018 BERA Ethical Guidelines Review group. Research integrity is as much about culture as process. In the Faculty we foster a collaborative culture, not least via our research groups and centres, and issues relating to research ethics and behaviours are discussed in various fora, including the Research Committee and in training for mentors and probation mentors.

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2. People

Staffing Strategy and Staff Development

There have been considerable staff changes since the last REF. We have made ten external senior appointments over the period (Bullock, Coats, Hayward, Harold, McLaughlin, Ramchandani, Robertson, Rose, Sabates, Wegerif). This reflects a high number of retirements of senior members of the Faculty since 2013 (Arnot, Colclough, Gray, Gronn, Hargreaves, Howe, Mercer, Nikolajeva, Reay, Ruthven), as well as two members of the senior leadership team leaving, one for a promotion (Crawford to a Head of School position) and the other to return to their home country (Vermunt). Replacement of these leading researchers has been strategic, recognising that the Faculty is in a phase where even its Professors are at an earlier career stage than was the case for the last REF. The Faculty has used the opportunity to build 'critical mass' in the research areas that we are prioritising, rather than opting for one-for-one replacement in the topic area of the leaver. The net reduction in senior staff has been offset by seven recent internal promotions to Chairs. Additionally, there have been 11 promotions to Readerships. Given the highly competitive cross-university promotion process at Cambridge, this is an exceptional number of promotions, and an indicator of the quality of Faculty research.

The Faculty has also prioritised new appointments at Lecturer and Senior Lecturer level in our areas of research strength. The Faculty recruits to Lectureships only candidates who have already gained a doctorate in education or a cognate area (or can demonstrate equivalent accomplishment in research). A mentor is appointed to support such colleagues over their probationary period, typically set at five years. Over the period, 14 Lecturers and Senior Lecturers have been appointed from outside the University. Twenty-two Lecturers and Senior Lecturers have been appointed internally.

Support for Early Career Researchers

Postdoctoral appointments at Research Associate level are used to staff fixed-term, externally-funded research projects. The Faculty currently has 38 fixed-term research staff. The Faculty has been successful in winning relatively long-term awards, providing Research Associates with good opportunities for career development. This is evidenced by the excellent record of progression from Research Associate into tenure-stream positions. Over the REF period, six research staff have been promoted to Senior Research Associate positions within the Faculty (Ahmed, Fimyar, Fink, Ilie, Major, Winter, Yakavets). Thirty-six have been appointed to permanent positions in universities, including three in the Faculty (Forbes, Hoffman, Ilie). A number of our ECRs have also been awarded competitive Research Fellowships. Basilio awarded an ESRC Future Research Leaders Fellowship; Cornelissen, Garcia, Sama and Martini secured Marie Curie Fellowships; Ahmed and Kulz were awarded Leverhulme Early Career Fellowships; Mirawdeli and Lee a ESRC New Investigator Grant; Neale, Torres, Rao and Wilson were awarded ESRC Postdoctoral Fellowships.

The Faculty keeps provision for research staff under review in the light of the University's probationary arrangements and the Concordat to Support the Career Development of Researchers. Faculty policy identifies a range of responsibilities to be discharged by the Faculty supervisor of each

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member of research staff (normally the PI of their main project), including supporting career development. Every supervisor is expected to undertake appropriate training. Research Associates, with financial support from the Faculty, organise a very active group aimed at providing mutual support. Their elected representatives participate fully in relevant Faculty committees, including the Research Committee and the Faculty Board.

From the start of their employment, all new research staff are engaged in the research process with a specific research induction to describe the process of finding funding, grant writing, open science and how research outputs are managed. They are invited to join a research group (or more than one), to ensure they are integrated into the Faculty community. Lecturer/Senior Lecturers are allocated a probation mentor at Reader or Professor level, to provide support to develop their research plans and achieve probation requirements. They access the programme of professional development offered to all staff, which includes training in generic skills suitable for career development both within and outside academia.

In 2015 the Faculty established three initiatives to enhance the level of support for research: **a research mentoring scheme**, a regular **research audit** and an internal funding stream (the **Research Development Fund**).

i) The role of the **research mentor** includes offering feedback on draft funding proposals, publications or promotion cases. It involves supporting colleagues in developing their skills and discussing suitable journals for submission, study leave plans, or avenues for impact. The mentoring scheme is for all academics, including postdoctoral staff. Mentors are offered regular training and sessions for sharing practice.

ii) There is an **annual audit** of publications and Faculty members' publications are peer reviewed by their colleagues and feedback is shared with authors and their mentors.

iii) The **Research Development Fund** provides a source of funding, particularly for those early in their career or seeking to develop a new or interdisciplinary line of research. It can be used to pump prime projects and provide resource to write a grant application and has been used with considerable success. Bids are up to £10k. During the REF period, 17 awards have been made to 16 PIs, with a total value of £112,621.

In 2018 the University undertook a formal strategic review of the Faculty's research environment by a panel of external experts. The review supported the Faculty's strategy on staff development and noted its success in increasing the number of research active faculty members with high quality outputs. Other indicators of success are: the combination of mentoring and the research audit has prompted individuals to adapt their publication plans, the uptake of the Research Development Fund has been strong and led to successful grant applications, and there has been an unusually high number of promotions at all staff levels. In addition, we have a structured process for grant submissions, including peer review, which has improved success (the current success rate is at 48% and averaged 43% over the REF period).

All staff (including Research Associates) are awarded a statutory £600 per year Personal Development Allowance and are eligible for leave to attend relevant conferences and training. Staff are also given access to a conference travel fund of up to £1,000 per year. Additionally, academic staff with research and teaching responsibilities benefit from a generous sabbatical leave policy

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allowing up to one term in seven for scholarship. Many staff have used this to significantly advance their research to publication, to forge international collaborations and to work on impact.

Facilitating Knowledge Exchange and Impact

We encourage staff to undertake secondments. Secondments, particularly into government departments, have proved an effective way of undertaking knowledge exchange and achieving impact. Rose was seconded to the UK Department for International Development (2015-18) to advise on priorities for large-scale investments. This was a critical element in supporting the impact case study we are submitting from the REAL Centre. Vignoles was seconded to the Economic and Social Research Council (2018-20), tasked with advising them on their data investments to ensure that UK social science has the necessary tools to remain world leading.

Our ERI team provide opportunities for researchers to become involved in international knowledge exchange. Since ERI was established in 2012, 13 Faculty researchers have been involved in ERI projects in five countries.

The Faculty facilitates consultancy that leads to knowledge exchange, including encouraging staff to use the support offered by Cambridge Enterprise. Cambridge Enterprise is part of the University of Cambridge and supports academics, researchers, staff and students in achieving knowledge transfer and research impact. For example, Hennessy worked with DfID in 2018, advising on the use of education technology in low income countries. Members of REAL (Ilie, Rose, Sabates and Singal) provide consultancy to a range of organisations, including DFID, FCO, the Norwegian Agency for Development Cooperation (NORAD), Save the Children, The World Bank, UNESCO and UNICEF. REAL colleagues have also been involved in the Education Commission, led by former PM Gordon Brown, and the FCO Platform for Girls Education. Singal has worked on disability issues with the World Bank. Sabates has worked on adult learning with UNESCO. Robertson has been an advisor to Education International on their global research strategy on the privatization of education. Nicholl has provided advice to government as a member of the Design and Technology Working Group on reforms of both GCSEs and A levels in 2015. Many of these consultancies have included our PhD students, providing them with opportunities to develop their knowledge and skills.

Our school networks and the University of Cambridge Primary School (UCPS) provide opportunities for researchers to undertake knowledge exchange. Three Faculty researchers are members of the UCPS governing body, including the Head of Faculty (Robertson) who is the chair. The school is a testbed for many ongoing research projects and a reciprocal relationship is flourishing and its head teacher (Biddulph) recently completed a PhD with the Faculty (see CS-23-682).

The Faculty provides funds to promote knowledge exchange. A number of policy and practice-oriented conferences have been hosted. For example, the Faculty co-hosts the annual Yidan Prize in Education to which influential practitioners and policy-makers are invited, providing an opportunity to showcase our research. In 2019 two of our research centres (REAL/PEDAL) hosted a joint conference to engage practitioners, policy-makers and academics in debates about early years curricula in developing countries. In 2015 Jacques organised Wonderland Week, a national celebration of the 150th anniversary of Lewis Carroll's *Alice*. The Faculty makes regular contributions to a range of external public focused events, such as the Hay Festival, and hosts the highly

successful [Cambridge Festival of Education](#) which provides an excellent opportunity to engage directly with practitioners and parents, as well as with the general public.

We are mindful that providing the structures (e.g. ERI) and the funding for knowledge exchange activity is not sufficient. Such activity takes time and work load can be an issue. In 2016, a new teaching workload model was introduced, which results in a more equitable recognition of key activity, including research, knowledge exchange and impact work.

Research Students

The Faculty has a thriving postgraduate student community. Over the REF period, 234 students have graduated from the Faculty with a PhD in Education. Each year, we train more than 300 MPhil and MEd students and over 300 PGCE students who become newly qualified teachers. Our students come from a wide range of contexts and countries (35 countries in the last academic year).

Full-time students generally follow a standard 1 + 3 pattern through a one-year MPhil which provides core research training and develops expertise in the area of the proposed thesis topic, followed by the PhD itself which incorporates further specialised training. PhD candidates with an appropriate Masters degree from another higher education institution are admitted on our +3 PhD route, though their skills are audited. There is a part-time route to the PhD and the EdD on a 2 + 5 model. Progression to the doctoral phase depends on strong performance in the earlier research-based Masters phase. All doctoral students have one named supervisor and a separate advisor. There are clearly staged assessment points during the PhD/EdD programmes, with a written assessment and viva at the end of the first year (full time, or the part-time equivalent) and termly reviews thereafter.

Demand for our Masters and Doctoral training places is strong. In 2019/20 we had 834 applications (675 MPhil and 159 MEd) at Masters level (and accepted 339 (243 MPhil and 96 MEd)) and 251 applications at doctoral level (and accepted 113).

Equality and diversity are a vital component of our recruitment efforts and are ensured in a number of different ways. We recruit students from non-traditional backgrounds, for example we have a strong intake of mature students and part-time students (around half our Masters students are part-time). Decisions about studentships are made by a team. All staff participate in E&D training if they undertake interviews.

Over the REF period, research students in the Faculty have been awarded 22 ESRC studentships, and three benefited from externally funded research studentships of various kinds. A further 16 students secured internal research studentships (Cambridge Commonwealth and Overseas Trusts, Gates Trust, and other University, Faculty and College sources). These have to be won in fierce internal competition across all of the University: there are no quotas reserved for Faculty students.

Completion rates in the Faculty are excellent by sector standards: 71% over the REF period. The quality of the best research is reflected in the awards garnered by students. These include BERA dissertation awards in 2019 and 2020. 91 students have secured postdoctoral research positions over the period. A number have already achieved lectureships directly following their PhD (at the Universities of Bath, Edinburgh, South Florida and in three cases, our own Faculty).

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Students are encouraged to develop a high degree of research expertise and independent thinking and practice from early in their studies. They are strongly encouraged to be contributing members of the research groups, with opportunities for getting involved in projects, leading reading groups, and organising seminars.

The formal programme of research training in the Faculty includes a core set of modules in research methods needed by all students, as well as more advanced and specialist elective modules that are taken according to need. For other specialised electives, particularly those drawing on other disciplines, research training is offered by the School in the form of the [Social Science Research Methods Partnership (SSRMP)](). This training provision is currently led by the Faculty of Education, ensuring we have a key role in shaping it. Whilst all our PhD students engage with others from different disciplines, via Faculty events and in their colleges, students funded by the [Cambridge ESRC Doctoral Partnership]() and the [Cambridge AHRC Doctoral Partnership]() have a schedule of additional events. Fostering interdisciplinary conversations is a key aim of these DTPs.

The synergies between our research and teaching have been increased by aligning our teaching offer with Faculty members' research interests, although we still offer students considerable choice in the topic of their research dissertation. Our undergraduate degree has been redeveloped to offer routes that emphasise some of our research foci, namely international development, psychology of education and arts and creativities. We now offer an MPhil in Education, Globalisation and International Development, which has proved very successful in attracting students (from 70 applicants, 30 were enrolled in 2019/20) and a new MPhil in Knowledge, Power and Politics in Education, which started in 2020 (38 applicants, 18 applicants enrolled).

We have reviewed our doctoral training to improve the offer, and to encourage greater opportunities for students to publish their work (and co-publish with supervisors where appropriate). This aspect of our provision is particularly attractive to our international students who benefit from the opportunity to publish before competing on a globally competitive academic labour market, where US candidates in particular have strong publications. The University offers a Graduate Development Programme which provides training in planning and project management, presentation and communication, publication and negotiation, and support for wider career development.

There is an active postgraduate student community in the Faculty, [FERSA](), which organises training, social events and academic development opportunities, including a highly successful annual conference, a blog and a peer review journal (Cambridge Research in Education Journal). The Faculty also offers doctoral students personal financial support for conference presentation, fieldwork expenses and equipment costs, as do Colleges. Students receive up to £400 each from the Faculty, and for exceptional cases, up to £1,000.

Equality and Diversity

The Faculty has a strong commitment to fostering and promoting equality and diversity at all levels. We have an Equality and Inclusion working group which includes broad representation from across all staff. This group is leading on several initiatives including staff training and updating hiring practices. In 2020, the Faculty decided to incorporate a formal standing committee, namely the *Equality, Diversity and Inclusion Committee,* to ensure our structures and processes are more robust and can hold the various committees, services and programmes in the Faculty to account.

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Sixty-four percent of permanent staff are women. In addition, half of the professors, and nine out of 11 of the readers in the Faculty of Education are women, making up 65 percent of the Faculty's leadership profile. 20% percent of professors identify as BAME. Promotion figures also reflect this balance, with 17/27 (63%) of promotions being female in the REF period and five (19%) BAME.

The UoA has taken a thoroughly inclusive approach to the construction of this submission. The UoA has promoted the inclusion of all research-active staff, in line with the University's Code of Practice and in consultation with all potentially eligible staff. Additional support and mentoring has been provided to staff who are on the cusp of research independence to enable them to make the transition to independence. Mentoring has also been provided to those who are not currently independent but who are likely to become so in the next REF period. Eligible research outputs were all peer reviewed independently by multiple individuals, including by external experts who were involved in the previous REF at the national level. The entire committee was involved in final selection of outputs: data on review judgements was circulated in a transparent way to the REF committee. The Committee has a Faculty staff member as an observer to provide a staff perspective and to ensure that our REF processes and the submission are inclusive. Our impact case studies involve staff at all levels, including lecturers and readers. Further, our impact case studies were peer reviewed by external experts with national REF experience.

The University offers standard sabbatical, as well as shorter study leave and secondment options, for staff who may have circumstances that require specific study-leave arrangements. Flexible and part-time working arrangements are available; unpaid leave, and a range of other leave options are also available to support staff in realising their research potential. Twenty staff have taken advantage of these options over the period 2013-20.

Career pathways for part-time staff are the same as full-time staff and equal access to personal and professional development courses for learning new skills and career advancement is offered to all staff. Fixed-term staff are offered redeployment support at the end of their fixed term contracts irrespective of hours worked.

Anyone with caring responsibilities or ill-health is supported as needed, for example by offering flexible hours, mentoring or additional resource. The University offers a [Returning Carers Scheme](#) offering up to £10K (and £20K in exceptional circumstances) to support individuals affected by periods of leave due to caring responsibilities. This scheme provides specific financial support for attendance at conferences, short-term research support, teaching buy-out, travel and accommodation costs for research partners coming to Cambridge, secondments, career development, support for assistance in grant writing, and funds for research equipment. The Faculty encourages take-up by publicising and supporting the scheme.

The Faculty aims to provide a culture that supports staff wellbeing. However, sometimes the challenging schedules and high standards expected of our students and staff can cause stress. The University offers a comprehensive [WellCAM wellbeing programme](#) that includes sources of support, and training sessions. The Faculty complements this by offering lunchtime and child-friendly research seminars and meetings. The Faculty also has researchers who focus on well-being and mental health in their research. This community has organised extra-curricular sessions led by specialist colleagues, with two to three lunchtime seminars per term. In 2018/19, we had a theme around relationships for example, including an external speaker (Professor Tamsin Ford). In

Unit-level environment template (REF5b)

2019/20, we hosted another event with an external speaker (from the charity Place2Be).Around 60 staff are members of the group.

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3. Income, infrastructure and facilities

Funding Strategies

Strategic investment in, and development of, our research portfolio has resulted in considerable success in terms of the ability of the Faculty to attract funding to support research and impact.

- Faculty research income has increased more than fourfold from £5.5m in the previous REF period to £23.7m during the period for REF2021.

- During the review period (2013-present) 170 grants have been awarded. These range widely in subject and include 46 grants of over £100k (including nine awards in excess of £500k).

- An increased proportion of Faculty members have leadership roles in externally funded research projects (35% are currently Principal Investigators or Co-Investigators on externally funded research grants).

Over the period we have sought to diversify our sources of funding. We now have a very wide range of funders in our portfolio, including the UK Research Councils (AHRC, ESRC, NIHR), charitable funders, international research councils, industry, the European Union and Government departments.

- Grants in this period valued at over £250k are funded by 11 different sources.

- 26% of our grant income over the 2013-20 period was from the research councils (ESRC, AHRC, MRC and the EU Horizon programme).

- 12% of our grant income was provided by key foundations and charities, such as the Education Endowment Foundation and the Nuffield Foundation.

Our research strategy recognises the positive opportunities presented by large collaborative projects: to build our reputation in key substantive areas, to involve more postdoctoral and PhD researchers in our work, to secure sufficient resource to undertake more ambitious research and to ensure critical mass to achieve impact. This concentration of effort has increased our international and collaborative research portfolio. Twenty-eight percent of our grant income now comes from these large, generally international, collaborative projects. For example, our largest collaborations are a £20m EdTech Hub consortium and the €4.4m EU funded DIALLS project discussed earlier. Since its inception, REAL has generated over £8m in research income.

The Educational Reform and Innovation (ERI) team, which undertakes the development work of the Faculty, is an important vehicle through which we generate third-stream income. The ERI team have developed a wide international portfolio worth £10.8m over the REF period.

The role of philanthropy in supporting our research is increasingly important. The generous benefaction of the LEGO Foundation provided the funding for PEDAL. This has amounted to £3.1m since PEDAL's launch. Whilst PEDAL has also secured £840k to date in alternative funding, including competitive grant awards, the LEGO investment has been vital to its success.

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Organisational Structure

Changes in organisation structure since the last REF have been designed to increase collaborative research, raise our international profile and increase our impact. The research groups have facilitated more collaborative research as evidenced by our increase in grant income. The three high profile research centres (PEDAL, REAL and The Centre for Research in Children's Literature at Cambridge) have also made our research in these areas more visible and helped us increase our funding and impact.

The Faculty has a dedicated research office run by a highly experienced Research Administrator (Carter) who provides support for the development and costing of proposals and input into the training and development of research staff. He disseminates information about funding calls, trains staff in grant writing and management, and supports grant applications. He is also responsible for monitoring grant submissions and success rates and reporting these to the Director of Research and the Faculty Research Committee.

Faculty level support is augmented by the infrastructure, legal, financial and project management support provided by the University Research Office. Additionally, the Strategic Partnership Office (SPO) facilitates links with business partners. For example, the SPO has helped secure funding from Aviva for the Cambridge Centre for Data Driven Discovery (C2D3) led by Vignoles. The Cambridge University Development and Alumni Relations office has helped the Faculty benefit from sponsorship and donations (e.g. the Lego Foundation funded PEDAL centre, as well as funding from the Mastercard Foundation, to name but two).

Infrastructure Supporting Research and Impact

There are four main areas of infrastructure that support research: our estate, libraries (the dedicated Faculty library, the main University Library, the libraries of the Cambridge colleges), our information technology team and our children's laboratory.

The Donald McIntyre Building is a modern building built in 2005 which has 11 teaching rooms, two meeting rooms, a Café, a Staff Social Area, Faculty Library, Finance Office, IT suites, IT Office, AV Support Service Office, Student Administration and Research Administration Offices. A bespoke conference space was refurbished in 2018, with a capacity of 220 delegates. The Mary Allan Building has 20 teaching rooms, 36 academic, research and administration staff offices and an Auditorium. Teaching rooms are used by Homerton College for conferences outside University terms. Trumpington House has one seminar room.

In terms of facilities for academic staff, each academic has a dedicated desk and office space. Early career researchers have a dedicated desk in a shared work environment. Research students (PhDs) have a dedicated room, which consists of 26 workstations. This is over and above provision in the library (see below) and their College.

The Faculty of Education has a dedicated library that provides a proactive, bespoke service to a largely postgraduate community. Using high levels of subject-specific knowledge, the library team support the varied teaching and research needs of the Faculty. The library team is led by two Chartered Librarians (CILIP) and were nominated for the University's Professional Services Recognition Awards in 2018. In the same year they contributed to the Ofsted 'Outstanding' rating of

the PGCE programme being recognised as a "team of highly professional, dedicated librarians" who work "closely with subject lecturers to ensure that trainees have access to relevant and up-to-date literature". This is underscored by the ongoing research skills sessions which the library team tailors to student needs. The physical library holds more than 58,000 items, including a historic Cambridge Education Archive, a consultable collection of British Psychological Society tests, access to the University Electronic Legal Deposit collection, and 100+ study spaces. The Education Library also provide a 24/7 online library via the Faculty's Virtual Learning Environment (Moodle) providing research, citation and resources support. The library team has an ongoing commitment to outreach and education, organising collaborations with local schools and providing reference access to any member of the public with an interest in education. In addition, the main University Library and the libraries of the colleges provide a comprehensive support service for our researchers, providing access to an unparalleled range of materials.

To meet research needs, the Faculty's IT and AV department provides a range of software and hardware, supported by 3 FTE technicians. In addition to a set of standard software, a Virtual Learning Environment, and on premise secure server space is provided. There are three suites of dedicated workstations with Windows and Apple environments for all research students and staff and a variety of software (SPSS, STATA, NVIVO, Wordsmith Tools etc.). Access to the University high performance computing facilities is also available at no cost for those working with very big datasets. Dedicated AV support (1 FTE) also supports researchers wishing to produce audio or video. The University subscribes to secure UK based Cloud sharing provision provided by Microsoft and offers the latest in security protocols for this service.

The Faculty has a dedicated Video Analysis lab and an Observation Lab G2, to enable staff and researchers to carry out projects that require the study of child-child or child-adult interactions and child development.

Infrastructure for Equality and Diversity

The Faculty reserves a proportion of its funds for expenditure in support of staff who need assistance with accessibility in order to carry out their work. Recent examples include the provision of a range of office equipment to various members of staff (particularly during COVID to support home working), the adaption of office space, the installation of specialist software on computers, and funding to employ specialist assistants for example to provide sign language. The Faculty HR Manager liaises closely with the University Disability Support Service and the University Occupational Health Service.

Students and staff also benefit from a dedicated Disability Resource Centre, which offers advice and support to students, and training for staff. A range of provision is clearly advertised, including access to particular support groups (e.g. social support for students with Autistic Spectrum Conditions). The code of practice with regards to what students can expect in terms of reasonable adjustments is clearly displayed and advice available.

The University is also seeking to address E&D holistically, seeing clear links with well-being. This approach is reflected in the type of support offered by both the E&D Office and the Occupational Health Service, both of which are focused broadly on the promotion of health and wellbeing and prevention of ill health at work, as well as providing other activities such as a network for staff with disabilities and high profile awareness events for the International Day of Persons with Disabilities.

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Infrastructure and Impact Activities

The Faculty has invested substantial sums in its infrastructure to support impact activities. In particular, the Faculty has used some of its reserves (approximately £700k) to support the development of the ERI team.

In 2017 the Faculty recognised the need to communicate more effectively about its work. A full-time communication specialist was appointed. As part of a strategic review of the Faculty's communications, a number of key changes have been instigated, including greater use of social media channels, more high profile national and international events and finding ways to involve our research students in our communications. The Faculty has also allocated £300k for the redevelopment of its website and associated communication strategy.

Collaborative Use of Research Infrastructure

The Faculty hosts the Social Science Research Methods Partnership. A number of the modules and courses available through SSRMP are accessible to researchers and students from other institutions. Faculty members (Brown, Ilie, Gruijters, Sabates, Vignoles) contribute to this programme, and their courses are open to researchers nationwide.

The child observation lab is available to researchers in other Faculties and has recently been used for assessment for a longitudinal study led by colleagues in the School of Biological Sciences.

The Faculty funds infrastructure for its postgraduate community (FERSA, mentioned earlier) which makes a national contribution. In addition to its blog which has a national following, it hosts an annual two-day conference, Kaleidoscope, which is attended by students from across the country and offers opportunities for research students to present their work. In 2019/20, the conference had 142 attendees, of which 86 were from outside Cambridge.

Significance of Benefits-in-Kind

As detailed above, the Faculty has benefited from the donation provided by the Lego Foundation to establish the PEDAL centre. Over and above the financial benefits, the Lego Foundation have provided significant benefits in kind. This includes the opportunity to benefit from their international networks and opportunities for staff exchange. The Lego Foundation also provide support for research students to attend their Lego Idea Conference which brings together researchers, practitioners and policymakers from around the world.

Gibson's ESRC funded Hopscotch project received £30k worth of play equipment from Community Playthings, Touchwood and Children's Scrapstore.

Unit-level environment template (REF5b)

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

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Research Collaborations

The Faculty encourages research collaborations with leading researchers wherever they are located. The success of our strategy is evident from the breadth and scale of our collaborations. These include collaborative research projects with the Institute for Fiscal Studies, Early Intervention Foundation, the University of Bristol, Kings, Oxford, Imperial College and UCL IOE. Recent international collaborations include projects with researchers from Harvard University, University of Hong Kong, and the Universities of Aarhus, Addis Ababa, Amsterdam, Iceland, Madrid, Malaga Munich and Oslo, to name but a few. Evidence of the extent of our research collaborations is that 70% of our current grants with a Faculty Principal Investigator involve researchers from other universities.

In addition, funding for individuals is available via the Research Development Fund discussed earlier. Funding is also available for the research groups to host events to widen our academic reach and build collaborations (£14k annually). Examples include the 13th Teaching and Language Corpora Conference, the EARLI (European Association for Research on Learning and Instruction) Theory and Methodology SIG biennial conference, the 2016 Dewey 'Democracy and Education': 100 Years On event, and a major REAL event – a two-day Pre-Global Disability Summit Workshop on Inclusive Education. Our SLE research group attracted world-leading academics in identity to a [conference](#) in Cambridge in 2019 and a collaborative CUP book on the topic will be published in 2020. Our KPP research cluster hosted international conferences on higher education and platform capitalism (2018) and the post-pandemic university (2020).

Engaging with Recipients of Research

Engagement with research recipients happens systematically via specific networks and projects, impact events, and support for individual researchers. The Faculty has a particular focus on engaging with parents and practitioners, the latter consisting largely of teachers, school leaders, teaching assistants and other educators.

A non-exhaustive list includes:

- The **ERI** team's work with schools and national policy-makers to bring about changes and improvements in educational practice.

- Our **NRICH** Mathematics network: aimed primarily at teachers, providing access to research and resources with the aim of enriching the mathematical experiences of all learners. Members of the NRICH team also provide professional development for teachers.

- The **PEDAL** Centre has launched [PEDAL Hub](#), a new play research website. This is an online resource that helps parents, practitioners, teachers, NGOs and policy-makers locate authoritative play research as well as understand its practical implications.

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- Our **Leadership for Learning** Network disseminates research globally to a range of school leaders. Its members are located in a wide range of countries, including the Global South (e.g. Ghana).

- Our **School-University Partnership for Educational Research** (SUPER) has been highly successful in engaging a range of teachers and head teachers. It has hosted numerous events and used social media methods to disseminate Faculty research.

Co-production of research is important. Engaging with research users to identify important research questions and develop more effective approaches to undertaking impactful research is vital. Examples include Baker's work with teachers in Cambridgeshire, Norfolk and Midlands as co-researchers of the Lego funded Stepping Stones in Science project. Our research into widening participation in higher education (Ilie, Vignoles) has benefited from work with colleagues in the Cambridge Admissions Office, as well as the wider WP practitioner community regionally via the Network for East Anglian Collaborative Outreach. The latter is joint with Anglia Ruskin University, University of East Anglia, Norwich University of the Arts, and the University of Suffolk as well as Further Education (FE) Colleges, secondary schools and other third sector organisations. REAL holds regular roundtables focused on co-producing and disseminating research with senior policy-makers from the UK government and the Global South. For example, REAL is a leading partner in *The Impact Initiative* with the Institute for Development Studies, funded by ESRC and DFID, which aims to increase the impact of international development research on policy.

The Faculty supports individuals to engage with research users. It provides: funding for travel (£1,000 per researcher), support for dissemination activity (including training) and time. There are numerous examples of individuals from all our research groups who have dedicated significant time to engaging with users of research. A non-exhaustive list of different types of engagement includes:

- Black-Hawkins provided advice on inclusive education to the New Zealand Ministry of Education.

- Dillabough –advised UNESCO on their Youth Disadvantage in Global Cities, Youth Poverty and Sustainability programme.

- Gibson, who is on the Royal College of Speech and Language Therapists Research Steering Group, contributed to clinical guidelines for speech language therapists working with clients with communication disorders.

- Hoffman, who is an expert panel member on the Cabinet Office and Civil Service Future Leaders Scheme (funded by an ESRC-IAA grant), has advised Project Oracle which seeks to assess the quality of research evidence available on education.

- Stylianides is on the advisory board of GeoGebra, an open-source dynamic mathematics software that has been translated into 50 languages and has millions of users in 190 countries.

- Vignoles was awarded the 2019 WONKHE annual prize for engagement with UK higher education policy (see CS-23-683).

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T-SEDA: a case study

The best way to illustrate our approach to knowledge exchange and co-production, however, is a specific example. The CEDiR group has developed the **T-SEDA community**: a community of teachers focused on the use of dialogue and oracy in the classroom. This community spans eight countries and involves over 200 teachers. Co-production of this research with practitioners has been key to its quality and has also facilitated subsequent knowledge exchange and significant impact beyond those schools that were involved in the research itself. The CEDiR group has developed:

- The Teacher Scheme for Educational Dialogue Analysis (T-SEDA), based on a comprehensive analytic tool used by researchers globally to measure the quality of dialogue, with specialised observation tools (e.g. templates for coding live and recorded dialogue). The toolkit enables practitioners to *systematically* micro-analyse classroom interaction and hence the effectiveness and limitations of their own/peers' practices, and to clearly monitor change.
- Practical approaches derived from research on promoting dialogue, for example rating scales for active student participation and group work quality (strongly associated with learning gains, 'ground rules' and 'talking points';
- Research-derived video clips illustrating dialogic practice as powerful stimuli for reflection and change;
- Interactive whiteboard resources to support classroom dialogue.

The impact from this approach to KE and co-production has been considerable:

- The T-SEDA resource pack (available in English, Chinese, Hebrew, and Spanish) web page has received more than 5000 unique page views since its creation in Spring 2018.

- T-SEDA has been taken up systematically by at least 360 educators and school leaders in at least nine countries. In 2018-2019 it was adopted in Australia, China, Hong Kong, Israel, Mexico, New Zealand, Pakistan, Spain and the UK. Take-up has been spontaneous and sustained, including over successive academic years. The CEDIR team collected data on the use and impact of T-SEDA via teacher interviews, surveys and 'teacher inquiry' reports.

- Schools in Israel and New Zealand have used T-SEDA for 3+ years. In both, CEDiR researchers undertook follow-up interviews 18 months after adoption (and again after 36 months in Israel), showing continuing development of practice. This includes 60+ teacher-created T-SEDA-based subject lesson plans. In Israel, academic teacher educators spontaneously translated the resources into Hebrew and led a programme involving at least 225 teachers during 2017-21. This included 30 trainee teachers at Ben Gurion University and 25 qualified teachers, who participated in a 30-hour facilitator training programme before cascading to at least 100 more teachers in their schools. A further 25+30 secondary teachers came on board in 2019-20 and 2020-21 with a whole-school approach and weekly meetings led by the school leaders.

- In China, T-SEDA has been translated and used with teachers in three educator groups, including 45 teachers at The Eos Research Global centre in Beijing. A 6-month trial across

Guandong province (188 schools) is planned. T-SEDA's reputation for transforming practice led to China's largest education provider Dipont Education committing £730,000 over 10 years exclusively to a global platform for exchanging practical outputs of teacher inquiries, under the new Digital Education Futures Initiative.

- T-SEDA continues after two years to be used by the London South Teaching Schools Alliance (LSTSA) and the staff of the Cambridge University Primary School (see CS-23-682).

Wider Impact

At the global level, REAL has sought to improve policy representation of, and education provision for poor, disabled and displaced children, with some success.

- Based on a body of research into the (in)visibility of disabled children in Global South education systems, Singal led the drafting of an International Statement of Action, "Accelerate Equitable and Quality Inclusive Education for Children and Youth with Disabilities" which has been signed by 31 donor agencies, international NGOs, research organisations and global education networks. The draft of this statement was developed from a workshop part funded by an ESRC Impact Acceleration Award. Singal also played an important role in the development of a Global Curriculum Framework and 'Learning Passport' for 70 million displaced/refugee children in emergency contexts, based on collaboration with UNICEF, Microsoft, Cambridge University Press and Cambridge Assessment.

- Rose has been pivotal in getting recognition that international development policy needs to focus more on younger children, as well as the poorest children (see CS-23-681).

- Hennessy has provided input into DfID's refresh of their strategy on use of technology in education in poor countries and now co-leads the national Ed-Tech Hub.

- Faculty research on leadership in schools has influenced practice globally. One example is the adoption of the conceptual framework and five principles of leadership developed by our Leadership for Learning research cluster by the Ghana Education Service (GES) for use in *all* its schools.

Nationally, the Faculty's research has achieved significant impact on education policy and practice as evidenced by:

- Through close collaboration with the Centre for Science and Policy (CSaP) at Cambridge University. 41 Faculty staff have provided consultation to 62 different policy-makers including senior civil servants in the Department for Education, Cabinet Office, Home Office and HM Treasury.

- The work of our STEM group, through the NRICH and Cambridge Mathematics projects, influencing the way mathematics is taught in UK schools. Annually around four million people access the free online mathematics resources, and NRICH has been recognised with the *Resource of the Year Award 2019* from Above and Beyond.

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- The work of SLE on language development of students with English as an additional language. The EAL Assessment Framework (Bell Foundation; Evans and Liu) won the ELTons award for local innovation (British Council, June 2018). This Framework has been downloaded by over 2000 schools and adopted by five local authorities. It was cited in the DfE's response to the Rochford Review (2017). The "We Are Multilingual" website has also promoted multilingualism among schoolchildren and the wider public, with a view to changing perceptions of languages in society.

- The successful collaboration between the Faculty and the University of Cambridge Primary School (see CS-23-682). Faculty researchers have influenced its building design and use (Burke), its arts and creativities curriculum (Burnard), classroom language approaches (Mercer) and play strategies (Whitebread). The UCPS has subsequently undertaken dissemination of its practices with potential for impact on 350 (Leaders, teachers and teaching assistant) practitioners as part of its status as a Chartered College of Teaching Regional hub, as well as 60 visits to other schools undertaken by the leadership team, spanning ten countries.

Sustainability and Wider Influence

Key contributions to the disciplinary and interdisciplinary health of Education have been made by members of staff from all staff groups, as illustrated by selected examples:

Four members of staff have been involved in national reviews of education research, spanning nine separate reviews. These include confidential reviews for other universities. Ten members of staff have been involved in international reviews, spanning 20 separate reviews.

Faculty members participate in a range of prestigious institutions. Thirteen Faculty researchers are members of a learned society, 20 belong to their respective subject association, such as the British Education Research Association or the Society for Research into Higher Education. For example, McLaughlin is a British Education Research Association Council Member and a Trustee. Hennessy is also active in BERA and led the 2018 revision of the internationally renowned BERA Ethical Guidelines. Vignoles is a Fellow of the British Academy. She is also a member of the ESRC, in addition to her roles as data advisor to ESRC and trustee of the Nuffield Foundation. Rose was President of the British Association of International and Comparative Education (BAICE) in 2017/18, Singal is the current President of BAICE. Three Faculty researchers are members of the Higher Education Academy, Bullock is a Fellow of the Royal Geographical Society and Elected Member of the Royal Historical Society, Winterbottom is a Fellow of the Royal Society of Biology and Nicholl is a Fellow Royal Society of Arts. Wilson is a member of the Research Council of Norway. Wegerif is the coordinator of the EARLI SIG 26 Argumentation, Dialogue and Reasoning. He also founded and led the EARLI SIG 25 in 2015 on Educational Theory for four years. Liu is a member of the influential British Academy Language Advisory Group. Robertson served two terms on the ESRC's panel B reviewing and allocating grants.

All staff review and referee academic publications, 20 members of the Faculty have editorial roles (17 editorship and 19 associate editorship positions), for journals including Education Policy Analysis Archives, British Journal of Educational Technology, British Journal of Special Education, Education Economics, Educational Researcher, Higher Education Quarterly, Globalisation, Societies and

Unit-level environment template (REF5b)

Education, the International Journal of Educational Research, the International Journal of Science Education, the Journal of Research in Special Education, the Journal of Vocational Education and Training and the Impact Journal of the Chartered College of Teachers. The Faculty's own Cambridge Journal of Education is recognised a leading research journals that attracts national and international contributions from across the whole field.

Faculty members make a major contribution in their reviewing for particular grant schemes, with 24 members of staff having one or more such roles. Faculty staff sit on grant committees in Canada (SSHRC), the Netherlands (NRO), Norway (Nordsforsk), Portugal, Sweden, Spain and Greece. Four Faculty members sit on ESRC grant committees, as well as committees for NIHR, the British Council, and the Nuffield Foundation. Twelve are members of the Peer Review College of the ESRC or AHRC. Faculty members have also been members of or chaired panels for the British Academy Global Challenges grant scheme, the ESRC-Newton Fund Higher Education Panel, the ESRC Research Centres scheme, the UKRI research infrastructure committee, the British Council Newton Fund, the Horizon 2020 panel, Marie Sklodowska-Curie COFUND fellowship programme in the Arts and Humanities, the European Research Commission Starter Grant scheme and the British Academy Visiting Fellowships scheme, to name but a few.

Faculty members regularly have visiting positions at universities around the world (six currently). Staff have also been invited to undertake numerous keynote talks, too numerous to list. To illustrate, Ramchandani gave a keynote to the National Conference of Early Childhood Australia in 2018. Robertson gave the Annual Caroline Benn lecture in the House of Commons, and was keynote at the European Education Research Association conference in Bolzano, Italy, in 2018. In 2018 Vignoles gave the University College Oxford Access Lecture and in 2019 the keynote at the LEER Conference on Education Economics, Leuven. In 2015 Rose gave the keynote at the 10th International Conference at the Institute for Educational Development, Aga Khan University, Karachi. In 2016 Sutcliffe Sanders gave the Francelia Butler Keynote Lecture at the Children's Literature Association, whilst Warwick gave the University of Oslo School development through research-practice partnerships keynote in 2018. In 2018, Burke gave the keynote address at the International Standing Conference on the History of Education (ISCHE) conference.

Our staff contribute to the health of the discipline via postgraduate and early career training delivered across the UK and beyond. Faculty members have been involved in postgraduate research training at 12 universities across Europe, and an ECR mentoring project in Kazakhstan. For example, Dillabough has been undertaking supervision and training of doctoral students with University of Iceland since 2014, as well as at the University of Kwazulu-Natal. Hoffman lectures for the SEDUCE Doctoral training programme at the University of Helsinki as well as at the REASON doctoral school of LMU and TU Universities of Munich, funded by The Elite Network of Bavaria (ENB). Morrison secured an Erasmus teaching exchange Lectureship.

Fifteen Faculty members from across the different research groups and at different career stages have achieved 28 prizes and other forms of recognition and esteem. For example, Kulz won the BJSE Early Career Prize and was awarded the 2018 Society for Educational Studies First Place Book Prize for *Factories for Learning*. Sutliff Sanders won the Children's Literature Association Article Award for the best article on children's literature published in 2015. Vignoles was awarded the BERJ's Editor's Choice for her 2016 paper. Hoffman and colleagues were awarded the BSRLM best paper award in 2015, Major was awarded the Best Education Technology paper at the BERA

Unit-level environment template (REF5b)

2016 conference. Julie Alderton received the Janet Duffin BSRLM Award for her 2018 paper "Teaching mathematics to lower attainers: dilemmas and discourses".

The Faculty also makes a contribution to preserving the health of key aspects of Education research. For example, the STEM research group has been active nationally in promoting maths education in the face of dwindling numbers, in collaboration with Cambridge Assessment and Cambridge International Examinations.

Summary

The massive array of activities and achievements described above illustrate the rich and supportive research environment that the Faculty is able to provide. This environment has enabled Faculty members to produce world-leading research that is rigorous, important for the health of our education system and wider society, and highly impactful. During this REF period we have we have taken a more strategic approach to fostering our particular areas of strength and this has paid dividends, in terms of the quality and critical mass of our research, our recruitment of internationally leading researchers, and our ability to ensure that our research has a meaningful impact on both policy and practice. We are mindful that at the heart of our success has been the huge commitment and personal achievements of our students, our academics and our support staff. Our priority over the next period will be to continue to invest in our people and sustain our world leading research environment.