

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

Context

The School of Education is one of six Schools within the Faculty of Humanities and Social Sciences (HaSS). The School's overarching goal is to improve people's lives in and through education. This goal articulates closely with the University's mission to be 'the place of useful learning'. While a discipline in its own right, Education traditionally also draws upon Philosophy, Psychology, History and Sociology. In this respect, our work represents this element of multi- and inter-disciplinarity while also drawing on other disciplines such as Health, Engineering, Social Work and Leadership. The School takes a range of approaches to research, with both empirical and conceptual research being valued and promoted. A multi- and inter-disciplinary approach also benefits our extensive research and KE collaborations within local, national and international educational communities, and other bodies working to better people's lives.

Social justice was a primary motivation for the establishment of our predecessor institutions, the Andersonian Institute in the 1790s, David Stow's Normal School in the 1830s, and Jordanhill College of Education in the early 1900s. Social justice in, and through, education is a particular focus of much of the educational research at the University of Strathclyde; a commitment that is also evident in our teaching and knowledge exchange (KE) activities. The School is the largest provider of initial and continuing teacher education in Scotland, and one of the largest in the UK, with over 2000FTE initial teacher education (ITE) students annually providing a direct route for research influence on teaching practice across Scotland.

In contrast to REF2014 where the School of Education made up approximately 60% of the UOA, in REF2021 the School of Education forms the entirety of the unit 23 submission. This reflects two strategic decisions following REF2014:

1. Following a reorganisation in the School of Psychological Sciences and Health, a conscious decision that our psychology work would fit within Unit 3.
2. Recognition of the potential for the research in the School of Education to be as strong as its much larger teaching presence with the correct investment and decisions making.

Building on the positive outcomes of REF2014, and a major commitment by the University to strengthen expertise in existing areas, we appointed a new School Leadership Team (SLT) in 2014, and recruited a cadre of research-active academic staff including five new Professors (see section 2). These strategic appointments enabled participation in and contribution to two Strategic Research Themes from the University Strategic Plan, *Vision 2025: Society and Policy*, and *Health and Wellbeing*. Our alignment with the strategic plan afforded us the opportunity to create a more research-intensive environment within the School of Education. The University has invested in a range of new research-active staff in priority areas of the unit such as educational leadership, early years, STEM, TESOL and practitioner inquiry. We have also recruited staff who are able to supervise doctoral studies in order to support the expansion of the PhD and EdD programmes.

Research Support Structures

The current Senior Leadership Team (SLT) structure (under Head of School Brownlow) consists of a Deputy Head Research, a Deputy Head Innovation and Impact, and a Deputy Head Teaching and

Learning. The Deputy Head Research supports the Head of School in managing the workloads of all research-active staff. This role also includes support for their professional development, in particular for ECRs. The creation of the Deputy Head Innovation and Impact aligns with the University's vision and places increased emphasis on ensuring a growth in and capture of our impact nationally and internationally. Further members of the SLT are nine Directors who have responsibility for specific parts of the School's strategic plan. The Deputy Head Innovation and Impact, and Directors of Research, PGR, and Global Engagement, in particular, provide strategic support for research and impact. The School has two standing committees, the School Ethics Committee, and the School Inclusion, Diversity and Wellbeing Committee which among other responsibilities oversees the implementation of the ATHENA Swan Action Plan.

Clusters Supporting Our Research and Impact

The School now enjoys diverse lines of research, with clear convergence around ten concentrated clusters as shown in Table 1. As the School has recruited new research-active staff over the past seven years the areas of research strength have evolved. These research groupings were identified via an analysis of all research outputs from the School to identify research groupings or clusters which best represent the School's current research and inform directions for future growth.

Table 1: Research Clusters

Research Cluster	Focus of Research
Social Justice and Social Justice Pedagogies	<ul style="list-style-type: none"> Poverty and its relationship to wellbeing, inequality, access and educational attainment Inclusion and inclusive practice in relation to artificial intelligence STEM, parental attitudes, transitions, social exclusion and trauma of vulnerable groups, marginalisation and marginalised communities, babies' and toddlers' voices, young asylum seekers and refugees and disabled children and human rights education Critical pedagogy Interrogation of social justice public policy, and leadership for social justice
Sexualities and Gender	<ul style="list-style-type: none"> Religion and faith, homophobic bullying; LGBT young people and suicidality and the risks and benefits of LGBTQI+ inclusive classrooms and curricula In physical education, women's sport, Muslim South Asian young women in science, and among student teachers of English in South Africa and Argentina
Education & Policy	<ul style="list-style-type: none"> Theorizing educational policy and analysis of policies on inclusion, integrated working and transition across EU countries and policy development in the specific context of school physical education Scottish perspective to explore changing forms of governance and leadership in the school system, critically analyse policies on widening access to higher education and analysis of educational change policies in the Middle East and North Africa and in early learning services

Higher Education	<ul style="list-style-type: none"> • Student experience, in terms of intergenerational mentoring supporting school pupils into university and social origins and career destinations • Student transitions into higher education, student estrangement, imposter syndrome, and the negotiation of queer and religious identities • Academics, including feminist collaborations at various career stages, postcolonial critique of higher education leadership, and women's leadership in Middle Eastern universities
Philosophy of Education	<ul style="list-style-type: none"> • Practical philosophy with marginalised young people in secure accommodation and mainstream settings • Philosophy of child and childhood, cultural resistance and transformation and transformations in scientific identity among adults and children • Religious education and religion and post-secular society • Comparisons between educational theories and practices in Germany and Japan • Practising philosophy as an approach to living well and well-being
Autism and Other Socio-emotional and Behavioural Developments	<ul style="list-style-type: none"> • Brain and motor development among children with autism • The self-regulation and participation of children with autism and socio-emotional behavioural needs • Learning disabilities • Interpersonal rupture and relational repair skills of autistic adolescents has been investigated • Experiences of educational transition for young women with autism • Medical models of disability • Humanistic methods to heal painful experiences through emotion-focused therapy
Early Years and Primary Education	<ul style="list-style-type: none"> • The use of arts-based methods and digital technologies in the early years • Scientific literacy using children's stories • International comparisons of inclusive, creative and outdoor pedagogy and language development through playroom experiences • Fundamental motor skills and perceived and actual motor competence of young children in relation to developmental health and learning • Maternal factors in children's language and reasoning skills
Education and Digital Technology	<ul style="list-style-type: none"> • Childhood and early years • Identification and assessment of autism, mental health and accessing and working through trauma • Mobile technologies and their uses in learning and assessment of pupils and student teachers • Cross-disciplinary Laboratory for Innovation in Autism

Research Methods	<ul style="list-style-type: none"> • Development and psychometric validation of research instruments in assessing motor skills in early childhood • Empathy for autism and emotional and behavioural changes in childhood • Development of innovative research methods such as visual methods, in linking education and research in practitioner inquiry • Arts-based methods • Students as researchers • Philosophical dialogue as a rights-based research method • Ethical issues in the use of visual methods.
Teacher Education & Professional Learning	<ul style="list-style-type: none"> • Quality in ITE including student teachers' uses of democratic forms of assessment and uses of action research in learning to teach English • The teacher in teacher-practitioner research • Teachers as metacognitive role models • Teacher professional learning • Online teacher education in the context of forced immobility • Study-abroad programmes • Majority and minority language education • Student teachers' uses of educational research

Research and Impact Strategy

Consistent with the plans set out in the REF2014 environment statement, the School takes a synergistic approach to research and KE, with KE essential to the production of impact. Our research and impact strategy is planned on a triennial basis. Research and impact objectives for the three year cycles are set out, including specific actions to be taken in the shorter (12 months) and middle (24 months) terms.

First triennium

The overarching strategic objective for research in the first triennial cycle beginning in 2015 was:

(1) In order to produce world-leading research in terms of strong outputs and funded projects, we seek to offer a vibrant research culture that is attractive to and supportive of all staff and PGR students. This research culture facilitates the production and dissemination of knowledge that has an impact and makes a difference for the better in people's lives, and that enhances our position as a leader in the UK and international educational research communities.

The overarching strategic objective for KE and impact was:

(2) In order to produce world-leading impact, we seek to develop a rich culture of scholarship that has strong collaborative links with the wider educational community that is supportive of all staff, that produces and disseminates knowledge that is relevant to, and has an impact on, educational policy and practice in the UK and internationally.

Specific strategic actions to realise these objectives are as follows:

- *Supporting and enabling research-active staff* to conduct and publish high quality and impactful research (through, for example, research sabbaticals, writing and publication workshops, internal feedback on manuscripts, support for attendance at conferences, supporting cluster and school-wide research seminar programmes, and workload

Unit-level environment template (REF5b)

management through the University's annual Accountability and Development Review (ADR);

- *Growing the PGR community* by improving conversion of PGT students to doctoral programmes and by recruiting more home and international students;
- Increase the number of grant applications submitted and income generation for research in recognition that our most successful and impactful research has resulted from funded projects;
- *Consolidating existing partnerships* with educational communities and local and international universities, *and extending our networks* to include new strategic partners both at home and internationally. In June 2020, the School created the post of Director of School and Local Authority Partnerships and Outreach to advance the impact of our work in this area;
- Provide further *support for professional development* (see Section 2) of research-active staff, in particular ECRs;
- *Increase income generation through KE* with international partners as a means to grow our influence beyond Scotland and the UK;
- *Recruit more research active-staff* to increase capacity for doctoral supervision and grant applications (including Chancellor's Fellows (CFs) and additional professorial posts through the University's Global Talent Programme (GTP)) – (see Section 2).

Second triennium

Following the completion of the first triennium of the planning cycle in 2017, further strategic objectives were identified for the second triennium up to 2019:

- Increase the number of grant applications submitted and income generation for research;
- Increase the number of high quality publications;
- Provide further support for professional development of research-active staff, in particular ECRs;
- Consolidate the impact of KE work and the productive crossover between networks for teaching, KE and research;
- Increase income generation through KE with international partners.

In REF2014, the School of Education committed to increasing the number of research-active staff, increasing the number of PGR students, and to increasing levels of research income. There was also a commitment to improve the synergies between research, knowledge exchange (KE) and teaching, and to strengthen the connections between Strathclyde educational researchers and key partners in the local and global education communities. These plans, focused on achieving the objectives set out below, informed our work since 2014, and as evidenced throughout subsequent sections of this environment statement, have been successfully achieved.

The generation of a total of £3.3m research grant income during the REF 2021 census period reflects the success of the strategies implemented. Table 2 shows that our strategy of improving the quality (rather than simply number) of applications is bearing results in terms of success rates as well as funding amounts (see Section 3 for more detail).

Table 2: Grant applications and % success rate

Year	2014-15	2015-16	2016-17	2017-18	2018-19
Total applications	24	22	32	31	32
No. successful	7	6	14	12	12
% successful	29	27	44	39	37

Further demonstrating the success of our efforts, cumulative Table 3 shows an increase in outputs in peer reviewed journals over time. These data provide evidence of the long-term effectiveness of professional development strategies such as writing workshops, sabbaticals, internal feedback on manuscripts, co-authoring with ECRs, and workload management, to enable staff to write successfully for publication. The outputs recorded here were deposited in Strathclyde's repository and all were Open Access compliant in line with REF2021 guidelines.

Table 3: Published research outputs

Year	2015	2016	2017	2018	2019	Total
No. published outputs in UoS repository	81	104 (+23)	111 (+7)	132 (+21)	178 (+46)	606

Third triennium

The research and impact strategy for the 3 years to 2022, reflecting the University's 2025 strategic vision, will focus on consolidating and sustaining the progress we have made towards achieving the research and impact strategic objectives set out above. In particular, we will:

- *Further develop the School's commitment to social justice in and through education* to make a difference in people's lives by ensuring we build in opportunities for impact in the research we undertake. In doing so, we will capitalise on the wide range of development work colleagues engage in with practitioners to increase the impact of our research;
- *Recruit, reward and retain excellent and productive research-active staff* through support for conferences, management of workload through the ADR process, and a range of incentives for publishing in highly ranked journals and the submission of grant applications to major funders;
- *Maintain synergistic relationships between research, teaching and KE* by developing planning and monitoring mechanisms to track and record success, progress and impact of new initiatives. The School has developed a protocol to support colleagues in planning for impact from the inception of initiatives and to aid impact capture over time. Training sessions are also scheduled to support less experienced colleagues in growing their KE activity from their teaching and research, and vice versa;
- *Sustain high levels of recruitment of PGR students*, through conversion pathways from the Strathclyde undergraduate, PGDE and PGT courses, increased and more effective use of School-funded scholarships, work with national and international research and KE partners, and increased applications to supervisor and student-led competitive research council studentships;
- *Increase number of grant submissions* by all research-active staff;
- *Increase number of peer-reviewed publications* and monitor citation impact and other metrics.

Inter-disciplinary research

The School has a commitment to carrying out impactful research in collaboration with partners in schools, colleges and other sites of education. It is widely recognised that the field of Education has historically and culturally been constructed and constituted by a variety of humanities and social and psychological science disciplines. We support this multi- and inter-disciplinary research in at least five ways:

1. Through the *recruitment* of research-active staff from a range of disciplines: While a majority of staff have in common teaching qualifications and experience, they also have expertise and training in diverse disciplines such as cultural studies, feminist studies, history, motor development, neuroscience, philosophy, psychology, public health, sociology and social theory. Staff are also recruited for their substantive knowledge in particular aspects of education, notably in relation to pedagogy. We have specialists in primary and most secondary school curriculum areas who, in addition to some research and KE activities, work together on multi- and inter-disciplinary teaching teams to the advantage of our students from undergraduate to doctoral levels.
2. Through the *research clusters* outlined earlier in this section: The descriptions of the clusters show clearly the variety of expertise staff bring to the ten areas of focus that the research clusters provide, and that staff often work across themes.
3. *Joint supervision of doctoral students*: Currently the School has joint supervision arrangements within the University with Speech and Language Therapy, Politics, English, Social Work and Social Policy, Counselling, and Biomedical Engineering. We also supervise external PGR/PGT students from a range of disciplines, including, Advocacy, Nurse and Medical Education, Community Learning and Development, and Business.
4. *Research Skills Training* towards the PG Cert in Researcher Professional Development (see Section 2) is provided by the Graduate School of the Faculty of HaSS to all PhD students from across the Faculty's six schools. Students (EdD students via the two compulsory taught modules) encounter a range of disciplinary perspectives and qualitative and quantitative methodologies within this programme (see Section 2).
5. Through *collaborative research projects*: We offer advice and feedback through a system of internal review at both School and Faculty levels of all applications for grant funding. These reviews encourage the collaboration of scholars from diverse disciplines where this may strengthen an application. Many of the successfully funded projects in the School have been multi- or inter-disciplinary.

A key feature of the research undertaken by the School of Education is its synergy with our teaching and impact activity. The deliberate closeness to practitioners (including policy makers, government and voluntary organisations as well as teachers), their participation in and co-creation of research is the essence of our impact strategy. The best demonstration of which is the symbiotic relationship between the teaching and research elements of the School's work. Researchers are encouraged to follow this model; building it into the structure of their research and securing funding for research and activities towards impact.

KE and teaching often form the basis for further research, as illustrated by the impact case studies included in the Unit's submission. For example, in the Philosophy with Children (PwC) case study (Cassidy) the research activity has informed PGT content, with graduates from this course forming the Philosophy with Children and Communities Network, convened by Cassidy. The Network is involved in research-informed KE through hosting PwC-related events for practitioners, policy-makers and third sector organisations. They also collaborate with Cassidy on published research in

their own classrooms. Network members have come from Strathclyde's undergraduate courses to PGT and now to doctoral level; thereby allowing the cycle of research/KE/teaching to continue.

A further example is the impact case study on closing the attainment gap (Sosu & Ellis), which was based on a collaboration with the Joseph Rowntree Foundation. Although the initial funding for this research was modest (£5K), the Head of School, noticing the national importance of the research focus and strategic partnership with our non-academic partner, provided strong support through a reduction in teaching commitment for the research staff. This allowed them to successfully complete the research, undertake various KE activities with Government officials, Parliament, schools, local authorities, media, and the organisation of a national conference. This strategic approach of partnership has enabled strong impacts to be generated from research undertaken in the School.

Future plans

The research and impact strategy for the next 3 years, reflecting the University's 2025 strategic vision, will focus on consolidating and sustaining the progress we have made towards achieving the research and impact strategic objectives set out above. In particular, we will:

- *Further develop the School's commitment to social justice in and through education* to make a difference in people's lives by ensuring we build in opportunities for impact in the research we undertake. In doing so, we will capitalise on the wide range of development work colleagues engage in with practitioners to increase the impact of our research;
- *Recruit, reward and retain excellent and productive research-active staff* through University-wide mechanisms including research leave, support for conferences, management of workload through the ADR process, and a range of incentives for publishing in highly ranked journals and the submission of grant applications to major funders;
- *Maintain synergistic relationships between research, teaching and KE* by developing planning and monitoring mechanisms to track and record success, progress and impact of new initiatives. The School has developed a protocol to support colleagues in planning for impact from the inception of initiatives and to aid impact capture over time. Training sessions are also scheduled to support less experienced colleagues in growing their KE activity from their teaching and research;
- *Sustain high levels of recruitment of PGR students*: through conversion pathways from the Strathclyde undergraduate, PGDE and PGT courses; increased and more effective use of School-funded scholarships; work with national and international research and KE partners; and increased applications to supervisor and student-led competitive research council studentships;
- *Increase the number of grant submissions* by all research-active staff with a focus on quality and with the aim of each researcher developing a strong track record. This is a development from the first triennium of planning, in particular, when we were less concerned about setting targets for research income and more interested in increasing the numbers of academic staff who were writing the applications as part of staff development activity;
- *Increase the number of peer-reviewed publications* and monitor citation impact and other metrics to demonstrate the quality of the research in the unit and to assist with gaining funding.

Research Integrity and Open Access

The University of Strathclyde promotes a strong culture of research integrity as a means to ensure high quality research. All research is covered by the University of Strathclyde's Research Code of Practice. This is compatible with 2012 UUK Concordat to Support Research Integrity and the RCUK Policy and Guidelines on Governance of Good Research Conduct. In recognition of the importance of research integrity to the quality of research specifically in areas of research within the School, in

addition to complying with the University's ethical guidelines, we follow the ethical guidelines produced by the British Educational Research Association (BERA) and the Scottish Educational Research Association (SERA), and other organisations we work with, for example, Barnardo's. The School's Ethics Committee meets monthly, and reports directly to the University Ethics Committee. Our research in schools and other educational settings is in line with Local Authority policies on working with children, and many of our research-active staff retain General Teaching Council of Scotland (GTCS) membership, so are bound by GTCS Professional Standards. All staff working with children have PVG membership. Also, we make a key contribution to the University's safe-guarding working group.

The University of Strathclyde follows the Open Access requirements of REF 2021 and other funder policies, and aims to make as much content compliant and open access as early as possible to maximise the visibility and impact of research. The School of Education's compliance with OA for all of its outputs (including and in addition to those submitted to the REF 2021) has averaged 96% throughout the period under review. We have gone beyond the minimum requirements of the REF policy by demonstrating an improved commitment to the openness of book chapters and grey literature (e.g. reports). One hundred and forty of these types of item have been made Open Access in this REF period.

2. People

Staff Development Strategy

The strategy of the School has been to recruit research active scholars who are capable of publishing in high quality journals, gaining grant funding, and supervising PGR students. This injection of senior level talent was aimed at developing the research culture of all research staff. Over the REF period, we have appointed new, mostly early career, research active academic staff (e.g. Banegas, Beck, Breeze, Davis, Essex, Frimberger, Govender, Klein, Lewin, Mevawalah, Nikou, Salajhee). We have also been supporting upwards of 15 of our teaching staff to gain doctorates, some of whom have already completed (e.g. Coutts, de Britos, Firth). The success of this strategy is evidenced by the growth in grant success and in published outputs in Tables 2 and 3. In this phase of the School's development, from 2014-2020, these needs have been seen as more important than the specific areas of staff expertise. However, as the PGR programme has grown, particularly student numbers in the EdD, future plans are for recruitment of research-active staff in educational leadership and teacher-led inquiry. One common characteristic of many of our newly recruited staff (26 during the review period including five new professors) is a commitment to scholarship in the area of social justice in and through education. This is the most populous research cluster in the School and reflects Strathclyde's founding mission, therefore we aim to further develop this area of research.

The strategy for retention of research-active staff reflects our research strategy, outlined in Section 1, where we have sought to support and enable research-active staff to conduct and publish high quality and impactful research. We have invested heavily in staff development in four ways:

- By *supporting a sabbatical scheme* initiated in 2014. To date, 12 staff have benefitted from School-sponsored sabbaticals (Adams, Cassidy, Delafield-Butt, Moscardini, Mowat, Sosu, Robinson, Arnott, Klein, Taylor, McPake, Lewin). A period of research leave offers up to four months every three years. Funding is provided by the School to support travel and meet other appropriate expenses during the research leave period;
- *Providing funding for conference leave* on an annual basis. All academic staff are eligible to apply providing they are presenting to the conference;

- *Providing staff with financial support to undertake training* and study for further qualifications. During the assessment period, 15 staff have benefitted from financial support to study specifically for higher degrees, many on teaching-only contracts;
- *Supporting staff to achieve impact* has largely been developed through the positive working relationships and collaborations we have with the GTCS, the Scottish Government, Education Scotland, Local Authorities, and local practice communities. The creation of Deputy Head Innovation and Impact and a new Director of School and Local Authority Partnerships and Outreach highlights our commitment to growing the impact of our work with our partners and a wider audience.

We have made full use of University schemes such as the annual Accountability & Development Review (ADR) with which all staff are required to engage. The ADR is a formal process intended to support staff development and enhance performance. Evidence gathered during the ADR process is required for promotion applications. The ADR is centred on an annual meeting between a reviewee and reviewer. The ADR provides staff with the opportunity to record achievements and to make formal requests for professional development and support. As a parallel process of support, we encourage all academic staff to take full advantage of University mentoring schemes so that they can receive one-to-one, tailored guidance and support from an experienced academic in relation to career development. The mentoring schemes complement the ADR process. In addition to recruitment of research-active early career staff, we have made promotions in the past few years including Dellafield-Butt (Professor), Cassidy and Sosu (Reader), Arnott, Essex and Klein (Senior Lecturer).

A further factor influencing the staffing strategy has been the development of a Faculty workload model that permits academic staff to balance the proportions of their contract to research (40%), teaching (40%) and service (20%). Recent developments of Faculty policy have allowed staff who have won research grants to buy out some of their teaching time if their grant is based on a full-economic costing. The School of Education has expanded student numbers since 2014, in Initial Teacher Education (ITE), career-long professional learning, and in PGR. This growth has permitted the recruitment of new staff but has created challenges to protect the time provided for research and service such as journal reviewing and editing. In anticipation and recognition of these challenges, the School implemented a policy in 2015 that academic staff would engage in ITE school placement work only in exceptional cases, which has freed research-active staff from time-consuming travel and one-to-one placement supervision.

While academic staff may not undertake school placement supervision, many retain strong relationships with the practice community and visit educational settings regularly to work with practitioners on KE, often as part of collaborative research activity. This means that research active staff also regularly work with those whom our research is designed to benefit, predominantly children and young people from across the spectrum of abilities, needs, and experiences.

Support for Early Career Researchers

Early Career Researchers (ECRs) are supported through the Academic Career Development Framework (ACDF), which provides formal and structured support for academic staff new to Strathclyde or to the university sector. The ADR and ACDF provide opportunities for staff to request tailored and individualised support that is specific to their needs, interests and career development pathways. ECRs are assigned a School mentor on taking up their appointment who is able to guide them through the ACDF process and to induct them into academic practice. Typically, teaching and service workload is reduced in the first and second years of appointment in order to protect time for research, with the expectation that ECRs will carry a full teaching load in their third year. Service roles such as committee membership (internal) and peer-reviewing (external) are gradually

Unit-level environment template (REF5b)

increased over this period. ECRs are supported through opportunities to collaborate on joint research funding applications with experienced colleagues, joining established research teams and/or co-authoring with more experienced colleagues.

We provide support for postdoctoral research associates and research assistants on fixed term contracts. This includes a 6 months review aimed at supporting the development of skills in line with the researcher's career goals. Where opportunity for extension is available, this is communicated clearly. Where this is not available, the goal is to help staff gain job security through encouraging them to apply for other internal and/or external positions.

Research Students

Student Recruitment

The two main PGR programmes offered by the School of Education are the Doctor of Philosophy degree (PhD) and the Doctor of Education degree (EdD).

Figure 1: Combined Doctoral (PhD and EdD) year-on-year new registrations 2014-2019

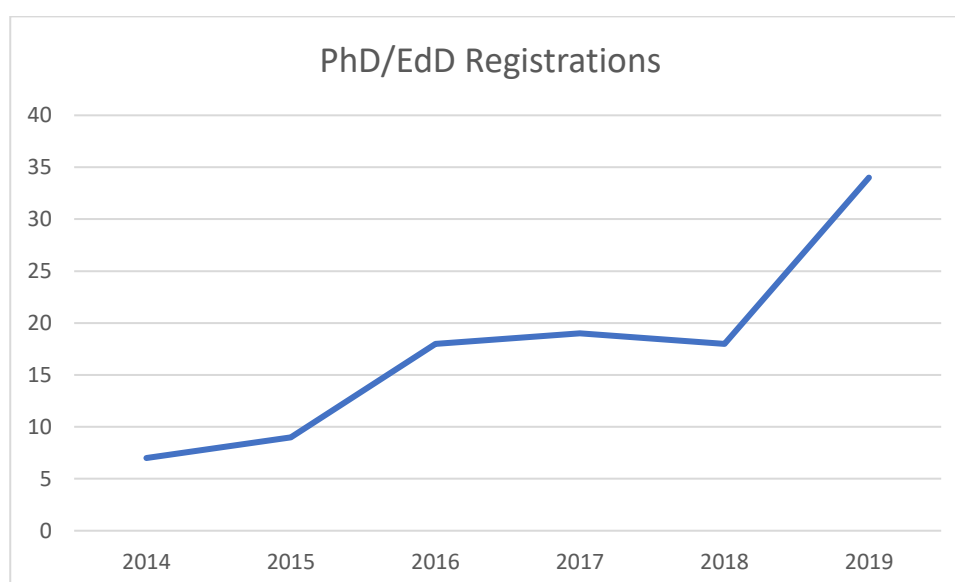


Figure 1 shows that PGR registrations have grown between 2014-2019, particularly for the EdD programme, consistent with our strategy to grow the PGR community. In 2019-2020, we have 22 international students studying at doctoral level. We have been successful in attracting 22 scholarships for PhD students from ESRC and other sources such as governments, employers and charities. Students are recruited in five ways:

- targeted advertising conducted by the marketing and international officers of the Faculty;
- open events held on campus advertised to schools and other educational institutions nationally;
- word of mouth as members of University staff visit schools and as current and former students talk about their experiences with colleagues;
- academic staff using their national and international networks to alert potential students to the availability of doctoral supervision;
- by working hard to achieve loyalty from graduates and therefore retain students from their undergraduate courses who continue through to PGT and on to doctoral study.

The growth in EdD registrations evidences our increasing impact on professional learning, nationally and internationally. This growth has been facilitated by increasing staff capacity to supervise PGR students. Growth in the EdD is also due to a review and complete revision of the programme in 2017 by a group chaired by the School's current Director of PGR (Wall). Among other things, this revision allowed the introduction of six (initially, increased to eight in 2019-20) subject pathways, meaning students are directed towards staff areas of research expertise, thereby increasing capacity and generating active research cultures around these specialisms. For both programmes, growth has also been supported by improved conversion from PGT programmes and increased international recruitment. This growth in PGR students corresponds with increases in numbers of students in PGDE and other PGT (e.g. Masters) programmes.

As is common in Education as a field, the majority of PGR students in the School are part-time. This feature offers particular challenges to maintaining continuity and momentum in the research supervision process since most part-time students work full-time in demanding jobs. More positively, it also offers opportunities for influence and impact in the policy and practice communities, since many of our students are teachers, educational leaders and policy-makers. Our PGR students also include early years practitioners, community educators, further education lecturers, advocacy workers, medical and nurse educators.

Student Progress and Monitoring

For PhD/EdD students, the Director of PGR assigns a minimum of two supervisors to each student at the commencement of their programme of study or dissertation work respectively. While frequency varies for students depending on their situations and needs, we expect greater frequency (at least once fortnightly) in the first six months, with variations after this period depending on need. All PhD/EdD students are supported through an *Annual Review* chaired by a senior member of staff who is not involved in the project, and the two supervisors. The centre-piece of this process is an annual meeting between student, supervisors and reviewer, supported by written reports on progress from the student and supervisors prior to the meeting and the reviewer following the meeting. Usually, an interim review meeting is held in mid-year.

Student Skills Development

All PhD students are required to complete a *Postgraduate Certificate in Researcher Professional Development* (PGCRPD). This 60 credit point programme has five modules, some of which are taught, and credit for others can be accumulated in a variety of ways, such as attendance and presentation at conferences and summer schools. The School is a member of the Scottish Graduate School of Social Sciences, and all PhD students have access to the professional development opportunities it provides. PhD students also have optional access to the HaSS Faculty's Research Skills Programme, which provides additional training in literature reviews, the use of qualitative and quantitative methods, academic writing, and engagement and impact.

In addition to these formal support processes for training and supervision of PGR students, all students have library access, access to a desk space in the HaSS Graduate School, a shared desktop computer when required, and free photocopying. Private study rooms can also be booked in the Graduate School area. All PGR students are attached to at least one of the School's ten research clusters and are invited to participate in all cluster activities such as research seminars and workshops. Some supervisors also collaborate with their doctoral students to submit and present conference papers and symposia to national and international conferences. All students are encouraged to present their research internally and externally during the course of their studies. Doctoral students are eligible to apply for funding from the Graduate School for financial support for conference attendance.

Doctoral students, in addition to gaining experience at conferences, are also often inducted into teaching and assessment of undergraduate students. There are, though, some limits on this involvement due to regulations relating to ITE courses set by the GTCS. Additionally, PhD students are offered opportunities as research assistants on ongoing funded projects within the School to enable them develop other relevant skills for success in the labour market

Equality and Diversity

The School is committed to ensuring equality and diversity in its staff group. We monitor carefully all applications for the appointment of staff and for places in our programmes for students to ensure that all candidates are treated equitably. The main data available to monitor the position of the School focuses on grade and gender. While this does not cover the range of diversity characteristics in a School of Education, these are helpful given the traditional gender balance of the overall education sector (being predominantly female). A higher proportion of staff in the School are typically employed at grade 8 and above, reflecting a common characteristic of university Schools of Education where many have had previous careers as school teachers. As is the case in the professional sector, our numbers are predominantly female, although the part-time EdD route is showing small but steady increments over four years towards a more equal male to female split. With regard to the UOA23 REF submission, just over half of the academic staff returned are female, which means that male staff are disproportionately over-represented in the return due to the equal split in senior level staff at the end of the period impacting on the overall figure. Although the numbers are small, the increase in male professors as a proportion compared to the overall unit composition indicates a need for further analysis and monitoring. Just over a third of returned staff are from countries outside the UK. While the School pays due regard to issues of equality and diversity as indicated above, selection of the output portfolio was informed entirely by the judgement of the quality of the outputs.

Table 4: Highlights of Staff Data Analysis

Academic Year	Female	Male	Female %	Male %	Grade 6 Female %	Prof Female	Prof Male
2018-19	75	34	68.8%	31.2%	100%	3	3
2017-18	68	30	69.4%	30.6%	100%	3	1
2016-17	67	32	67.7%	32.3%	66.7%	4	1
2015-16	64	34	65.3%	34.7%	57.1%	4	2

We have a number of supervisory staff who are able to supervise at a distance and this means students can study with Strathclyde part-time, staying in their home countries, in employment, and with their families. This is challenging, but is increasingly of interest to prospective students.

The School actively promotes the University's Equality Policy, and achieved the Athena Swan Bronze Award in 2020. As part of the Athena Swan process during 2019-2020, staff and students were engaged in the self-assessment process, in so doing, raising awareness of equality and diversity issues in education and educational research. The School has also used the University Mental Health and Wellbeing Policy to inform decision-making around workload allocation, which is monitored through the ADR process, and has prompted a number of staff wellbeing initiatives. As an outcome of the Athena Swan process, the School established an Inclusion, Diversity and Wellbeing Committee that meets regularly during the academic year and promotes the University's policies on age, sex, disability and ethnicity discrimination, as well as health and wellbeing. The School seeks to raise awareness of these issues by promoting University courses such as

Understanding Bias, Gender Matters, Diversity in the Workplace, Cultural Awareness, and often partners with external organisations to support staff in these areas, for example LGBT Youth Scotland.

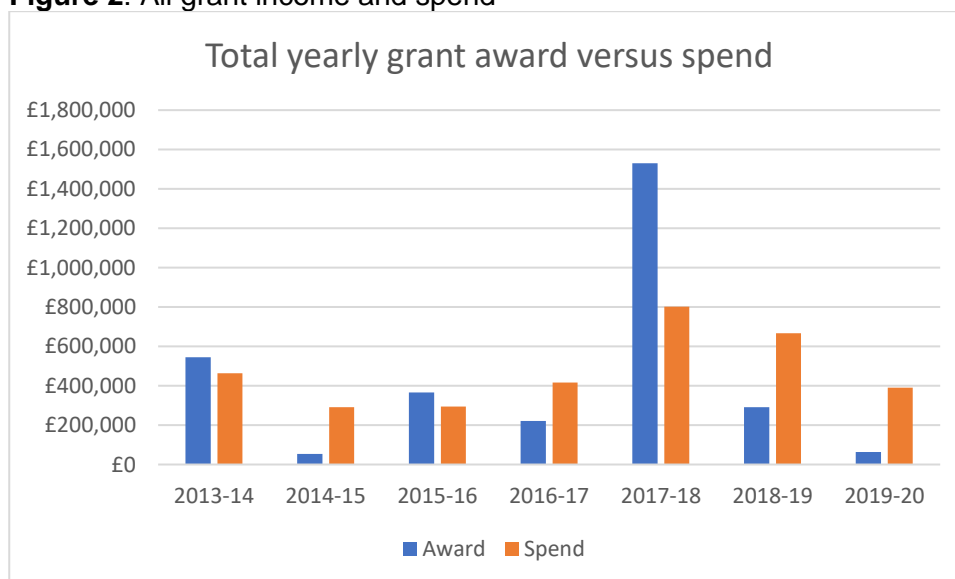
3. Income, infrastructure and facilities

Research Income Strategies

Our strategies to support income generation effort focus primarily on development of people. As outlined in Section 2, the staffing and research strategies dovetail; these include activities such as grant writing support/workshops, sabbaticals, and mentoring. We understand that in order to make grant applications competitive, our staff need to be able to show strong track-records of successful publication in high quality journals. Therefore, another key objective, as we noted in Section 1, is to increase quality research output, again through supportive staff development such as writing workshops, funding to present at conferences, co-authoring of grant applications and journal articles, and critical friend feedback. We also support and promote intra-School and University collaborations, national and international collaborations, and visiting international scholars and PGR students, details of which we provide in Section 4.

Since 2014, a total of £7.2m grant income was awarded, including £3.2m of research funding. Figure 2 shows that the highest level of grant awards recorded for one academic year was in 2017-18 at £1.5m a significant increase on the 2013-14 total of £545k. While the scale of funding has varied according to funding agency and project, 14 grants have attracted more than £50k, with nine over £100k, and another three attracting over £315k (NORFACE), £402k (Big Lottery) and £654k (Harimata Sp z.o.o.) respectively. Seven of the top 12 biggest grants were awarded in 2017-18, which accounts for the spike in funding for that year. While we aspire to year-on-year growth in research income, the reality is that income fluctuates in ways that reflect cycles of academic work as successful awardees commence work on funded projects and those who have completed projects commence a new round of applications. We are satisfied that the measures we are taking are producing an overall upward trend over the longer term.

Figure 2: All grant income and spend



In Section 2 we explained how our staffing and research strategies are interrelated. Staff within the UOA attract funding for research from a wide range of funding agencies, including research councils, charities, central and local government and their agencies, and overseas organisations. Research

Unit-level environment template (REF5b)

council funding has been awarded by the AHRC (Kirk) and the ESRC (Klein; Rivers; Taylor). A range of charities and other organisations have provided funding, including: Autism Initiatives, UK (Robinson); Barnardo's (Cassidy); the British Academy (Ellis); the British Council (Sosu); Bailey Thomas Charitable Trust (Wilson); Big Lottery (Wilson); Bord Na Gaidhlig (Birnie; McPake); Carnegie Trust (Delafield-Butt; Taylor); Chief Scientist's Office (Wall); Joseph Rowntree (Sosu); Leverhulme (Lovin); the National Autistic Society (Robinson); Research Autism (Dunlop), the Royal Philosophical Society of Glasgow (Cassidy); the Royal Society of Chemistry (Essex; Salehjee), RS Macdonald (Delafield-Butt; Wilson); Scottish Autism (Robinson); Society for Research into Higher Education (Taylor); and Train Visual (Beck).

Government agencies such as Scottish Government, including the Scottish Government's Attainment Challenge (Adams; Cassidy; Delafield-Butt; Rivers; Wilson), and Local Authorities (East Ayrshire: Marwick; East Renfrewshire: Wall; South & North Lanarkshire, West Dunbartonshire: Ellis, Wilson; Renfrewshire: Ellis, Essex; Glasgow City Council: (Cassidy, Costa, Ellis, Wilson), have also been an important source of funding in support of research activity. This Government funding evidences the UOA's strong connections with the educational community in Scotland and the extensive collaborative networks the School supports through this funding.

International sources of funding to support research have come through staff engagement in projects as Co- and Principal-Investigators, such as the Australian Research Council (Kirk), the Council of Europe (McPake), European Commission H2020 (Taylor), Harimata Sp z.o.o (Delafield-Butt), NORFACE (Taylor), Hanban (Cassidy, Santoro), the Social Science and Humanities Research Council of Canada (Kirk), and the Swiss National Science Foundation (Cassidy). Staff have also been collaborators on international projects as members of scientific advisory committees funded by the Lifestyle Foundation, Sweden (Kirk), and the Research Council of Norway (Kirk).

Supporting Infrastructure

The UOA benefits from support provided to grant applicants from the Faculty of HaSS's Research and KE Team (RaKET), who are able to provide detailed advice on the requirements of particular funders, costings, and other technical matters in grant applications. A dedicated IT team within HaSS also provides support to access on-line information for grant applications and on-line forms. Support for grant applications from the HaSS team is further strengthened by the University's Research and KE Services (RKES). RKES consists of four teams with expertise in grants and contracts, international business development, research and KE development, and researcher enhancement.

In addition to this technical support, researchers in our Faculty are further able to benefit from a two-tiered peer-review process for each grant application. Once ready for submission, grant applications are reviewed by two peer-reviewers each at School and Faculty levels. Detailed feedback is provided through both rounds of review. One further and final level of scrutiny occurs within RKES prior to submission to make sure all aspects of the application meet the technical specifications and requirements of the funding agency.

Educational researchers at the University of Strathclyde have access to and use of good physical infrastructure such as office space, seminar rooms and conference facilities. Indeed, the School has regularly hosted conferences since 2014, as outlined in Section 4. Good quality educational research rests on access to excellent library facilities. Print and online versions of most leading journals are readily available. The University provides digital infrastructure for secure storage and back-up of data, where data can also be curated and made available publicly. The University's PURE system provides a repository for all research publications of the UOA staff with pre-publication versions available to the public through Strathprints.

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

Education is an applied discipline and thus it is essential that a School of Education is embedded in the local, national and international communities of educational practice. Much of the research in Education at the University of Strathclyde prioritises networking and collaborative activity, such as school-university research partnerships that bridge research and KE. As one of the largest teacher education institutions in the UK, our staff and students visit and work in schools on a daily basis. Monitoring of student-teacher progress occurs jointly between University and school staff. These arrangements form a fundamental aspect of the infrastructure upon which much of our research rests, since it is key to building strong relationships with school communities. This infrastructure provides a synergy of policy, research and practice in such a way that dialogue and evidence are multi-directional.

The nature of those we seek to influence is such that we take a broad view of knowledge exchange, in that it includes contributions to academic and professional conferences, publications in academic and professional journals, written reports, membership of advisory boards and working groups, Career-Long Professional Learning (CLPL) courses and Continuing Professional Development (CPD) sessions for practitioners and policy makers. Examples of KE contracts we have won in areas of our research expertise include, for example, literacy (Ellis), Philosophy with Children (Cassidy) and practitioner inquiry (Wall). Colleagues regularly present at practitioners' conferences such as the Scottish Government's Scottish Learning Festival (Cassidy), ResearchEd (Cassidy, Wall), and internally-organised events such as Engage at Strathclyde (Arnott, Beck, Cassidy, Ellis, Klein, Sosu, Wall). We also advance our impact through public-engagement events, such as Psychology in Pubs (Sosu), presenting to those scrutinising medical research ethics applications (Arnott, Cassidy, Wall), and charities (Cassidy, Rivers). We have a presence on traditional and social media, and have recently created a School Twitter account, blog and have established a podcast to increase the audience for our work, nationally and internationally. In addition to the range of dissemination activities listed here, because we are committed to evidence-informed practice, our research is disseminated through the accredited courses we teach.

This means that the voice of the Scottish educational practice community, who are required under current GTCS Professional Standards to be engaged in and with research, is embedded in our day-to-day work. Moreover, the growth in our EdD registrations since 2014, which is largely made up of full-time teachers and policy makers who are studying part-time, has been aided by this requirement. In addition, *Teaching Scotland's Future* ('The Donaldson Report', Scottish Government, 2010), a review of teacher education in Scotland, played an important part in this growth in EdD registrations, with its recommendations for greater school/university partnerships, evidence-informed practice, and the Government financial support for practitioners undertaking Masters-level qualifications. This infrastructure supports our research nationally. We also work with international partners in teacher professional learning projects such as the Crescent Model School in Pakistan, Nanjing Normal University and the Tianjin Ministry of Education Commission in China, and with Chancellor's College at the University of Malawi (Ellis).

Moreover, researchers in the School of Education are involved in collaborative activity within the School and University and with researchers in other universities nationally and internationally, evidenced in co-authorship of papers, conference presentations and reports, and in membership of research project teams. We provide examples of funded collaborative studies in Section 3. Some individuals belong to more than one of the School's research clusters, which supports multiple collaborations as well as multi- and inter-disciplinary research. Supervisors also collaborate with

research students, in many cases producing co-authored papers, chapters and books in particular areas of specialisation.

The School also hosts many visiting academics and research students across the range of the clusters. Visitors have come to Strathclyde from the UK, Europe and other parts of the world, some visits lasting several months up to a year. These visits often support collaborative research activity and result in co-authored publications and presentations.

User Engagement

The funding sources outlined in Section 3 also provide evidence of wide-ranging user engagement with our research. Much of this work takes place in schools, funded and supported by Local Authorities. Research is also funded by and carried out in collaboration with Scottish Government and its agencies. As we noted, in many of these research-based KE projects, teachers are directly involved as co-researchers and users of the outcomes of research. For example, practitioners have been involved as co-researchers on projects related to practical philosophy, for instance in relation to children's engaged participation and self-regulation, and also to their well-being (Cassidy, Marwick). Physical education teachers in four secondary schools developed an activist approach to working with adolescent girls through a two-year (2015-16) work-place based professional learning project, which also formed the basis for a doctoral research project (Kirk).

Research is also extended to wider audiences through focused KE projects by, for example, the Scottish Universities Insight Institute (SUII) (Cassidy, Mowat, Sosu). The SUII initiatives in turn led to subsequent research activity with a range of collaborators. Researchers in the School also organise several national and international research dissemination conferences in, for example, Ghana, Malawi and Scotland (Sosu, Ellis) to engage stakeholders with findings from their studies and discuss solutions to emerging issues. Another example is the development of a research hub at Williamwood High School in Glasgow, changing their whole approach to professional learning for all staff, moving from a top down to bottom up model, with a practitioner enquiry-based approach with innovations such as cross-staff mentoring, a researcher-in-residence and innovative approaches to sharing learning. Funded by the LA, the intention is to develop this hub across the school and then widen the model to other schools across the LA (Beck, Wall).

A further example of user engagement is the Engage with Strathclyde events held each May. For example, in 2019, *Developing a research engaged teaching profession: practitioner enquiry*, attracted over 100 participants (Wall, Beck). The session included five case studies of Scottish schools implementing a practitioner enquiry approach in partnership with the University team: Cleddens Early Learning and Family Centre, Bearsden Academy, Williamwood High School, Boroughmuir High School and Preston Lodge High School. These insights into real life practice allow us to draw out key components of implementing a practitioner enquiry culture, including models of coaching/mentoring, making time and space, understanding tools to support enquiry, opportunities to share thinking, problematising roles of expertise and informed voice, and connecting to student outcomes (Wall).

Contribution to the Discipline

Researchers from the School serve in a range of capacities on the boards and committees of professional associations (e.g. Federation of European Literacy Associations, Ellis; United Kingdom Literacy Association, Govender; Scottish Educational Research Association, Adams, Beck), charities (e.g. Ditch The Label and LGBT Youth Scotland, Rivers), community organisations (LGBTQI+ Lives Scotland, Breeze), regulatory bodies (e.g. Bord Na Gaidhlig, Birnie, McPake; GTCS, Mowat, Wall; Scottish Qualifications Authority, Essex; Scottish Funding Council, Sosu), and

Unit-level environment template (REF5b)

learned societies (e.g. Royal Society of Chemistry, Essex, Salejhee; [Philosophy of Education Society of Great Britain](#), Hunter, Lewin; British Psychological Society, Sosu).

Staff have played senior advisory roles in a range of organisations such as: Council of Europe's European Centre of Modern Languages (Birnie); Chair of National P1 Practitioner Forum; Scottish Government (Ellis); Centers for Disease Control and Prevention (USA) (Rivers); Education Scotland (Cassidy, Sosu, Wall); Public Health England Advisory Board, MSM Sexual Health Strategy (Rivers); The Runnymede Trust (Taylor); Scientix : The Community for Science Education in Europe (Nikou); Scottish Government's Education Policy Unit (Sosu); Scottish Government ASD Awareness & Capacity (Robinson), and Talking Mats (Wall).

Indicators of Wider Influence

Researchers in the School have also contributed to a wider impact for their research through their contributions to the news media. They have utilised radio news nationally and internationally to communicate research (Birnie, Cassidy, Delafield-Butt, Sosu), television news (Cassidy, Delafield-Butt, Ellis, Klein, Sosu), documentary (Delafield-Butt), podcasts (Birnie, Cassidy), webinars (Kirk, Wall), online news (Taylor) and print media (Cassidy, Delafield-Butt, Sosu).

Since 2014, academic staff of the School of Education have been members of Editorial Boards for 50 peer-reviewed journals in education and related fields. They have also played key editorial roles in 25 peer-reviewed journals. In addition, significant contributions to the discipline have also been made as Editors of Book Series, as follows: *Advances in Critical Diversities Series* Routledge (10 books, Co-Editor, Taylor), *Routledge Studies in Physical Education and Youth Sport Series* (34 books, Editor, Kirk), *Gender and Education Series*, Palgrave (25 books, Editor, Taylor).

Further contributions were made to the Marie Skłodowska-Curie Fellowship, Leverhulme Fellows and Fulbright Distinguished Teachers (Taylor, as a mentor), and to the UKRI: ESRC Strategic Advisory Panel, the ESRC's Grant Assessment Panel, Core Panel for the UKRI Future Leader Fellowship scheme, and ESRC's mid-term review of the Doctoral Training Partnerships (Rivers, as a member).

We are involved in a range of activities that reflect the international excellence of our research and the recognition this has achieved from leading universities and research organisations around the world, including our work as reviewers for major funding councils, foundations and charities, invitations to act as external examiners of higher degrees, hosting and organization of national and international conferences, the award of honorary chairs and visiting scholarships, the award of academic prizes, and the appointment to fellowships of major learned societies. These activities not only recognise the excellence of individual staff, but also increasingly the University of Strathclyde as an institution that supports world-leading educational research.

Academic staff have acted as reviewers for a number of funding bodies in the UK and internationally, including the Austrian Science Fund (Samier), Australian Research Council (Kirk), British Academy (Delafield-Butt, Taylor), Carnegie Trust (Delafield-Butt, Taylor), *Deutscher Akademischer Austauschdienst* (Delafield-Butt), ESRC (Kirk, Marwick, Rivers, Sosu, Taylor, Wall), Irish Research Council (Kirk), Leverhulme (Marwick), Marsden Foundation (Marwick), Medical Research Council (Delafield-Butt), Netherlands Organisation for Applied Scientific Research (Ellis), Royal Society (Delafield-Butt), Social Science and Humanities Research Council (Kirk), Social Science and Humanities Research Council of Canada (Sosu) and the Wellcome Trust (Delafield-Butt). In addition, all academics are engaged in peer-reviews of an extensive range of journals, book proposals and conference presentations.

Unit-level environment template (REF5b)

Staff have acted as external examiners of doctoral and higher doctoral theses in universities in Australia (Arnott, Breeze, Rivers, Wall), Brazil (Kirk), Canada (Rivers), France (Kirk), Ireland (Cassidy, Sosu, Taylor, Wall), Germany (Kenklies), Pakistan (Kirk), South Africa (Rivers), New Zealand (Kirk), and the UK (Adams, Arnott, Breeze, Cassidy, Klein, Lewin, Mowat, Rivers, Samier, Sosu, Wall).

Staff have been active in the organisation and hosting of national and international conferences in the areas of: Advanced research methods in visual methodology (Wall), early years (Arnott), childhood (Cassidy/Hunter), sociolinguistics and minority languages (Birnie), early career development (Taylor), sociology of religion (Cassidy/Lewin/Taylor), practitioner inquiry (Wall), chemistry education (Essex), East Asian and human science pedagogies (Kenklies), graduate research summer institute (Kirk), philosophy of education (Lewin), autism research (Marwick/Robinson), multilingualism (McPake), global engineering education (Nikou), psychology of sexualities (Rivers), gendering Autism (Robinson/Taylor), higher education, (Sosu/Taylor), the attainment gap (Sosu), family estrangement (Taylor), feminist and women's studies (Taylor), and educational futures and fractures (Taylor).

During the review period, staff have held visiting or Honorary Chairs at the Australian National University (Taylor) and the University of Queensland (Kirk) respectively. Staff have also been visiting researchers to universities in Argentina, Colombia and Ecuador (Banegas), Queensland, Australia (Klein), universities in the UK (Rivers), India (Salehjee), Thailand, USA and Malawi (Sosu), New York and Sydney (Taylor). Other markers of esteem and influence have been the award of annual prizes for Outstanding Reviewer, *Review of Educational Research* (Delafield-Butt), and best paper awards from Wiley Research in Literacy Education (Ellis/Smith), the American Educational Research Association (Kirk), the National Association of School Psychologists (Rivers), the Philip Abram's Memorial Prize, and British Sociological Association (Breeze). Further prizes include *The Herald* Global Game Changers Award (Essex) and an outstanding research award from the [British Association for Counselling and Psychotherapy](#) (Robinson).

Fellowships are held with the Academy of Social Sciences (Kirk, Rivers, Taylor), The British Psychological Society (Rivers), the National Academy of Kinesiology, USA (Kirk) and The American Psychological Association (Rivers).