

Institution: University of Surrey
Unit of Assessment: UOA 23 Education
<p>1. Unit context and structure, research and impact strategy</p> <p>After strategic investment in educational research, the University of Surrey is making its first submission to UoA23. Educational research at Surrey is characterised by an energetic research community with an international reputation, including:</p> <ol style="list-style-type: none"> 1. A diverse range of disciplinary backgrounds leading to a vibrant interdisciplinary community advancing educational research through the development of innovative methodological approaches. 2. A research portfolio addressing key areas of strategic focus in educational practice. For example, our research has led to the development of a framework for assessing learning gain on affective, behavioural, and cognitive levels, and a model for determining micro, meso, and macro level predictors of differential attainment. 3. A growing PGR community facilitated by the establishment of a new PhD programme specialising in Higher Education, one of just three such programmes in the UK. 4. A reputation for award-winning research that has meaningful impact on policy and practice in education internationally (e.g., informing the HEFCE [now OfS] National Review of External Examining Arrangements, expansion of the 'Play to Learn' programme by the Ministry of Education in British Columbia, and adoption of the Reference Framework of Competences for Democratic Cultures by the Council of Europe's 47 member states). 5. Leadership in Open Research practices, including a commitment to pre-registration of experimental work and adoption of open research practices in dissertation supervision. <p>Recognition of these strengths led to the formation of The Surrey Institute of Education (led by Winstone) in September 2020 as a strategic and exciting new development, spearheaded by the University's Executive Board, to provide a hub for educational research and practice at the University of Surrey. The research activities of the Institute are driven by the Educational Development and Research Department (led by Hosein; previously the Department of Higher Education) while incorporating associates from an educational research stream in the School of Psychology (led by Tenenbaum). We define educational research broadly to include learning and lifespan development, cognitive science, and multidisciplinary perspectives on the processes and contexts of learning.</p> <p><u>Unit Structure and themes</u></p> <p>The Surrey Institute of Education aims to improve educational outcomes, by facilitating impactful learning experiences for people of all ages in formal and informal contexts. We have five research strands aligned with our areas of strength that drive research transcending boundaries of educational stage, methodology, and learning context, driven by the guiding principle of 'Improving Education for All'.</p> <ol style="list-style-type: none"> 1. The Assessment and Feedback group (led by Winstone and Medland) examines how processes of assessment and engagement with feedback facilitate long-term learning

gains. This group is structured around the internationally-recognised Surrey Assessment and Learning Lab. Key grants include those from the Leverhulme Foundation and the Assessments and Qualifications Alliance. Future work will be supported by the award of an Emerging Field Group grant (€25,000) from the Jacobs Foundation/European Association for Research on Learning and Instruction (EARLI).

2. The **STEM Education group** (led by Tenenbaum) examines how to improve maths and science learning across different age groups, in formal (e.g., school, workplace) and informal (e.g., home, museum) settings. This group investigates underlying principles (e.g., spatial learning, vocabulary) that lead to gains in scientific knowledge and explores participation in STEM education at degree level. This group has been supported by grants on spatial thinking in Down's syndrome (Bailey Thomas Foundation and British Academy). Future work will be supported through partnership in a recently-funded collaborative Marie-Curie Training Network grant (total grant €4.1M).
3. The **Language, Literacies and Learning group** (led by Heron and Gravett) focuses on oracy skills, learning from dialogue with peers, parents and teachers, the development of academic literacies, and the cognitive underpinnings in reading development. Key grants include those from the British Academy and the British Council.
4. The **Educational Transitions group** (led by Ng-Knight) investigates learners' transitions from primary to secondary to tertiary education, and into the workforce, with a focus on identifying the predictors of successful transitions. Future work will be supported by a grant from ESRC (total grant £217,000) exploring the impact of mental health on student life outcomes at university and beyond.
5. The **Identities and Values group** (led by Hosein and Kinchin) explores the educational implications of diverse groups of teachers and learners (e.g., low-income school-aged and University learners, neurodiverse, migrants). The group explores how the motivation, wellbeing, and self-efficacy of those in education (students, teachers, leaders) are impacted by structures, values, and policies. This group has been supported by a Leverhulme Foundation grant to examine children's reasoning about exclusion and continues to be supported with a grant from the AHRC (total grant £800,000) to improve the wellbeing of girls with autism through the arts.

Research and Impact Strategy: Review and 5-year plan

Despite the Institute's official formation in 2020, the aims of the former Department of Higher Education and the Educational research stream in the School of Psychology have been aligned throughout the REF period with collaborations and joint research meetings prior to the Institute's formation. These shared aims have now been formalised into a strategy for the Institute that aligns with the University's Research and Innovation Strategy.

Our vision is to **establish the Surrey Institute of Education as a sector-leading centre for educational research with a national and international reputation for excellence and impact.**

Leadership to develop and realise this vision comes from a multidisciplinary Senior Research Leadership Team (Kinchin, Hosein, Tenenbaum, Winstone). We are investing in this vision by

focusing on the following strategic objectives, which incorporate our approach to multidisciplinary research and facilitating impact:

1. Creating a thriving, collegial, and supportive research environment

Key Achievements:

- The **community of educational researchers** has grown by 176%, from 5FTE in 2014 to 13.8FTE in 2020 through strategic investment in recruitment of talented ECRs.
- The number of PGRs has grown by 1200%, from 2 in 2014 to 26 in 2020, resulting in a **thriving community of PGRs** in educational research.

Strategic aims:

We are committed to supporting the University's strategy to recognise PGRs and ECRs as *'the heart of our University's research and innovation ecosystem'*. We will support the future sustainability of the Institute through focused mentoring and development support. We will continue to grow PGR numbers and commit to establishing our PhD programmes as *'best-in-class'* opportunities to forge an academic career.

2. Consolidating and growing our national and international reputation for educational research

Key Achievements:

Since 2014, **24 active international collaborations** have been forged across the USA, Canada, South America, Europe, Asia, and Australasia. Of the outputs submitted as part of our REF portfolio, **69% are co-authored with external collaborators**, and of these **30% involve international collaborators**.

- The number of publications per annum has **increased by 173%** from 15 in 2014 to 41 in 2020, representing an **increase of 100%** in the percentage of publications in Q1 journals, from 33% in 2014 to 66% in 2020.

Strategic aims:

The international reputation of the Institute has been enhanced through annual international symposia, hosted at Surrey, over the past four years. These events inform the global research agenda, and we are committed to run one event annually. We are growing our international visiting scholar scheme and have a strategy for growing our international networks (see Section 4). We seek to secure funding that enables us to lead international and interdisciplinary collaborations. For example, we have recently been awarded an Emerging Field Group grant, funded by the European Association for Research in Learning and Instruction and The Jacobs Foundation (€25,000). Leading a team of 24 researchers (including 7 ECRs) from 16 Universities in 11 countries across 3 continents, we will develop new research paradigms in the field of assessment feedback and set an exciting new agenda for research in this area.

3. Demonstrating excellence at the intersection of research and practice through tangible impact

Key Achievements:

- Between 2014 and 2020, the award of **over £580,000 in research funding** and **over £900,000 in consultancy funding** has led to influential work on key challenges in education (e.g., differential attainment and learning gain).
- Our **impact case studies** evidence informing the design of Europe-wide curriculum development and the international uptake and commercialisation of research-based educational tools.

Strategic aims:

We will consolidate our past success to generate a diverse portfolio of research and consultancy funding and will build on strategies for growing our grant capture outlined in Section 3. We are fully committed to the University's strategy to build an innovation ecosystem through public engagement, impact, knowledge exchange, and IP commercialisation. Institute members have forged strong relationships with key stakeholders, such as schools, charities, and other HEIs, to identify joint solutions to undertaking educational research in many contexts. For example, as part of a seven-country team funded by the European Commission (€150,000), we conducted a pan-European survey on young people's European identity and held multiplier events for more than 200 professionals working with young people in these countries.

We will strengthen these relationships and develop new links by giving staff time to engage with stakeholders beyond academia. We will support emerging areas of impact that include increasing girls' and women's uptake of STEM degrees and positions (Hosein, Tenenbaum, Ng-Knight), approaches to the development of students' oracy skills (Heron), developing interventions to teach maths (Gilligan-Lee), identifying optimal peer interaction to increase science learning (Heron, Winstone and Tenenbaum), increasing executive function through Taekwondo (Ng-Knight), grade inflation in HE (Medland and Lygo-Baker), supporting children with dyslexia (Gooch), and developing participatory arts workshops for girls with autism (Williams) by identifying and facilitating pathways to impact. We will support the vitality and sustainability of future impact through funding for travel, networking, and engagement activities, and through training on impact generation. We are continually working to develop our relationships with organisations such as Advance HE, the Office for Students, the Society for Research into Higher Education, the Staff and Educational Development Association, the British Psychological Society, as well as professional groups and charities, to support our future impact agenda.

4. Harnessing our multidisciplinary nature to push conceptual and methodological boundaries in educational research

Key Achievements:

- We have **advanced methodological approaches in educational research** through the development of new research methods including concept map-mediated interviewing (Kinchin) and story completion-mediated interviewing (Gravett).

- We have used our interdisciplinary expertise to bring **new approaches to established areas of study**, such as the use of experimental research, eye-tracking, and electroencephalography to understand processing of feedback information (Winstone).

Strategic aims:

We will continue to break down disciplinary boundaries through our work, answering our research questions using multi-disciplinary methodological expertise from micro-contextual situations to larger, longitudinal processes. Our integrated structure provides fertile ground for interdisciplinary collaborations, and we will continue to draw upon knowledge and methods from across various disciplines (e.g., eye-tracking, conversational analysis) to inform our scholarship and develop novel insights. We will grow our reputation for expertise in large-scale longitudinal (e.g., Ng-Knight) and secondary data analysis. For example, Hosein and Balloo have recently been awarded a grant from the ESRC Secondary Data Analysis Initiative (£217,000) to understand predictors of mental health and wellbeing in University students, and subsequent impact on life outcomes. We will nurture interdisciplinary thinking through our research groups, which bring together researchers and PGRs from a diverse range of disciplines.

Commitment to research integrity and an open research environment

We view the public availability of our research as critical to supporting the development of educational research and facilitating impact on educational practice. The Surrey Research Insights (SRI) team advises on and facilitates open access and the enhancement of research visibility. Data and publications are shared through the University's SRI open access repository following the Concordat on Open Data. All staff in the Institute are trained in the importance of secure data storage and the prevention of unauthorised access or loss of research data.

The Institute applies the University's 'Code on Good Research Practice', which endorses the Universities UK Concordat to Support Research Integrity. The University Research Integrity and Governance Office provides guidance on ethical issues in research. The University Ethics Committee (including two members of our Institute) oversees staff and PGR research projects. The core elements of honesty, rigour, transparency, care, and respect feature in all grant application reviews. Research integrity is a feature of research meetings and away days. All ECRs are supported by their mentors to address ethical dimensions of their work from the very early stages of planning.

The Institute's commitment to an open research culture is evidenced in specific activities. Gilligan-Lee is the University lead for the UK Reproducibility Network (UKRN), and a member of the University Open Research Working Group, working closely with the University's Academic Lead for Research Culture and Integrity. Gilligan-Lee is also a member of the Surrey Reproducibility Society Committee and leads the ReproducibiliTea sessions, where staff and students together discuss cross-disciplinary papers with a focus on methodology and quality of research. Gilligan-Lee is also the PI on a University-funded project, STORM (Study of Open Research Methods in Psychology Undergraduate students), which explores Open Research views in UK undergraduates. Tenenbaum initiated an annual talk from a member of the UK Network of Open Science Working Groups. All experimental research conducted by the Institute is pre-registered (e.g., via AsPredicted or OSF), and members of the group have registered systematic review protocols and deposited datasets and analysis syntax via the Open Science Framework.

2. PeopleStaffing strategy and staff development

The Institute consists of 14 Category A eligible staff (1 Professor, 2 Readers, 3 Senior Lecturers, and 8 Lecturers) and one Emeritus Professor (Barrett). All are permanent posts; 10 posts are held by female academics. There have been 5 postdoctoral researchers employed during the REF period on fixed-term contracts matching the length of the funded research projects. A strategic and substantial investment in educational research has resulted in a 176% increase in staffing, from 5FTE to 13.8FTE between 2014 and 2020.

Our growth strategy has focused on recruiting talented ECRs from across disciplinary boundaries and providing a space for them to incubate and build their careers. This strategy has been realised through recruiting at Lecturer level in key areas of strength, for example Language and Literacies (e.g., Heron, appointed 2017, Gooch, appointed 2017; Gravett, appointed 2018); Educational Transitions (e.g., Ng-Knight, appointed 2017); and Assessment and Feedback (e.g., Balloo, appointed 2018). Given the heavy balance of ECRs in the Institute, we support those in mid-career positions to progress to management roles, as part of our succession planning strategy. Such activities include facilitating attendance at leadership training (e.g., Hosein, now Head of Educational Development and Research, attended the Aurora Women's leadership Programme) and mentoring (e.g., Winstone, now Director of the Surrey Institute of Education).

Our staff development strategy ensures that all staff are fully encouraged and supported in their research and impact activities. Our core strategies to achieve this include:

1. Nurturing the development of talented ECRs

Our research environment is energised by the large number of ECRs in the Institute (6 of 14 staff are ECRs: Ng-Knight, Gooch, Gilligan-Lee, Gravett, Balloo, Barnett). We have developed a specific strategy for supporting the development of ECRs built around two core tenets: 1) providing mentorship to support the development of research identity and the establishment of a national and international profile and reputation; and 2) providing an environment that acts as an incubator for their talent in ways that enable them to develop as the research leaders of the future in our areas of expertise.

We follow the Concordat to Support the Career Development of Researchers by placing emphasis on supporting ECRs to develop and articulate their 'research identity', and to develop a strong reputation in their area of specialism. We encourage building all elements of a profile as an academic, including research-led teaching. All ECRs are supported to develop specialist modules or staff training sessions based on their research expertise, on the BSc and MSc programmes in Psychology and on the MA in Higher Education. We also directly fund and support ECRs to build their national and international profiles by hosting renowned scholars in their field as part of our monthly Research Seminar Series and our international symposia. We support the development of the profile of our ECRs by facilitating formal links with the wider University research environment. For example, Balloo is the ECR representative on the Early Career Researcher Forum, which reports into the Doctoral College Board.

We also operate a research partnership system where more established staff partner with ECRs on research projects to provide mentorship. For example, Balloo partnered with Hosein, leading to a successful ESRC joint bid, and Gravett partnered with Kinchin, leading to several outputs

and a book contract. Heron mentored Barnett and Balloo to gain a book contract. We also support ECRs to develop as research supervisors through mentoring.

2. Empowering individuals to develop through a supportive target, appraisal, and career advancement culture

Mentoring is the cornerstone of our staff development strategy, in alignment with the HR Excellence in Research Framework. All staff are encouraged to engage with mentoring focused on supporting their individual aspirations in research. Our staff development strategy positions appraisal and target-setting processes as an opportunity to discuss and empower career development trajectories rather than merely reviewing performance. We have a 100% completion rate for annual appraisal and supplement this formal process with informal mid-year reviews with line managers. Annual targets are nuanced to take account of career stage, area of specialism, and development priorities. This process has facilitated staff to be successful in gaining promotion (e.g., Hosein promoted to Senior Lecturer in 2019; Winstone promoted to Senior Lecturer in 2017 and to Reader in 2019).

The Institute has a strong culture of supportive peer review. Fortnightly research meetings are structured around constructive peer feedback, where staff bring grant proposals, study protocols, or draft manuscripts for feedback and discussion. This strategy has resulted in a high rate of acceptance of submitted papers.

The University's policies for research, impact, and sabbatical leave have supported staff in the Institute to develop their careers as researchers. For example, Lygo-Baker is supported to undertake an annual summer visit to the University of Wisconsin, Madison as a Visiting Professor. Through these activities he has developed research collaborations that have led to outputs. All staff are eligible for research leave after 5 years' service. Kinchin has also benefitted from this process, which facilitated the award of a DLitt and a book contract from Bloomsbury.

All staff are supported in their research activity through the allocation of a personal research fund to facilitate small-scale work that supports larger bids. Staff can apply for pump-priming and members have benefitted from the support that this scheme provides. For example, Tenenbaum received funding for international collaborations to meet in Bern to write a recently-funded Marie Curie International Training Grant to fund 15 PhD students across Europe (one at Surrey, two students seconded at Surrey from Bern and Helsinki). Other schemes provide targeted support for ECRs: Gooch, Ng-Knight, and Gilligan-Lee received pump-priming funds to support their research when they started at the University that have supported the establishment of strong research profiles. Gilligan-Lee's pump-priming fund led to a successful British Academy grant (£10,000).

All colleagues are encouraged and supported to develop as researchers through engagement in internal and external training and development opportunities. Each member of staff is allocated a generous personal development allowance to support this agenda. Staff are encouraged to share their learning with the rest of the Institute. This approach to continuous learning develops the Institute's environment through facilitating high-quality publications and grant capture. For example, Hosein has been supported to engage in training on longitudinal modelling and analysis, which facilitated her award of an ESRC Secondary Data Analysis Initiative grant. Through training, the Institute has also developed a cluster of staff with expertise in meta-analytic (Tenenbaum, Winstone, Balloo) and advanced statistical techniques (Balloo, Hosein). This support has led to publications in Q1 journals (Tenenbaum; Winstone), collaborations (Balloo with Dr Ernesto Panadero, Universidad de Deusto, Spain) and impact (the development

of a meta-analytic approach for Universities to model attainment gaps for different groups of students; Balloo and Winstone).

We follow the Concordat to Support the Career Development of Researchers, by actively promoting and supporting wellbeing and good mental health. Discussions around workload and managing wellbeing form part of conversations at appraisal and are revisited in informal mid-year review meetings. The Institute has an open culture of discussing workload and wellbeing. Workload demands are continually monitored to ensure that space and time for research activity is prioritised and directly supported.

3. Supporting impact, engagement with, and dissemination of research

Staff are supported and encouraged to present their research at national and international conferences with dedicated funding. Beyond formal opportunities for dissemination such as conferences and symposia, the Institute has a strong outreach strategy that supports staff to spend time with educational practitioners in schools and FE/HE settings through outreach and knowledge exchange activities that seek to embed outcomes from our research into educational practice. Staff within the Institute have run dedicated outreach events for teachers and students to engage them with the latest research evidence emanating from the Institute. These include two events funded as part of Leverhulme grants: 'The Science of Assessment and Feedback' (Winstone) and 'Teacher-Researcher Sandpit' (Tenenbaum), and an EU-funded event for social workers and teachers on political engagement in young people (Barrett and Tenenbaum).

Our impact strategy is supported by our approach to staff development. We actively support staff through time release to participate in activities that facilitate exchanges between academics and professional/industry bodies. For example, several staff in the Institute work directly with the Society for Research in Higher Education through committee membership and network convening (Hosein, Kinchin, Gravett, Medland, Balloo). We also actively support time release for consultancy work to enable staff to build strong links with industry partners.

Research Students

PGRs are an integral part of our research environment and our commitment to supporting the establishment and development of an academic career extends to PGRs. PGRs in educational research can register on one of two PhD programmes: One in Psychology (in place at time of REF2014) and one in Higher Education (launched in 2017). The current population of PGRs supervised by members of the Institute consists of 26 students (11 funded by University Scholarships; 7 funded by overseas governments, 1 funded by a research grant, and 7 self-funded). The PhD in HE (one of just 3 such programmes in the UK) is growing rapidly, from one student in 2017/18 to 11 in 2020. We have had one ESRC CASE studentship and have one studentship funded by the EU.

1. Approaches to the recruitment of doctoral students

We recruit doctoral students who can contribute to and benefit from our vibrant, cross-disciplinary research environment. Students' research projects align closely with our key research themes, further building our strengths and enabling students to benefit from established research communities in their area of specialism. Recruitment practices follow the University's admissions policy that demonstrates a commitment to equality of opportunity.

2. Monitoring and support mechanisms facilitating progress and successful completions

PGRs are monitored and supported via processes set out in the University's Code of Practice for Research Degrees. PGRs meet at minimum monthly with their supervisors, and progress reviews are conducted at 6-month intervals, including an annual review. A key focus of these reviews is assessment of students' development needs, and students are encouraged to access relevant workshops via the Researcher Development Programme in the Doctoral College.

Our PGRs have access to specialist laboratory facilities to support their research, including eye-tracking equipment and an electroencephalography laboratory. PGRs are also able to access general laboratory space for purposes of data collection. Within the Institute, all PGRs have access to specialist research methods training within the School of Psychology and an online research methods module in Higher Education. This bespoke training is supplemented by the extensive training and development opportunities available centrally through the Researcher Development Programme run by the Doctoral College. Via the Doctoral College, PGRs also have access to highly specialist research training via the South East Network for Social Sciences (SeNSS), as well as a mentoring scheme and dedicated support for academic writing. All students are encouraged to attend and present their work at the Annual Doctoral College conference, as well as being encouraged to present their work at other internal conferences (e.g., the School of Psychology annual research student conference). All PGRs receive £500 p/a to support their research and development activities including external training and conference attendance. We have received recognition for the environment we provide for our PGRs; for example, in 2020, Winstone was awarded a University Supervisor of the Year Award in recognition of creating the most supportive, stimulating, and inspirational research environment.

Staff in the Institute have supervised 10 PGRs to completion, to date:

	PhDs	Research-based professional doctorates
2013-14	1	0
2014-15	0	0
2015-16	3	0
2016-17	0	0
2017-18	0	0
2018-19	3	0
2019-20	3	0
Total	10	0

3. Skills development and preparation for future careers

We seek to build capacity within our PGRs to progress and excel in their future careers. Graduates from our PGR programmes have taken up positions that enable them to use their research skills to further contribute to understanding of effective education in international contexts. Amongst graduates since 2014 who now work overseas, one is a Lecturer in Educational Psychology in Kuwait; one a Lecturer in Psychology in Saudi Arabia; and one a Data Analyst in Canada. Four graduates now hold academic positions in Educational Psychology and Higher Education in the UK. Students are encouraged to access a range of

perspectives and expertise beyond their individual supervisory team. This is facilitated by inclusion of PGRs in all research meetings and development events.

Our PGRs have also benefited from a scheme run by the Doctoral College that provides grants for PGRs to run symposia. In 2019, two PGRs from the Surrey Assessment and Learning Lab secured funding to run a national event for PGRs and ECRs on educational research (Surrey LASER: Learning and Assessment Symposium for Early-Career and Postgraduate Educational Researchers). As well as giving these PGRs an opportunity to develop skills in organising national conferences, they were able to invite and network with speakers sharing expertise on a variety of topics such as open science, public engagement, impact, and research ethics.

In line with our focus on embedding the outcomes of our research in real-world educational contexts, we enable PGRs to develop collaborations with external organisations. Through an ESRC CASE studentship, one PGR who completed in 2020 was able to spend a significant amount of time working directly with the AQA Examination Board, developing skills in large-scale analysis of examinations data which directly impacted her research. Another PGR is funded to undertake a four-month secondment at Raspberri Pi Foundation, a charity that seeks to increase computing access worldwide.

Equality and Diversity

The Institute actively promotes and supports Equality and Diversity. Our membership of committees enables us to learn from University-level initiatives (e.g., Tenenbaum's previous role leading the Psychology Athena SWAN committee). Tenenbaum is also on a steering group at the Tavistock Institute focusing on transgender children. These experiences influence our commitment to equality and diversity. All staff have successfully undertaken an equality and diversity training module on Unconscious Bias. In accordance with the University's REF Code of Practice, the UoA Lead (Winstone) and the output review panel underwent both online and group-based training in equality and diversity, giving dedicated attention to each protected characteristic.

Prior to returning from maternity leave, work commitments of colleagues are discussed, and the options of part-time and flexible working are outlined, supported, and agreed prior to their return. On returning to work, staff undergo a return-to-work interview and receive on-going support and monitoring from their line manager. Returning staff are also supported by the Vice-Chancellor's Inclusion and Career Investment Award for research, which enables those returning from periods of parental leave to apply for research funds to support the continuation of their research career. Two members of the Institute applied for these funds on return from maternity leave and were each awarded £5,000. Staff with caring responsibilities are also supported to attend conferences through dedicated university-funded grants to cover additional childcare costs for these individuals.

The University has official working hours between 08:00 to 18.00 each day. However, all meetings are held between the core hours of 10:00 and 16:00. Each year, staff may complete a flexible working form to request that their teaching hours are timetabled within certain constraints by time of day or day of the week.

To learn more about how equality and diversity influence our decision-making, Tenenbaum initiated the annual Athena SWAN School of Psychology research lecture, which is attended by more than 40 staff members. We also carefully invite equal numbers of men and women as speakers to our research talks following research findings that fewer women than men are

invited speakers in academia. Thus, we are committed to supporting equality and diversity beyond our Institute.

3. Income, infrastructure and facilities

Research funding and strategies for generating research income and impact

Since 2014 staff in the Institute have secured over £1 million in research and consultancy funding. Our strategy for generating research income is directly informed by the diverse disciplinary backgrounds of members of the Institute: we focus on connecting the right people with the right opportunities and have a multifaceted strategy for grant capture that recognises and capitalises on our diversity.

1. Supporting ECRs to gain their first research grant

Given the high number of ECRs in the Institute, we actively support them to experience success in gaining their first research grant early on in their careers through mentoring to submit applications to smaller grant schemes. For example, Gravett was awarded £1,000 from the Association for Learning Development in Higher Education and Medland was successful in gaining a Newer Researcher Award (£3,000) from the Society for Research into Higher Education.

2. Capacity building for larger grants

Through pump-priming and dedicated time release for pilot work, we actively support members of the Institute to take the next steps to securing larger grants from prestigious funders. Two members of the Institute have been successful in gaining grants from Leverhulme (Tenenbaum and Winstone), and we actively encourage submissions to UKRI streams. Williams has been awarded £261,000 by AHRC for an interdisciplinary project exploring the role of art, drama, and participatory learning in girls with autism, and Hosein and Balloo were awarded £217,000 by the ESRC SDAI for their longitudinal work on University students' mental health and wellbeing capital and the impact on life outcomes.

3. Specialist funding

Reflecting our diversity, we seek funding from more specialist sources, and we support each member of the Institute to develop an understanding of appropriate sources of funding particular to their individual area of specialism. This approach has proved successful, with a wide range of funders within our grant portfolio. For example, Heron's work in educational linguistics has been funded by the British Council and the British Academy, and Tenenbaum's work on children's learning about democracy has been funded by Erasmus+. Hosein has also received funding from Erasmus+ for her work on promoting diverse educational research methodologies. Several members of the Institute have been successful in gaining individual grants from the Staff and Educational Development Association (Heron, Lygo-Baker, Medland, Hosein) and from the Society for Research into Higher Education (Hosein/Kinchin, Winstone). As well as funding from specialist grant schemes, part of our strategy in this area has been to secure funding from national organisations and charities associated with education. For example, Winstone was awarded £25,000 from the AQA Examinations board to conduct research into students' memory for feedback on mock examinations, and Gilligan-Lee was awarded £52,000 by the Baily Thomas Charitable Fund for research on the role of spatial abilities in mathematics learning for children with Down's Syndrome.

4. Large-scale consultancy

In line with our strategy to undertake research that makes a difference to educational practice, we seek to engage with opportunities that enable us to use our research expertise to have direct impact on what goes on in classrooms. Winstone and Medland received £44,416 from the HEFCE Catalyst Fund to develop their research on student's use of feedback into a feedback e-portfolio which has now been commercialised and is currently being rolled out for use within Universities across the UK. Kinchin and Lygo-Baker were part of a tri-University collaboration (total funding £375,000) as part of the HEFCE/OfS Learning Gain projects, and Winstone and Balloo were part of another tri-University collaboration (total funding £500,000) as part of the HEFCE/OfS 'Addressing Barriers to Student Success' funding stream.

Operational and organisational infrastructure supporting research and impact

Our strategy for grant capture is further supported by Research Facilitation Officers who produce weekly funding bulletins of new calls. The University offers centralised support for drawing up research budgets with a dedicated bid development team for larger bids. There is also a specialised pump-priming fund for educational research and in 2019 Gilligan-Lee was successful in gaining funding to support the development of new approaches to embedding open science practices in dissertation supervision in higher education. In 2020, Heron, Tenenbaum, and Winstone received this funding along with a colleague in the School of Biosciences and Medicine to investigate how peer learning supports students in the Foundation Year programme.

Our organisational infrastructure also supports the development of impactful research. For example, Winstone and Medland benefitted from the support of the University's Technology Transfer team when the feedback e-portfolio developed through their research began to attract commercial interest. The Technology Transfer team provided expert advice on the most appropriate commercial organisation to expedite impact of the tool and they facilitated rapid transfer of the Intellectual Property. Media and Communications specialists also support staff in public engagement and media dissemination of research to facilitate impact. For example, when Hosein's research on girl video gamers and STEM education attracted international media attention, the Media and Communications team provided training on being interviewed on live radio, and also provided guidance on communicating to the public for her talk at the British Science Festival and her dissemination via The Conversation.

Research infrastructure and facilities

Members of the Institute benefit from a £5 million investment in specialist equipment and laboratory facilities housed within the School of Psychology. This includes investment in equipment used by academics and PGRs within the Institute including eye-trackers, EEG, and lab facilities dedicated to research with infants and young children. Members of the Institute also make collaborative use of research infrastructure; for example, Hosein has made extensive use of the UK Data Service to access large longitudinal datasets for her research. Our specialist facilities and the international reputation of our research groups attracts visiting scholars, for whom we make dedicated space available.

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

Staff within the Institute are active in their academic citizenship and this in turn stimulates further vitality and creativity within the research environment. The international reputation of members of the Institute has directly facilitated international collaborations and in line with our focus on

supporting ECRs this has enabled more junior staff to be connected with new international networks.

Research collaborations, networks, and partnerships

The Institute has a strong culture of national and international collaboration, with 69% of our REF output portfolio being co-authored with external collaborators, including 30% with international collaborators. These outputs are the result of nurturing active international collaborations across the USA, Canada, South America, Europe, Asia, and Australasia. We support the establishment and maintenance of research collaborations in two distinct ways.

Cross-institution sandpits

We have hosted events to bring groups of educational researchers from other universities to Surrey to share current projects and build new collaborations. This has led to successful grant bids, such as Heron (Surrey) and Wason (Kingston), and Winstone (Surrey) and Pitt (Kent).

Facilitating travel

We actively support members of the Institute to travel nationally and internationally to build networks and develop collaborations. This is further facilitated by dedicated support from the University to bid for Erasmus funding. Our participation in Erasmus academic exchanges has brought further vitality to our research environment; Mari Murtonen from the University of Turku visited Surrey, and this resulted in a book co-edited with Balloo, and Balloo visited the Universidad Autónoma de Madrid and is now collaborating on a meta-analysis with Ernesto Panadero.

When members of the Institute make international research visits, they facilitate further introductions between the Institute and staff in the collaborating institution. Following a research visit to Deakin University, Australia, Winstone connected Gravett (an ECR) and Heron with new collaborators, and these relationships have already led to the production of outputs.

The Institute also builds networks through hosting international visiting scholars, who are attracted to the Institute as a result of our strong international reputation. These visitors bring new perspectives and areas of expertise to our research environment and contribute to the mentoring of PGRs and ECRs. Many collaborative outputs have resulted from these visits (e.g., Kinchin and Aguiar; Balloo and Murtonen). We also host PGRs and ECRs who become active members of our research groups and labs; for example, a PGR from the University of Groningen gained a JURE Mentoring Grant from EARLI to visit Winstone's lab.

Collaborations between and across disciplinary boundaries

Our breadth and diversity lends itself naturally to interdisciplinary collaborations. By virtue of our identity, there is strong integration of psychology and education through our collaborations, which has enabled us to bring new methodological approaches to the study of existing questions in education, for example using EEG and eye-tracking. Such collaborations have also enabled us to grow our portfolio of research funding; for example, Hosein and Balloo collaborate with psychologists at King's College London and the University of Roehampton on an ESRC project exploring mental health in university students. Williams collaborates with drama and performance academics at the University of Kent on an AHRC project using film, puppetry and performance workshops to improve self-esteem, self-perception and mental wellbeing amongst

autistic adolescent girls. Tenenbaum has co-authored a paper with museum learning professionals at the Natural History Museum evaluating the efficacy of a school trip on understanding evolutionary theory.

Our interest in exploring education in context has also led to the development of collaborations with a wide range of disciplines where we have co-authored publications with colleagues pertaining to education within their own discipline, e.g. Chemistry (Lygo-Baker), Veterinary Medicine (Lygo-Baker) Translation studies (Lygo-Baker), Dentistry (Kinchin), Medicine (Kinchin), Geography (Kinchin), Physics (Kinchin), Music (Kinchin), Management (Kinchin), Biosciences (Kinchin, Winstone), Tourism (Kinchin), Sociology (Winstone), and Nursing (Balloo, Winstone).

Our interdisciplinary collaborations have also enabled us to build the impact of our research. Hosein collaborated with colleagues in Politics on an EU TEMPUS funded project to inform curriculum review in the teaching of European Studies in Moldova, Georgia, and Ukraine, which has also facilitated cross-disciplinary, international publications.

We also collaborate across disciplinary boundaries through our PGR supervision. Our research groups and labs are cross-disciplinary, which facilitates further vibrancy in our environment. For example, many PGRs in the Language, Literacies and Learning group are co-supervised with colleagues in the School of Literature and Languages. Within the Surrey Assessment and Learning Lab, many PGRs are conducting research on assessment and learning within different disciplines (e.g., Music and Media, Nursing, Midwifery and Paramedic Practice, Biosciences, and Computer Science), and supervisory teams also cross these boundaries. Our new PhD programme in Higher Education also incorporates an international collaborative supervision arrangement with King Abdulaziz University (Saudi Arabia).

Engagement with research users, and beneficiaries, and the public

Collaborations with other organisations and research users enhance the real-world relevance of our research, and signpost new directions for research that directly addresses the needs of potential beneficiaries. The University's Expert Services team facilitate and support the development of consultancy connections between members of the Institute and external organisations. Staff in the Institute are encouraged and supported to undertake consultancy work, and this forms a core part of our impact strategy. For example, Gooch has provided consultancy to Doppel, exploring the utility of a product for children with ADHD. Lygo-Baker consulted on the development and delivery of a CPD model for experienced physiotherapy staff at GKT Medical School and has provided consultancy to evaluate educational resources developed by Blue Array Academy for online training modules.

We also strive to create an environment where we engage directly with the users of our research. We conduct annual events in which we meet teachers and social workers to share our research and to seek input from them on key classroom challenges and priorities. This enables us to plan future research to directly address the needs of users.

We also demonstrate responsiveness to research users by translating our research into resources that address challenges experienced by practitioners. For example, we publish children's books (e.g., *Emily is Being Bullied*; *A School for Everyone: Stories & Lesson Plans to Teach Inclusivity & Social Issues*) that translate our research into concrete resources that support parents and teachers in facilitating in-depth discussion with children.

We seek to engage with diverse communities through sharing our research and expertise. These wider contributions take the form of media engagement (e.g., Tenenbaum: Times Education Supplement; Hosein: radio interviews, The Conversation; Winstone: BBC Future, Times Higher Education, Learning Scientists, The Conversation; Gilligan-Lee: Frontiers for Young Minds; Gooch: Times Education Supplement; Medland: WonkHE; Lygo-Baker: WonkHE). We participate in public engagement activities to disseminate our work to wider audiences (e.g., Hosein was invited to speak at the British Science Festival about her research on girl gamers and STEM education). We also engage directly with policy makers and industry experts to facilitate impact (e.g., Barnett was invited to speak at a UK Government Policy Knowledge Briefing about her research on Drinking Culture in young people, and Winstone was invited to speak at the Education Strategy Forum about her research on assessment and feedback).

Contributions to sustainability of the discipline and responses to national and international priorities and initiatives

Our scholarly roles and contributions enrich the research base and provide stimulation for our own research. Editorial work supports engagement with the international research community. Key Editor-in-Chief and Associate Editor roles include: Journal of Biological Education (Kinchin); British Journal of Educational Psychology (Tenenbaum, Winstone); British Journal of Developmental Psychology (Tenenbaum, Ng-Knight); Higher Education Research and Development (Gravett, Hosein); Journal of International Students (Hosein); and Learning and Teaching in Higher Education: Gulf Perspectives (Heron). Members of the Institute also serve on the editorial boards of many international journals and grant review panels including the ESRC Peer Review College (Hosein), UAE Research Innovation Fund (Hosein, Lygo-Baker) and the Society for Research in Higher Education (Kinchin, Winstone, Medland, Hosein).

We also contribute directly to the sustainability of the discipline by sharing our expertise with diverse research and practice communities. Academics within the Institute have delivered numerous keynote addresses in the UK and internationally since 2014. Examples include Winstone who since 2016 has delivered 36 invited Keynotes and 63 invited seminars across the UK, Europe, Singapore, Hong Kong, and Australia. Members of the Institute also support research to thrive through engagement with organisations that seek to stimulate research and development in challenging environments. Heron is a member of the Academic Development Steering Committee for the Syria Programme of Council for At-Risk Academics (CARA). Through this role she directly supports the research activity of scholars who have been displaced through conflict by reviewing ethics applications and research proposals and running workshops in Istanbul on research development and academic writing. Heron has also contributed to the development of an online Foundations Programme for Syria Programme participants to support the development of their research skills. This work also contributes to the Institute's research environment. Heron was successful in gaining a British Academy grant to develop further workshops for the CARA programme to support writing for publication.

Through our activities we seek to respond to key priorities and initiatives and contribute to agenda-setting processes in the discipline. Members of the Institute are active in their contributions to professional bodies and organisations: Tenenbaum is a member of the Developmental Psychology Committee of the British Psychological Society; Gilligan-Lee is the local network lead for the UK Reproducibility Network (UKRN); and Winstone is a member of the Advance HE Strategic Advisory Group for Education. Several members of the Institute hold high-level positions with the Society for Research in Higher Education: Kinchin and Hosein are on the Research and Development Committee; and Balloo and Medland are members of the

Publications Committee. In addition, two members of the Institute (Gravett and Kinchin) were invited to co-convene a new national Society for Research into Higher Education network for Learning, Teaching, and Assessment. Through this role they are responding to the drive for a stronger culture of evidence-based practice in Higher Education and setting future research agendas through running symposia/roundtables.

We also seek to bring together scholars to respond to key priorities in education through the hosting of an annual thematic international research symposium. These events typically attract over 100 international delegates, which further enhances opportunities for collaboration and PGR/ECR networking with leading scholars from around the world. Past topics include assessment and feedback literacy, pedagogic frailty and resilience, oracy skills, student-staff partnerships, and classroom interaction in the internationalised university. Such events enrich our environment by facilitating further collaborations. For example, Gravett (an ECR) was invited to contribute to an Advance HE publication on assessment following the assessment and feedback literacy event, and the keynote speaker from the student-staff partnership event, one of the world's leading educational researchers, is now her mentor. The pedagogic frailty symposium has resulted in several internationally co-authored publications, and an edited book has been published by Routledge as a result of the classroom interaction symposium. We have also received joint funding from the University Institute of Advanced Studies and European Association for Research on Learning and Instruction to host an international symposium on new approaches to feedback literacy (Winstone) and funding from the British Psychological Society to host ten scholars (including ECR Ng-Knight) to examine issues related to poverty and educational inequalities (Tenenbaum).

Contributions to and recognition by the research base

Members of the Institute have been recognised for their contributions to educational research through awards and fellowships. Kinchin is a Fellow of the Royal Society of Biology in recognition of his contributions to Biology Education, and our publications have also been recognised through awards, including the John Smith Essay Prize for Perspectives: Policy and Practice in Higher Education (awarded to Hosein in 2016); the Early Career Paper Award for the Journal of Youth and Adolescence (nomination for Ng-Knight in 2018); the EARLI SIG 5 Publication Award for best early career publication on the topic of learning and development in early childhood (awarded to Gilligan-Lee in 2018); Developmental Science Early Career prize for work on spatial thinking (awarded to Gilligan-Lee in 2020); and the American Psychological Association 'Best Article Award' for Educational Psychology (awarded to Winstone in 2017).

Members of the Institute also hold prestigious honorary positions that further stimulate our own research environment by facilitating further connections and collaborations across national boundaries. Lygo-Baker is a Visiting Research Professor at the University of Suffolk and an Honorary Professor in the School of Veterinary Medicine at the University of Wisconsin, USA. Winstone is an Honorary Associate Professor in the Centre for Research in Assessment and Digital Learning at Deakin University, Australia.

Members of the Institute have also been invited as visiting scholars at universities across the world that have fostered the development of interdisciplinary collaborations and high-quality outputs. These include the University of São Paulo (Kinchin), Prince Sultan University Saudi Arabia (Kinchin), Tallinn University Estonia (Kinchin), Tartu University Estonia (Kinchin), University of Hong Kong (Winstone), Institute for Teaching and Learning Innovation, University of Queensland (Winstone), and the University of Suffolk (Gravett).

In conclusion, through the new Surrey Institute of Education we are building upon our achievements and reputation to build a research environment that recognises the value of diversity in disciplinary background, that seeks to catalyse the careers of ECRs, and that improves education for all across the lifespan through impactful research and consultancy.